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

February 2020



Navy

Justification Book Volume 1 of 1

Procurement, Marine Corps

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The estimated cost of this report for the Department of the Navy (DON) is \$55,692.

The estimated total cost for supporting the DON budget justification material is approximately \$2,970,459 for the 2020 fiscal year. This includes \$82,977 in supplies and \$2,887,482 in labor.

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Department of Defense Appropriations Act, 2021

Procurement, Marine Corps

For expenses necessary for the procurement, manufacture, and modification of missiles, armament, military equipment, spare parts, and accessories therefore; plant equipment, appliances, and machine tools, and installation thereof in public and private plants; reserve plant and Government and contractor-owned equipment layaway; vehicles for the Marine Corps, including the purchase of passenger motor vehicles for replacement only; and expansion of public and private plants, including land necessary therefore, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title, \$2,951,939,000, to remain available for obligation until September 30, 2023 of which \$54,561,000 shall be available for the Marine Corps Reserve.

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

- OCO for Direct War Costs (\$47,963,000): 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 (\$0): 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 (\$0): 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 Navy
 FY 2021 President's Budget
 Exhibit P-1 FY 2021 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

Appropriation -----	FY 2019 (Base + OCO) -----	FY 2020 Base Enacted -----	FY 2020 Emergency -----	FY 2020 OCO Enacted -----
Procurement, Marine Corps	2,756,145	2,898,422	73,323	20,589
Total Department of the Navy	2,756,145	2,898,422	73,323	20,589

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Department of the Navy
 FY 2021 President's Budget
 Exhibit P-1 FY 2021 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

Appropriation -----	FY 2020 Total Enacted (Base+Emerg+ OCO) -----	FY 2021 Base -----	FY 2021 OCO for Base Requirements -----	FY 2021 OCO for Direct War and Enduring Costs -----
Procurement, Marine Corps	2,992,334	2,903,976		47,963
Total Department of the Navy	2,992,334	2,903,976		47,963

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Department of the Navy
 FY 2021 President's Budget
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 Total Obligational Authority
 (Dollars in Thousands)

Appropriation -----	FY 2021 Total OCO -----	FY 2021 Total (Base + OCO) -----
Procurement, Marine Corps	47,963	2,951,939
Total Department of the Navy	47,963	2,951,939

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Department of the Navy
 FY 2021 President's Budget
 Exhibit P-1 FY 2021 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

Appropriation: Procurement, Marine Corps

Budget Activity -----	FY 2019 (Base + OCO) -----	FY 2020 Base Enacted -----	FY 2020 Emergency -----	FY 2020 OCO Enacted -----
02. Weapons and combat vehicles	523,690	576,620		
03. Guided missiles and equipment	83,975	278,073		16,919
04. Communications And Electronics Equipment	1,185,328	1,137,787	59,323	
05. Support Vehicles	653,384	606,488	14,000	
06. Engineer and Other Equipment	285,631	265,984		3,670
07. Spares and Repair Parts	24,137	33,470		
Total Procurement, Marine Corps	2,756,145	2,898,422	73,323	20,589

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Department of the Navy
FY 2021 President's Budget
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Total Obligational Authority
(Dollars in Thousands)

Appropriation: Procurement, Marine Corps

Budget Activity -----	FY 2020 Total Enacted (Base+Emerg+ OCO) -----	FY 2021 Base -----	FY 2021 OCO for Base Requirements -----	FY 2021 OCO for Direct War and Enduring Costs -----
02. Weapons and combat vehicles	576,620	811,018		
03. Guided missiles and equipment	294,992	229,373		17,456
04. Communications And Electronics Equipment	1,197,110	1,209,274		14,324
05. Support Vehicles	620,488	417,837		16,183
06. Engineer and Other Equipment	269,654	209,179		
07. Spares and Repair Parts	33,470	27,295		
Total Procurement, Marine Corps	2,992,334	2,903,976		47,963

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Department of the Navy
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 Total Obligational Authority
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Appropriation: Procurement, Marine Corps

Budget Activity -----	FY 2021 Total OCO -----	FY 2021 Total (Base + OCO) -----
02. Weapons and combat vehicles		811,018
03. Guided missiles and equipment	17,456	246,829
04. Communications And Electronics Equipment	14,324	1,223,598
05. Support Vehicles	16,183	434,020
06. Engineer and Other Equipment		209,179
07. Spares and Repair Parts		27,295
Total Procurement, Marine Corps	47,963	2,951,939

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Department of the Navy
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 Total Obligational Authority
 (Dollars in Thousands)

Appropriation: 1109N Procurement, Marine Corps

Line No	Item Nomenclature	Ident Code	FY 2019 (Base + OCO) Quantity	Cost	FY 2020 Base Enacted Quantity	Cost	FY 2020 Emergency Quantity	Cost	FY 2020 OCO Enacted Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-----	----	-
Budget Activity 02: Weapons and combat vehicles											

Tracked Combat Vehicles											
1	AAV7A1 PIP	A		96,836		39,495					U
2	Amphibious Combat Vehicle Family of Vehicles	A	30	166,522	56	300,935					U
3	LAV PIP	A		36,652		60,734					U
Artillery and Other Weapons											
4	155mm Lightweight Towed Howitzer	B		24,858		25,065					U
5	Artillery Weapons System	A		130,981		95,686					U
6	Weapons and Combat Vehicles Under \$5 Million	A		44,937		31,945					U
Other Support											
7	Modification Kits	A		22,904		22,760					U
				-----		-----		-----		-----	
Total Weapons and combat vehicles				523,690		576,620					
Budget Activity 03: Guided missiles and equipment											

Guided Missiles											
8	Ground Based Air Defense	A		18,334		147,606					U
9	Anti-Armor Missile-Javelin	A	11	3,106	97	20,207					U
10	Family Anti-Armor Weapon Systems (FOAAWS)	A		13,590		21,913					U
11	Anti-Armor Missile-TOW	A		48,945		60,501					U

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Total Obligational Authority
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Appropriation: 1109N Procurement, Marine Corps

Line No	Item Nomenclature	Ident Code	FY 2020 Total Enacted (Base+Emerg+ OCO)		FY 2021 Base		FY 2021 OCO for Base Requirements		FY 2021 OCO for Direct War and Enduring Costs		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Budget Activity 02: Weapons and combat vehicles											

Tracked Combat Vehicles											
1	AAV7A1 PIP	A		39,495		87,476					U
2	Amphibious Combat Vehicle Family of Vehicles	A	56	300,935	72	478,874					U
3	LAV PIP	A		60,734		41,988					U
Artillery and Other Weapons											
4	155mm Lightweight Towed Howitzer	B		25,065		59					U
5	Artillery Weapons System	A		95,686		174,687					U
6	Weapons and Combat Vehicles Under \$5 Million	A		31,945		24,867					U
Other Support											
7	Modification Kits	A		22,760		3,067					U
Total Weapons and combat vehicles				576,620		811,018					
Budget Activity 03: Guided missiles and equipment											

Guided Missiles											
8	Ground Based Air Defense	A		147,606		18,920					U
9	Anti-Armor Missile-Javelin	A	97	20,207	98	19,888					U
10	Family Anti-Armor Weapon Systems (FOAAWS)	A		21,913		21,891					U
11	Anti-Armor Missile-TOW	A		60,501		34,985					U

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Appropriation: 1109N Procurement, Marine Corps

Line No	Item Nomenclature	Ident Code	FY 2021 Total OCO Quantity	Cost	FY 2021 Total (Base + OCO) Quantity	Cost	S e c
Budget Activity 02: Weapons and combat vehicles							
Tracked Combat Vehicles							
1	AAV7A1 PIP	A			87,476		U
2	Amphibious Combat Vehicle Family of Vehicles	A			72	478,874	U
3	LAV PIP	A				41,988	U
Artillery and Other Weapons							
4	155mm Lightweight Towed Howitzer	B				59	U
5	Artillery Weapons System	A				174,687	U
6	Weapons and Combat Vehicles Under \$5 Million	A				24,867	U
Other Support							
7	Modification Kits	A				3,067	U
Total Weapons and combat vehicles					811,018		
Budget Activity 03: Guided missiles and equipment							
Guided Missiles							
8	Ground Based Air Defense	A				18,920	U
9	Anti-Armor Missile-Javelin	A			98	19,888	U
10	Family Anti-Armor Weapon Systems (FOAAWS)	A				21,891	U
11	Anti-Armor Missile-TOW	A				34,985	U

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Appropriation: 1109N Procurement, Marine Corps

Line No	Item Nomenclature	Ident Code	FY 2019 (Base + OCO) Quantity	Cost	FY 2020 Base Enacted Quantity	Cost	FY 2020 Emergency Quantity	Cost	FY 2020 OCO Enacted Quantity	Cost	S e c
----	-----	----	-----	----	-----	----	-----	----	-----	----	-
12	Guided MLRS Rocket (GMLRS)	A			192	27,846			120	16,919	U
	Total Guided missiles and equipment			83,975		278,073				16,919	
Budget Activity 04: Communications And Electronics Equipment											

Command and Control Systems											
13	Common Aviation Command and Control System (C	A		32,587		30,812					U
Repair and Test Equipment											
14	Repair and Test Equipment	A		45,446		55,156					U
Other Support (Tel)											
15	Modification Kits	A		971		4,945					U
Command and Control System (Non-Tel)											
16	Items Under \$5 Million (Comm & Elec)	A		67,314		80,349					U
17	Air Operations C2 Systems	A		15,647		17,408					U
Radar + Equipment (Non-Tel)											
18	Radar Systems	A		6,694		329					U
19	Ground/Air Task Oriented Radar (G/ATOR)	A	6	220,416	8	273,022					U
Intell/Comm Equipment (Non-Tel)											
20	GCSS-MC	A				4,484					U
21	Fire Support System	A		62,548		35,488					U
22	Intelligence Support Equipment	B		72,968		56,896					U

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Appropriation: 1109N Procurement, Marine Corps

Line No	Item Nomenclature	Ident Code	FY 2020 Total Enacted (Base+Emerg+ OCO)		FY 2021 Base		FY 2021 OCO for Base Requirements		FY 2021 OCO for Direct War and Enduring Costs		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
12	Guided MLRS Rocket (GMLRS)	A	312	44,765	952	133,689			120	17,456	U
Total Guided missiles and equipment				294,992		229,373				17,456	
Budget Activity 04: Communications And Electronics Equipment											
Command and Control Systems											
13	Common Aviation Command and Control System (C	A		30,812		35,057					U
Repair and Test Equipment											
14	Repair and Test Equipment	A		55,156		24,405					U
Other Support (Tel)											
15	Modification Kits	A		4,945		1,006				4,200	U
Command and Control System (Non-Tel)											
16	Items Under \$5 Million (Comm & Elec)	A		80,349		69,725					U
17	Air Operations C2 Systems	A		17,408		15,611					U
Radar + Equipment (Non-Tel)											
18	Radar Systems	A		329							U
19	Ground/Air Task Oriented Radar (G/ATOR)	A	8	273,022	8	284,283					U
Intell/Comm Equipment (Non-Tel)											
20	GCSS-MC	A		4,484		1,587					U
21	Fire Support System	A		35,488		24,934					U
22	Intelligence Support Equipment	B		56,896		50,728				10,124	U

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Appropriation: 1109N Procurement, Marine Corps

Line No	Item Nomenclature	Ident Code	FY 2021 Total OCO Quantity	Cost	FY 2021 Total (Base + OCO) Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-
12	Guided MLRS Rocket (GMLRS)	A	120	17,456	1072	151,145	U
				-----		-----	
	Total Guided missiles and equipment			17,456		246,829	
Budget Activity 04: Communications And Electronics Equipment							

Command and Control Systems							
13	Common Aviation Command and Control System (C	A				35,057	U
Repair and Test Equipment							
14	Repair and Test Equipment	A				24,405	U
Other Support (Tel)							
15	Modification Kits	A		4,200		5,206	U
Command and Control System (Non-Tel)							
16	Items Under \$5 Million (Comm & Elec)	A				69,725	U
17	Air Operations C2 Systems	A				15,611	U
Radar + Equipment (Non-Tel)							
18	Radar Systems	A					U
19	Ground/Air Task Oriented Radar (G/ATOR)	A			8	284,283	U
Intell/Comm Equipment (Non-Tel)							
20	GCSS-MC	A				1,587	U
21	Fire Support System	A				24,934	U
22	Intelligence Support Equipment	B		10,124		60,852	U

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Appropriation: 1109N Procurement, Marine Corps

Line No	Item Nomenclature	Ident Code	FY 2019 (Base + OCO) Quantity Cost	FY 2020 Base Enacted Quantity Cost	FY 2020 Emergency Quantity Cost	FY 2020 OCO Enacted Quantity Cost	S e c
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24	Unmanned Air Systems (Intel)	A	3,848	28,036			U
25	DCGS-MC	A	19,206	32,562			U
26	UAS Payloads	A					U
	Other Support (Non-Tel)						
29	Next Generation Enterprise Network (NGEN)	A	116,120	95,003	723		U
30	Common Computer Resources	A	62,904	51,094			U
31	Command Post Systems	A	117,281	80,897			U
32	Radio Systems	A	231,619	213,218			U
33	Comm Switching & Control Systems	A	31,175	23,781			U
34	Comm & Elec Infrastructure Support	A	72,842	21,140	58,600		U
35	Cyberspace Activities	A		27,632			U
36	DON TRR (Ashore)	A	2,116				U
999	Classified Programs		3,626	5,535			U
	Total Communications And Electronics Equipment		1,185,328	1,137,787	59,323		
	Budget Activity 05: Support Vehicles						
	Administrative Vehicles						
37	Commercial Cargo Vehicles	A	22,464	28,913			U
	Tactical Vehicles						
38	Motor Transport Modifications	A	55,653	19,234			U

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Appropriation: 1109N Procurement, Marine Corps

Line No	Item Nomenclature	Ident Code	FY 2020 Total Enacted (Base+Emerg+ OCO)		FY 2021 Base		FY 2021 OCO for Base Requirements		FY 2021 OCO for Direct War and Enduring Costs		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
24	Unmanned Air Systems (Intel)	A		28,036		24,853					U
25	DCGS-MC	A		32,562		38,260					U
26	UAS Payloads	A				5,489					U
	Other Support (Non-Tel)										
29	Next Generation Enterprise Network (NGEN)	A		95,726		78,922					U
30	Common Computer Resources	A		51,094		35,349					U
31	Command Post Systems	A		80,897		33,713					U
32	Radio Systems	A		213,218		343,250					U
33	Comm Switching & Control Systems	A		23,781		40,627					U
34	Comm & Elec Infrastructure Support	A		79,740		43,782					U
35	Cyberspace Activities	A		27,632		53,896					U
36	DON TRR (Ashore)	A									U
999	Classified Programs			5,535		3,797					U
	Total Communications And Electronics Equipment			1,197,110		1,209,274				14,324	
Budget Activity 05: Support Vehicles											
Administrative Vehicles											
37	Commercial Cargo Vehicles	A		28,913		22,460					U
Tactical Vehicles											
38	Motor Transport Modifications	A		19,234		10,739				16,183	U

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Department of the Navy
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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1109N Procurement, Marine Corps

Line No	Item Nomenclature	Ident Code	FY 2021 Total OCO Quantity	Cost	FY 2021 Total (Base + OCO) Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-
24	Unmanned Air Systems (Intel)	A			24,853		U
25	DCGS-MC	A			38,260		U
26	UAS Payloads	A			5,489		U
	Other Support (Non-Tel)						
29	Next Generation Enterprise Network (NGEN)	A			78,922		U
30	Common Computer Resources	A			35,349		U
31	Command Post Systems	A			33,713		U
32	Radio Systems	A			343,250		U
33	Comm Switching & Control Systems	A			40,627		U
34	Comm & Elec Infrastructure Support	A			43,782		U
35	Cyberspace Activities	A			53,896		U
36	DON TRR (Ashore)	A					U
999	Classified Programs				3,797		U
			-----		-----		
	Total Communications And Electronics Equipment			14,324		1,223,598	
	Budget Activity 05: Support Vehicles						

	Administrative Vehicles						
37	Commercial Cargo Vehicles	A			22,460		U
	Tactical Vehicles						
38	Motor Transport Modifications	A		16,183		26,922	U

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 (Dollars in Thousands)

Appropriation: 1109N Procurement, Marine Corps

Line No	Item Nomenclature	Ident Code	FY 2019 (Base + OCO) Quantity Cost	FY 2020 Base Enacted Quantity Cost	FY 2020 Emergency Quantity Cost	FY 2020 OCO Enacted Quantity Cost	S e c
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39	Joint Light Tactical Vehicle		1642 572,774	1264 555,648			U
40	Family of Tactical Trailers	A	2,493	2,693			U
41	Trailers	A			14,000		U
	Total Support Vehicles		653,384	606,488	14,000		
Budget Activity 06: Engineer and Other Equipment							

Engineer and Other Equipment							
42	Environmental Control Equip Assort	A	595	495			U
43	Tactical Fuel Systems	A	54	52			U
44	Power Equipment Assorted	A	14,683	22,441			U
45	Amphibious Support Equipment	A	14,890	7,101			U
46	EOD Systems	A	55,114	44,700		3,670	U
Materials Handling Equipment							
47	Physical Security Equipment	A	28,306	15,404			U
General Property							
48	Field Medical Equipment	A	33,723	2,898			U
49	Training Devices	B	64,040	125,668			U
50	Family of Construction Equipment	A	59,909	35,622			U
51	Ultra-Light Tactical Vehicle (ULTV)	A	606	647			U

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Department of the Navy
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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1109N Procurement, Marine Corps

Line No	Item Nomenclature	Ident Code	FY 2020 Total Enacted (Base+Emerg+ OCO) Quantity	Cost	FY 2021 Base Quantity	Cost	FY 2021 OCO for Base Requirements Quantity	Cost	FY 2021 OCO for Direct War and Enduring Costs Quantity	Cost	S e c
----	-----	----	-----	----	-----	----	-----	----	-----	----	-
39	Joint Light Tactical Vehicle		1264	555,648	752	381,675					U
40	Family of Tactical Trailers	A		2,693		2,963					U
41	Trailers	A		14,000							U
	Total Support Vehicles			620,488		417,837				16,183	
Budget Activity 06: Engineer and Other Equipment											

Engineer and Other Equipment											
42	Environmental Control Equip Assort	A		495		385					U
43	Tactical Fuel Systems	A		52		501					U
44	Power Equipment Assorted	A		22,441		23,430					U
45	Amphibious Support Equipment	A		7,101		5,752					U
46	EOD Systems	A		48,370		20,939					U
Materials Handling Equipment											
47	Physical Security Equipment	A		15,404		23,063					U
General Property											
48	Field Medical Equipment	A		2,898		4,187					U
49	Training Devices	B		125,668		101,765					U
50	Family of Construction Equipment	A		35,622		19,305					U
51	Ultra-Light Tactical Vehicle (ULTV)	A		647		678					U

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Appropriation: 1109N Procurement, Marine Corps

Line No	Item Nomenclature	Ident Code	FY 2021 Total OCO Quantity	Cost	FY 2021 Total (Base + OCO) Quantity	Cost	S e c
----	-----	-----	-----	----	-----	-----	-
39	Joint Light Tactical Vehicle				752	381,675	U
40	Family of Tactical Trailers	A				2,963	U
41	Trailers	A					U
	Total Support Vehicles			16,183		434,020	
Budget Activity 06: Engineer and Other Equipment							

Engineer and Other Equipment							
42	Environmental Control Equip Assort	A				385	U
43	Tactical Fuel Systems	A				501	U
44	Power Equipment Assorted	A				23,430	U
45	Amphibious Support Equipment	A				5,752	U
46	EOD Systems	A				20,939	U
Materials Handling Equipment							
47	Physical Security Equipment	A				23,063	U
General Property							
48	Field Medical Equipment	A				4,187	U
49	Training Devices	B				101,765	U
50	Family of Construction Equipment	A				19,305	U
51	Ultra-Light Tactical Vehicle (ULTV)	A				678	U

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Line No	Item Nomenclature	Ident Code	FY 2019 (Base + OCO) Quantity Cost	FY 2020 Base Enacted Quantity Cost	FY 2020 Emergency Quantity Cost	FY 2020 OCO Enacted Quantity Cost	S e c
----	-----	-----	-----	-----	-----	-----	-
	Other Support						
	52 Items Less Than \$5 Million	A	13,711	10,956			U
			-----	-----	-----	-----	
	Total Engineer and Other Equipment		285,631	265,984		3,670	
	Budget Activity 07: Spares and Repair Parts						

	Spares and Repair Parts						
	53 Spares and Repair Parts	A	24,137	33,470			U
			-----	-----	-----	-----	
	Total Spares and Repair Parts		24,137	33,470			
			-----	-----	-----	-----	
	Total Procurement, Marine Corps		2,756,145	2,898,422	73,323	20,589	

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Appropriation: 1109N Procurement, Marine Corps

Line No	Item Nomenclature	Ident Code	FY 2020 Total Enacted (Base+Emerg+ OCO) Quantity	Cost	FY 2021 Base Quantity	Cost	FY 2021 OCO for Base Requirements Quantity	Cost	FY 2021 OCO for Direct War and Enduring Costs Quantity	Cost	S e c
----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-
	Other Support										
	52 Items Less Than \$5 Million	A	10,956		9,174						U
			-----		-----		-----		-----		
	Total Engineer and Other Equipment		269,654		209,179						
	Budget Activity 07: Spares and Repair Parts										

	Spares and Repair Parts										
	53 Spares and Repair Parts	A	33,470		27,295						U
			-----		-----		-----		-----		
	Total Spares and Repair Parts		33,470		27,295						
			-----		-----		-----		-----		
	Total Procurement, Marine Corps		2,992,334		2,903,976				47,963		

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Department of the Navy
FY 2021 President's Budget
Exhibit P-1 FY 2021 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1109N Procurement, Marine Corps

Line No	Item Nomenclature	Ident Code	FY 2021 Total OCO Quantity	Cost	FY 2021 Total (Base + OCO) Quantity	Cost	S e c
----	-----	-----	-----	-----	-----	-----	-
	Other Support						
	52 Items Less Than \$5 Million	A			9,174		U
			-----		-----		
	Total Engineer and Other Equipment				209,179		
	Budget Activity 07: Spares and Repair Parts						

	Spares and Repair Parts						
	53 Spares and Repair Parts	A			27,295		U
			-----		-----		
	Total Spares and Repair Parts				27,295		
			-----		-----		
	Total Procurement, Marine Corps			47,963	2,951,939		

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17	04	14	4640	Air Operations C2 Systems.....	Volume 1 - 163
18	04	15	4650	Radar Systems.....	Volume 1 - 171
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32	04	19	4633	Radio Systems.....	Volume 1 - 285
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49	06	03	6532	Training Devices.....	Volume 1 - 411
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Amphibious Combat Vehicle Family of Vehicles	2025	2	02	01.....	Volume 1 - 5
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Artillery Weapons System	2212	5	02	02.....	Volume 1 - 29
Comm & Elec Infrastructure Supt	4635	34	04	19.....	Volume 1 - 309
Comm Switching & Control Systems	4634	33	04	19.....	Volume 1 - 303
Command Post Systems	4631	31	04	19.....	Volume 1 - 271
Commercial Cargo Vehicles	5006	37	05	01.....	Volume 1 - 325
Common Aviation Command and Control System (CAC2S)	4644	13	04	04.....	Volume 1 - 119
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Line Item Title	Line Item Number	Line #	BA	BSA	Page
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Family of Construction Equipment	6544	50	06	03.....	Volume 1 - 423
Family of Tactical Trailers	5097	40	05	02.....	Volume 1 - 359
Field Medical Equipment	6522	48	06	03.....	Volume 1 - 405
Fire Support System	4733	21	04	16.....	Volume 1 - 193
GCSS-MC	4616	20	04	16.....	Volume 1 - 189
Ground Based Air Defense (GBAD)	3006	8	03	01.....	Volume 1 - 71
Ground/Air Task Oriented Radar (G/ATOR)	4655	19	04	15.....	Volume 1 - 175
Guided MLRS Rocket (GMLRS)	3025	12	03	01.....	Volume 1 - 109
Intelligence Support Equipment	4747	22	04	16.....	Volume 1 - 203
Items Less Than \$5 Million	6670	52	06	04.....	Volume 1 - 435
Items under \$5 million (Comm & Elec)	4620	16	04	14.....	Volume 1 - 145
Joint Light Tactical Vehicle	5095	39	05	02.....	Volume 1 - 339
LAV PIP	2038	3	02	01.....	Volume 1 - 15
Modification Kits	2061	7	02	04.....	Volume 1 - 57
Modification Kits	4652	15	04	09.....	Volume 1 - 141
Motor Transport Modifications	5050	38	05	02.....	Volume 1 - 331
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Radar Systems	4650	18	04	15.....	Volume 1 - 171
Radio Systems	4633	32	04	19.....	Volume 1 - 285
Repair and Test Equipment	4181	14	04	07.....	Volume 1 - 127
Spares and Repair Parts	7000	53	07	01.....	Volume 1 - 443
Tactical Fuel Systems	6277	43	06	01.....	Volume 1 - 379
Trailers	5132	41	05	02.....	Volume 1 - 363
Training Devices	6532	49	06	03.....	Volume 1 - 411
UAS Payloads	4787	26	04	16.....	Volume 1 - 241
Ultra-Light Tactical Vehicle (ULTV)	6545	51	06	03.....	Volume 1 - 431
Unmanned Air Systems	4757	24	04	16.....	Volume 1 - 221
Wpns & Cmbt Vehs under \$5 million	2220	6	02	02.....	Volume 1 - 41

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 1: Tracked Combat Vehicles							P-1 Line Item Number / Title: 2021 / AAV7A1 PIP					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0206623M, 0206629M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	1,162.182	96.836	39.495	87.476	0.000	87.476	87.400	36.104	21.855	24.351	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	1,162.182	96.836	39.495	87.476	0.000	87.476	87.400	36.104	21.855	24.351	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	1,162.182	96.836	39.495	87.476	0.000	87.476	87.400	36.104	21.855	24.351	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description:												
The AAV7A1 Product Improvement Program (PIP) is comprised of the Assault Amphibious Vehicle (AAV) Modifications Line and, previously, the AAV Survivability Upgrade (AAV SU) program.												
The AAV Modifications Line includes life-cycle support to ensure cost-effective combat readiness for the AAV Family of Vehicles (FOV). This is accomplished through continuous review of sub-systems to maintain system supportability, safety, procurement of replacement systems for obsolescence, and fielding of Engineering Change Proposals (ECP) for capability-based improvements of fleet assets, reduced total ownership cost initiatives, and improved AAV sustainment initiatives. The AAV Modifications Line procures modernized components and subsystems that impact safe and reliable use of AAV such as Intercom Modernization, Tactical Communication Modernization (TCM), technical refresh of servers and laptops for Command-variant (C-Variant), and associated support for the AAV FOV. These modifications support the extension of the AAV life cycle until 2030.												
The AAV SU was a capability-based upgrade program centered on material upgrades in survivability and force protection while maintaining the required land and water mobility performance. The United States Marine Corps (USMC) decided to terminate the AAV SU program in order to better align to the National Defense Strategy; the remaining AAV SU funding will be utilized for program cancellation, which is expected to take between 12-24 months to complete.												
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025		
Navy	Quantity	-	-	-	-	-	-	-	-	-		
	Total Obligation Authority	96.514	39.166	87.142	-	87.142	87.058	35.764	21.431	23.918		
NR	Quantity	-	-	-	-	-	-	-	-	-		
	Total Obligation Authority	0.322	0.329	0.334	-	0.334	0.342	0.340	0.424	0.433		
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-		
	Total Obligation Authority	96.836	39.495	87.476	-	87.476	87.400	36.104	21.855	24.351		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 1: Tracked Combat Vehicles						P-1 Line Item Number / Title: 2021 / AAV7A1 PIP				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206623M, 0206629M				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / AAV7A1 PIP				- / 1,162.182	- / 96.836	- / 39.495	- / 87.476	- / 0.000	- / 87.476
P-40	Total Gross/Weapon System Cost				- / 1,162.182	- / 96.836	- / 39.495	- / 87.476	- / 0.000	- / 87.476
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
Justification: FY 2019: \$96.836M (\$96.514M Active; \$0.322M Reserve). The AAV program procured fleet-wide Vehicle Modifications including Emergency Egress Lighting System (EELS) Power Units and spares, Recovery-variant corrosion improvements, Intercom Modernization procurements and Remote Weapon Stations (RWS) for Personnel-variants, continued hardware/software technical refresh and Cybersecurity for the Command-variants; plus related Engineering Change Orders (ECO), Integrated Logistics Support (ILS), Production Engineering Support, Support Equipment, and Technical Publications for the AAV family of vehicles. The FY 2020 enactment includes congressional rescission of \$74.756M to FY 2019 funding. FY 2020: \$39.495M (\$39.166M Active; \$0.329M Reserve). The AAV program procures fleet-wide Vehicle Modifications including initial procurement of Assured Position Navigation and Timing (APNT) systems, continues procurement of Remote Weapon Stations (RWS), and continues hardware/software technical refresh for the Command-variants; plus related Engineering Change Orders (ECO), Integrated Logistics Support (ILS), Production Engineering Support, Support Equipment, and Technical Publications for the AAV family of vehicles. The APNT system provides the AAV driver during the ship-to-shore maneuvers the ability to navigate a preplanned course while coming ashore and to stay within a lane that has been cleared of naval mines and other obstacles. The RWS allows on-the-move target acquisition and first-burst target engagement. It supports the MK-19 grenade launcher and M2 .50 cal machine gun. The RWS replaces the current obsolescent Up Gun Weapon System that is a leading deadlining subsystem on the AAV. The hardware/software technical refresh for the Command-variants have software releases quarterly each year to maintain the vehicles security certification. The net decrease of \$57.341 between FY 2019 and FY 2020 is due to the combination of 1) the cancellation of the AAV Survivability Upgrade and associated termination costs in FY 2019 and 2) the increase in support for vehicle modification to replace obsolete vehicle radios for the AAV Family of Vehicles. FY 2021 Base Appropriation Request: \$87.476M (\$87.142M Active; \$0.334M Reserve). The AAV program will procure fleet-wide Vehicle Modifications including Tactical Communication Modernization, APNT, Remote Weapon Stations (RWS), and will continue hardware/software technical refresh for the Command-variants; plus related Engineering Change Orders (ECO), Integrated Logistics Support (ILS), Production Engineering Support, Support Equipment, and Technical Publications for the AAV family of vehicles. The TCM replaces the current fielded radios. The radios will be obsolete by 2024 due to the NSA cryptographic modernization mandate and will be unable to communicate with other units. The net increase of \$47.981M between FY 2020 and FY 2021 is due to the initial procurement of TCM as the replacement for obsolete radios in the AAV Family of Vehicles and the continued procurement of Remote Weapons Stations. OCO: FY 2021 OCO Appropriation Request: N/A										

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Exhibit P-5, Cost Analysis: PB 2021 Navy													Date: February 2020								
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 1							P-1 Line Item Number / Title: 2021 / AAV7A1 PIP						Item Number / Title [DODIC]: 1 / AAV7A1 PIP								
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
Procurement Quantity <i>(Units in Each)</i>				-			-			-			-			-			-		
Gross/Weapon System Cost <i>(\$ in Millions)</i>				1,162.182			96.836			39.495			87.476			0.000			87.476		
Less PY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Net Procurement (P-1) <i>(\$ in Millions)</i>				1,162.182			96.836			39.495			87.476			0.000			87.476		
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Total Obligation Authority <i>(\$ in Millions)</i>				1,162.182			96.836			39.495			87.476			0.000			87.476		
(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 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 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)			
Flyaway Cost																					
Recurring Cost																					
1.1.1) Surface Vehicle	-	-	856.947	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
1.1.2) Vehicle Modifications ⁽¹⁾	-	-	134.230	-	-	13.784	-	-	31.166	-	-	79.264	-	-	-	-	-	79.264			
1.1.3) Reserve Vehicle Modifications	-	-	1.925	-	-	0.322	-	-	0.329	-	-	0.334	-	-	-	-	-	0.334			
1.1.4) Survivability Upgrade ⁽²⁾	5.817	18	104.709	-	-	74.756	-	-	-	-	-	-	-	-	-	-	-	-			
1.1.5) Engineering Change Orders (ECO)	-	-	4.501	-	-	-	-	-	0.378	-	-	0.377	-	-	-	-	-	0.377			
Subtotal: Recurring Cost	-	-	1,102.312	-	-	88.862	-	-	31.873	-	-	79.975	-	-	-	-	-	79.975			
Non Recurring Cost																					
1.2.1) Nonrecurring Engineering and Tooling	-	-	7.059	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Subtotal: Non Recurring Cost	-	-	7.059	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Subtotal: Flyaway Cost	-	-	1,109.371	-	-	88.862	-	-	31.873	-	-	79.975	-	-	-	-	-	79.975			
Support Cost																					
2.1) Peculiar Training Equipment & Simulators ⁽³⁾	-	-	1.893	-	-	-	-	-	0.377	-	-	-	-	-	-	-	-	-			
2.2) Integrated Logistics Support	-	-	8.671	-	-	4.260	-	-	2.963	-	-	3.002	-	-	-	-	-	3.002			

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Exhibit P-5, Cost Analysis: PB 2021 Navy													Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 1						P-1 Line Item Number / Title: 2021 / AAV7A1 PIP							Item Number / Title [DODIC]: 1 / AAV7A1 PIP					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
2.3) Production Engineering Support ⁽⁴⁾	-	-	31.345	-	-	2.776	-	-	3.294	-	-	2.974	-	-	-	-	-	2.974
2.4) Acceptance Testing	-	-	0.116	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.5) Support Equipment ⁽⁵⁾	-	-	7.636	-	-	-	-	-	-	-	-	0.525	-	-	-	-	-	0.525
2.6) Pubs & Tech Data	-	-	3.150	-	-	0.938	-	-	0.988	-	-	1.000	-	-	-	-	-	1.000
Subtotal: Support Cost	-	-	52.811	-	-	7.974	-	-	7.622	-	-	7.501	-	-	-	-	-	7.501
Gross/Weapon System Cost	-	-	1,162.182	-	-	96.836	-	-	39.495	-	-	87.476	-	-	0.000	-	-	87.476

Footnotes:

- ⁽¹⁾ The increase in vehicle modifications from FY2020 to FY2021 (\$48.098M) is attributed to initial procurement of Tactical Communication Modernization (TCM) to replace obsolete vehicle radios for the AAV Family of Vehicles and continued procurement of Remote Weapons Stations. This strategy reflects the Marine Corps' commitment to maintain capability and ensuring the vehicle is able to participate in conducting the assigned missions until replaced by the Amphibious Combat Vehicles (ACVs).
- ⁽²⁾ The USMC decided to cancel the AAV Survivability Upgrade (AAV SU) program in order to better align to the National Defense Strategy; the remaining funding will be utilized for program cancellation, which is expected to take between 12-24 months to complete. The FY 2020 enactment includes congressional rescission of \$74.756M to FY 2019 funding.
- ⁽³⁾ The decrease in Peculiar Training Equipment and Simulators between FY2020 and FY2021 (\$0.377) is attributed to the purchase of Computer Based Training (CBT) (WIN 10 Operating System Updates) and Command-variant Software WIN 10 Training Upgrades in FY2020. Operating system updates and associated training are provided approximately every three to four years.
- ⁽⁴⁾ The reduction in Production Engineering Support from FY2020 to FY2021 (\$0.320) is attributed a decrease in the program office support requirement.
- ⁽⁵⁾ The increase in Support Equipment from FY2020 to FY2021 (\$0.525) is attributed to the replacement of obsolescent parts on the Recovery vehicle; tools are required to maintain the changes.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 1: Tracked Combat Vehicles							P-1 Line Item Number / Title: 2025 / Amphibious Combat Vehicle Family of 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: 472												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	26	30	56	72	-	72	92	120	120	120	Continuing	Continuing
Gross/Weapon System Cost (<i>\$ in Millions</i>)	156.693	166.522	300.935	478.874	0.000	478.874	517.516	657.179	672.429	707.752	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	156.693	166.522	300.935	478.874	0.000	478.874	517.516	657.179	672.429	707.752	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	156.693	166.522	300.935	478.874	0.000	478.874	517.516	657.179	672.429	707.752	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	6.145	13.954	13.557	-	13.557	19.256	19.682	20.075	20.479	Continuing	Continuing
Flyaway Unit Cost (<i>\$ in Dollars</i>)	5,486K	4,790K	4,492K	5,124K	-	5,124K	4,955K	4,980K	5,127K	5,333K	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	6,027K	5,551K	5,374K	6,651K	-	6,651K	5,625K	5,476K	5,604K	5,898K	Continuing	Continuing
Description: The Amphibious Combat Vehicle (ACV) will replace the legacy Assault Amphibious Vehicle (AAV) in the Assault Amphibious (AA) battalions within the Marine Divisions. ACV-equipped AA companies will provide protected mobility and general support lift to elements of Marine Infantry battalions. The ACV, an advanced generation, eight-wheeled armored personnel carrier, will mitigate current and projected capability gaps by providing improved lethality against dismounted enemy troops, more effective land and water tactical mobility, and increased force protection and survivability from blasts, fragmentation, and kinetic energy threats. In an Acquisition Decision Memorandum (ADM) dated 8 Jan 2019, ASN(RD&A), the Milestone Decision Authority, combined the ACV 1.1 and ACV 1.2 programs into a single ACV Family of Vehicles (FOV) that continues the established phased development and procurement approach. This approach allows the Marine Corps to procure a modernized assault amphibian to serve as the platform to perform missions across the range of military operations to include joint forcible entry operations. The initial ACV Increment (FY2018 - FY2021) Personnel variant will deliver combat ready Marines from ship-to-shore in order to mass forces at littoral penetration points and continue to maneuver onward to inland objectives. Subsequent procurements (FY2022 - FY2025) are planned to expand the personnel carrier quantities and to procure command and control, improved lethality, and tactical recovery capabilities. In an ADM dated 12 July 2019, ASN(RD&A) authorized a third lot of LRIP consisting of 56 vehicles and directed that acquisition documentation reflecting this change shall be updated as part of the Full Rate Production (FRP) Milestone decision approval process. The first lot of full rate production will be procured in FY 2021. The merger and additional lot of LRIP are updates from the FY 2020 acquisition strategy.												

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 1: Tracked Combat Vehicles						P-1 Line Item Number / Title: 2025 / Amphibious Combat Vehicle Family of 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: 472										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Amphibious Combat Vehicle	P-5a, P-21			26 / 156.693	30 / 166.522	56 / 300.935	72 / 478.874	- / 0.000	72 / 478.874
P-40	Total Gross/Weapon System Cost				26 / 156.693	30 / 166.522	56 / 300.935	72 / 478.874	- / 0.000	72 / 478.874
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
Justification: FY 2019: \$166.522M Funds used to procure Lot 2 (LRIP) of 30 vehicles, plus procurement of related items such as production support, systems engineering/program management, Engineering Change Orders (ECOs), Government Furnished Equipment (GFE), and integrated logistics support. FY 2020: \$300.935M Funds procure Lot 3 (LRIP) of 56 vehicles, plus procurement of related items such as production support, systems engineering/program management, Engineering Change Orders (ECOs), Government Furnished Equipment (GFE), and integrated logistics support. FY 2021 Baseline Appropriation Request: \$478.874M Funds will procure Lot 4, first Full Rate Production (FRP) lot of 72 vehicles, plus procurement of related items such as production support, systems engineering/program management, Engineering Change Orders (ECOs), Government Furnished Equipment (GFE), and integrated logistics support. Net increase between FY2020 and FY2021 of \$177.939M primarily due to the procurement and support of 16 additional vehicles in FY2021 and prime contractor foreign currency exchange costs and royalties to suppliers per the terms and conditions of the negotiated contract. Production was adjusted in FY 2021 from 92 vehicles to 72 vehicles to allow for a more gradual production ramp and to pay for increased costs of design labor for Engineering Change Proposals (ECPs), production and installation of ECPs, vehicle refurbishment following IOT&E, and increased logistics and support costs.										

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Exhibit P-5, Cost Analysis: PB 2021 Navy												Date: February 2020							
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 1						P-1 Line Item Number / Title: 2025 / Amphibious Combat Vehicle Family of Vehicles						Item Number / Title [DODIC]: 1 / Amphibious Combat Vehicle							
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:										
Resource Summary				Prior Years		FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total					
Procurement Quantity <i>(Units in Each)</i>				26		30		56		72		-		72					
Gross/Weapon System Cost <i>(\$ in Millions)</i>				156.693		166.522		300.935		478.874		0.000		478.874					
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-					
Net Procurement (P-1) <i>(\$ in Millions)</i>				156.693		166.522		300.935		478.874		0.000		478.874					
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-					
Total Obligation Authority <i>(\$ in Millions)</i>				156.693		166.522		300.935		478.874		0.000		478.874					
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																			
Initial Spares <i>(\$ in Millions)</i>				-		6.145		13.954		13.557		-		13.557					
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				6,027K		5,551K		5,374K		6,651K		-		6,651K					
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																			
Cost Elements		Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
		Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Flyaway - Cost																			
Recurring Cost																			
1.1.1) Surface Vehicle ⁽¹⁾ (1)		3,649K	26	94.870	3,464K	30	103.913	3,304K	56	185.017	3,357K	72	241.671	-	-	-	3,357K	72	241.671
1.1.2) Government Furnished Equipment - Communication Suites ⁽²⁾		-	-	7.065	-	-	10.718	-	-	22.662	-	-	27.764	-	-	-	-	-	27.764
1.1.3) Government Furnished Equipment - Remote Weapons Station ⁽³⁾		-	-	0.087	-	-	1.317	-	-	2.403	-	-	21.509	-	-	-	-	-	21.509
1.1.4) System Engineering Program Management ⁽⁴⁾		-	-	29.951	-	-	15.369	-	-	25.379	-	-	27.330	-	-	-	-	-	27.330
1.1.5) Vehicle Modifications ⁽⁵⁾		-	-	-	-	-	-	-	-	-	-	-	15.000	-	-	-	-	-	15.000
Subtotal: Recurring Cost		-	-	131.973	-	-	131.317	-	-	235.461	-	-	333.274	-	-	-	-	-	333.274
Subtotal: Flyaway - Cost		-	-	131.973	-	-	131.317	-	-	235.461	-	-	333.274	-	-	-	-	-	333.274
Flyaway - Non-Recurring Cost																			
Non Recurring Cost																			
2.1.1) Engineering Change Orders ⁽⁶⁾		-	-	5.534	-	-	6.901	-	-	13.468	-	-	28.737	-	-	-	-	-	28.737

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Exhibit P-5, Cost Analysis: PB 2021 Navy													Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 1						P-1 Line Item Number / Title: 2025 / Amphibious Combat Vehicle Family of Vehicles							Item Number / Title [DODIC]: 1 / Amphibious Combat Vehicle					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$)	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)
2.1.2) Nonrecurring Engineering & Industrial Tooling ⁽⁷⁾	-	-	5.126	-	-	5.480	-	-	2.629	-	-	6.890	-	-	-	-	-	6.890
Subtotal: Non Recurring Cost	-	-	10.660	-	-	12.381	-	-	16.097	-	-	35.627	-	-	-	-	-	35.627
Subtotal: Flyaway - Non-Recurring Cost	-	-	10.660	-	-	12.381	-	-	16.097	-	-	35.627	-	-	-	-	-	35.627
Support Cost																		
3.1) Production Support ⁽⁸⁾	-	-	0.001	-	-	10.310	-	-	10.573	-	-	12.801	-	-	-	-	-	12.801
3.2) Acceptance Testing ⁽⁹⁾	-	-	1.448	-	-	1.573	-	-	4.289	-	-	4.726	-	-	-	-	-	4.726
3.3) Peculiar Training Equipment and Simulators ⁽¹⁰⁾	-	-	-	-	-	1.560	-	-	-	-	-	5.565	-	-	-	-	-	5.565
3.4) Pubs & Tech Data ⁽¹¹⁾	-	-	0.214	-	-	1.640	-	-	4.597	-	-	9.148	-	-	-	-	-	9.148
3.5) Support Equipment ⁽¹²⁾	-	-	0.170	-	-	0.201	-	-	0.604	-	-	2.345	-	-	-	-	-	2.345
3.6) Integrated Logistics Support (ILS) ⁽¹³⁾	-	-	12.227	-	-	7.540	-	-	29.314	-	-	75.388	-	-	-	-	-	75.388
Subtotal: Support Cost	-	-	14.060	-	-	22.824	-	-	49.377	-	-	109.973	-	-	-	-	-	109.973
Gross/Weapon System Cost	6,027K	26	156.693	5,551K	30	166.522	5,374K	56	300.935	6,651K	72	478.874	-	-	0.000	6,651K	72	478.874

(†) indicates the presence of a P-5a

Footnotes:

⁽¹⁾ This element of cost includes the competitively-derived and pre-negotiated Surface Vehicle cost. The increase in cost between FY 2020 and FY 2021 of \$56.654 is primarily attributed to the increase in FY 2021 for an additional sixteen (16) vehicles to continue the production ramp-up to Full Rate Production. Lots 1-4 (FY 2018 - FY 2021) procure ACV-P variants only. The increase in unit cost of \$53K per vehicle is within OSD FY 2021 inflation indices, and is based on the negotiated and awarded production contract with the prime vendor.

⁽²⁾ GFE Communication Suites procurement includes tactical radios (2 AN/VRC-114V2 systems comprised of 4 PRC-117G radios and 4 antennas for each vehicle), Battlefield Command & Control Situational Awareness (currently via the Joint Battle Command-Platform (JBC-P)), and satellite communications (via the Mobile User Objective System (MUOS) Diplexer). The increase in Communications Suites between FY2020 and FY2021 of \$5.102 is attributed to the increase of sixteen (16) vehicles in FY2021.

⁽³⁾ GFE Remote Weapons Station (RWS) procurement includes the Mk-153 Common Remotely Operated Weapon Station, which consists of a single-mount weapons station and weapon (either an M2 0.50cal heavy machine gun or a Mk-19 40mm automatic grenade launcher), Main Processing Unit (MPU), Display and Control Panel (DCP), Control Grip, Laser Range Finder (LRF), Thermal camera system (TIM), Day camera system (VIM), Sight Servo Assembly (SSA) system, and Main Frame Assembly (MFA). The increase in RWS between FY2020 and FY2021 of \$19.106 is attributed to the change in the acquisition

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Exhibit P-5, Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 1	P-1 Line Item Number / Title: 2025 / Amphibious Combat Vehicle Family of Vehicles	Item Number / Title [DODIC]: 1 / Amphibious Combat Vehicle
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
strategy for RWS. Prior to FY2021, the program acquired existing RWS systems from the Army and refurbished these systems with parts and components in order to bring them to a configuration suitable for ACV. For FY2021 and beyond, the program is procuring new RWS systems because no additional RWS systems remain from the Army. (4) Systems Engineering/Program Management (SE/PM) is a recurring charge from the Prime Contractor. Recurring systems engineering includes the costs of maintainability/reliability engineering, maintenance engineering, value engineering, production engineering costs associated with the system, periodic system design/evaluation, and analysis of test results during production. Recurring program management includes the overall planning, direction, and control of the definition, development, and production of the system/program, including the functions of business management. Net increase between FY2020 to FY2021 of \$1.951 primarily based on the contract cost in accordance with the awarded fixed price incentive contract. All terms were competitively-derived, negotiated, and accepted by the Government. (5) The increase in vehicle modifications between FY2020 and FY2021 of \$15.000 is attributed to initiation of the refurbishment of twenty-six (26) LRIP Lot 1 vehicles which were utilized during conduct of Initial Operational Test & Evaluation (IOT&E). These vehicles must be reconditioned prior to fielding to operational units following the completion of IOT&E. (6) Engineering Change Orders (ECOs) address fact of life changes to vehicle configuration such as performance, safety, or reliability. The increase in ECO between FY 2020 and FY 2021 of \$15.269 is attributed to anticipated ECOs resulting from the ACV Logistics Demonstration for Conditioned-based Maintenance, maintenance access panels and test ports, fuel/hydraulic/water/bilge line markings, and captive fasteners. The purpose and intent of the Logistics Demonstration was to evaluate the supportability of the materiel design, determine adequacy of maintenance planning, evaluate Technical Publications content (Operator, Operator Maintenance, and Organizational Maintenance Tasks), evaluate suitability and availability of maintenance training devices, evaluate suitability and availability of Test Measurement and Diagnostic Equipment (TMDE), evaluate Maintenance Allocation Chart (MAC) content, and evaluate adequacy of the Repair Parts and Special Tools List (RPSTL). Changes resulting to the vehicle from the Logistics Demonstration make the system more supportable. (7) The increase in Nonrecurring Engineering and Industrial Tooling between FY 2020 and FY 2021 of \$4.261 reflects procurement of additional production tooling to facilitate an increase in production throughput and a nonrecurring charge to support process development for standard depot-level maintenance. (8) The increase in Production Support from FY2020 to FY2021 of \$2.228 is attributed to program office support requirements transitioning from development to the procurement appropriation. (9) Acceptance Testing provides effort/materials associated with tests that are conducted to determine if the requirements and the specifications of the vehicle and/or contract are met. It is funded in the fiscal year in which the item is procured as part of the full funding policy. The increase between FY2020 and FY2021 of \$0.437 is based on the contract cost in accordance with the awarded fixed price incentive contract. All terms were competitively-derived, negotiated, and accepted by the Government. (10) Peculiar Training Equipment and Simulators represents the procurement of operator and maintenance trainers essential to conducting training prior to system fielding. The increase between FY2020 and FY2021 of \$5.565 is attributed to procurement of Operator and Maintainer training devices and Command-variant communication training systems in FY2021. (11) The increase in Pubs and Tech Data between FY2020 and FY2021 of \$4.551 is attributed to procurement of updates to technical manuals, and procurement of the technical data package from the prime contractor per the terms and conditions of the contract. (12) Support equipment are devices required to inspect, test, service, adjust, calibrate, measure, repair, overhaul, assemble, disassemble, handle, store, or otherwise support the lifecycle management of the ACV. The increase from FY2020 to FY2021 of \$1.741 is due to the procurement of shipping containers for the Remote Weapon Stations. (13) ILS includes Logistics Management Information (LMI) procurement and platform support products necessary for the planning and preparation to support the fielded system until organic support capability is established. This effort will enable a journeyman level repair technician(s) to disassemble, clean, inspect, overhaul/rebuild, repair/refurbish, reassemble and test, at a Government Depot, all secondary repairables identified by the Contractor during its Supportability Analyses and Level of Repair Analyses and documented in the LMI data tracking system. The cost is based on the contract cost in accordance with the awarded fixed price incentive contract. All terms were negotiated and accepted by the Government. The increase between FY2020 and FY2021 of \$46.074 is primarily attributed to award of prime contractor total package fielding effort, and prime contractor foreign currency exchange costs and royalties to suppliers negotiated under the terms and conditions of the prime contract. The first four lots of ACV production were negotiated and priced under these foreign exchange and royalty terms, which were determined to be a fair and reasonable pricing mechanism to allow the prime contractor to establish firm pricing option on the first four lots of production (FY18-FY21). This pricing mechanism was reviewed and vetted by the MDA and NCCA at Milestone C and was implemented to protect the government from annual foreign currency fluctuations. BAE is the prime contractor and IVECO Defense is the main supplier.		

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 1				P-1 Line Item Number / Title: 2025 / Amphibious Combat Vehicle Family of Vehicles					Item Number / Title [DODIC]: 1 / Amphibious Combat Vehicle			
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
1.1.1) Surface Vehicle ^(†)		2018	BAE Systems / York, PA	C / FPIF	MCSC	Jun 2018	Oct 2019	26	3,649K	Y		Dec 2017
1.1.1) Surface Vehicle ^(†)		2019	BAE Systems / York, PA	C / FPIF	MCSC	Dec 2018	Apr 2020	30	3,464K	Y		Dec 2017
1.1.1) Surface Vehicle ^(†)		2020 ⁽¹⁴⁾	BAE Systems / York, PA	C / FPIF	MCSC	Nov 2019	Feb 2021	56	3,304K	Y		Dec 2017
1.1.1) Surface Vehicle ^(†)		2021	BAE Systems / York, PA	C / FPIF	MCSC	Nov 2020	Feb 2022	72	3,357K	Y		Dec 2017

^(†) indicates the presence of a P-21

Footnotes:

⁽¹⁴⁾ FY20 award of 56 vehicles will occur via two actions due to the continuing resolution quantity restrictions. The first vehicle award (qty 30) occurred Nov 19.

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Exhibit P-21, Production Schedule: PB 2021 Navy																			Date: February 2020																										
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 1									P-1 Line Item Number / Title: 2025 / Amphibious Combat Vehicle Family of Vehicles										Item Number / Title [DODIC]: 1 / Amphibious Combat Vehicle																										
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2018										Fiscal Year 2019													BALANCE															
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018										Calendar Year 2019																												
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP														
1.1.1) Surface Vehicle ⁽¹⁾																																													
	1	2018	NAVY		26	0	26											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26									
	1	2019	NAVY		30	0	30											A -													-	-	-	-	-	-	-	-	-	-	-	-	-	-	30
	1	2020	NAVY		56	0	56																																					56	
	1	2021	NAVY		72	0	72																																					72	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP															

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020																
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 1										P-1 Line Item Number / Title: 2025 / Amphibious Combat Vehicle Family of Vehicles										Item Number / Title [DODIC]: 1 / Amphibious Combat Vehicle																
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2020										Fiscal Year 2021														BALANCE					
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020										Calendar Year 2021																			
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						
1.1.1) Surface Vehicle ⁽¹⁾																																				
	1	2018	NAVY		26	0	26	3	3	3	4	4	5	4															0							
	1	2019	NAVY		30	0	30	-	-	-	-	-	-	1	3	3	3	3	3	3	3	4	4											0		
	1	2020	NAVY		56	0	56		A	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	5	5	5	5	5	5	5	20				
	1	2021	NAVY		72	0	72															A	-	-	-	-	-	-	-	-	-	-	-	-	-	72
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020												
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 1										P-1 Line Item Number / Title: 2025 / Amphibious Combat Vehicle Family of Vehicles										Item Number / Title [DODIC]: 1 / Amphibious Combat Vehicle												
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2022										Fiscal Year 2023														BALANCE	
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022										Calendar Year 2023															
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1.1.1) Surface Vehicle ⁽¹⁾																																
	1	2018	NAVY	26	26	0																									0	
	1	2019	NAVY	30	30	0																									0	
	1	2020	NAVY	56	36	20	5	5	5	5																					0	
	1	2021	NAVY	72	0	72	-	-	-	-	6	6	6	6	6	6	6	6	6	6	6											0
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		

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Exhibit P-21, Production Schedule: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 1					P-1 Line Item Number / Title: 2025 / Amphibious Combat Vehicle Family of Vehicles				Item Number / Title [DODIC]: 1 / Amphibious Combat Vehicle			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	BAE Systems - York, PA	56	95	125	0	9	15	24	0	9	12	21

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

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

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

Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 1: Tracked Combat Vehicles	P-1 Line Item Number / Title: 2038 / LAV PIP

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206623M

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	1,779.908	36.652	60.734	41.988	0.000	41.988	30.505	77.375	72.591	4.417	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	1,779.908	36.652	60.734	41.988	0.000	41.988	30.505	77.375	72.591	4.417	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	1,779.908	36.652	60.734	41.988	0.000	41.988	30.505	77.375	72.591	4.417	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	5.735	5.883	-	-	-	-	-	-	7.735	Continuing	Continuing
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The LAV Modification & Sustainment Program funds important vehicle modifications, support equipment and tools and other projects that increase LAV reliability and readiness while simultaneously reducing operations and support costs. The LAV Modification and Sustainment Team is a multi-disciplinary integrated project team that employs subject matter experts in engineering, logistics, contracting and financial management to manage modification projects.

The LAV Reset Program will address the Family of Light Armored Vehicles (FOLAV) automotive system obsolescence and reduced performance due to increased Gross Vehicle Weight (GVW). The Reset Program will improve fleet reliability and availability by addressing the three sub-systems (power pack, driveline, and steering) that specifically account for 95 percent of total system downtime. The program also fields a modern driver's instrument panel and LAV-25 Slip Ring. The LAV Reset Program is an ACAT IV(M) program.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 1: Tracked Combat Vehicles						P-1 Line Item Number / Title: 2038 / LAV PIP				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206623M				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	LAV PIP	P-5a, P-21			- / 1,779.908	- / 36.652	- / 60.734	- / 41.988	- / -	- / 41.988
P-40	Total Gross/Weapon System Cost				- / 1,779.908	- / 36.652	- / 60.734	- / 41.988	- / 0.000	- / 41.988
*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 2019: \$36.652M LAV Reset: \$36.652M funded the procurement and fielding of 60 Reset kits and supporting efforts such as logistics support, special tools & support equipment for depots, and required government and contractor support. FY 2020: \$60.734M LAV Reset: \$51.686M funds the procurement and fielding of 60 Reset kits and supporting efforts such as all required logistics support, special tools and support equipment required for fielding, Engineering, Manufacturing and Development (EMD) vehicle refurbishment, refurbish STRYKER differentials, instructor and key personnel new equipment training and required government and contractor support. LAV Modification and Sustainment (MOD): \$9.048M funds the procurement and fielding of 237 new intercom systems that resolve current operational deficiencies and will interface with the USMC tactical communication modernization (TCM) compliant radios. The TCM requirement is mandated by the National Security Administration (NSA) and must be achieved by 2024. FY 2021 Baseline Appropriation: \$41.988M LAV Reset: Funding in this program has been reprioritized while ensuring the Marine Corps continues to evolve toward a Force that is aligned with the National Defense Strategy. LAV Modification and Sustainment (MOD): \$41.988M will fund the procurement and fielding of 441 new intercom systems, 167 tactical communication modernization (TCM) radios that resolve current operational deficiencies and will interface with the USMC (TCM) compliant radios, and 60 Electrical System Modification (ESM) kits. The TCM requirement is mandated by the National Security Administration (NSA) and must be achieved by 2024. The \$32.940M increase between FY20 and FY21 is due to the increased procurement of 441 replacement intercom systems and associated engineering support. The FY21 request also includes the first procurement of 167 Tactical Communication Modernization radios (TCM), 60 Electrical System Modernization (ESM) kits and associated engineering support.										

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy																Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 1									P-1 Line Item Number / Title: 2038 / LAV PIP							Aggregated Items Title: LAV PIP					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total			
			Unit Cost (\$)	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)	
1) LAV ANTI-TANK MODERNIZATION																					
1.1) Systems Eng/ Prog Mgmt(Reserves)	A		-	-	0.955	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.2) Hardware-ATWS Kits(Reserves) ^(†)	A		1,502K	24	36.045	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.3) Training Devices	A		-	-	9.626	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.4) Refurbishment/ Installations	A		-	-	11.878	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.5) New Equipment Training	A		-	-	1.666	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.6) Support Equipment	A		-	-	7.398	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.7) ECO	A		-	-	2.119	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.8) PVT/FAT	A		-	-	3.745	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.9) Hardware-ATWS Systems ^(†)	A		1,563K	78	121.945	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.10) Systems Eng/ Program Mgmt Support	A		-	-	4.648	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.11) ILS	A		-	-	4.724	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Subtotal: 1) LAV ANTI-TANK MODERNIZATION			-	-	204.749	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2) LAV Reset ⁽¹⁾																					
2.1) Training Devices	A		-	-	-	-	-	1.848	-	-	2.196	-	-	-	-	-	-	-	-	-	
2.2) Special Tools & Support Equipment	A		-	-	-	-	-	1.345	-	-	10.681	-	-	-	-	-	-	-	-	-	
2.3) New Equipment Training	A		-	-	-	-	-	-	-	-	1.167	-	-	-	-	-	-	-	-	-	
2.4) Reset Kits ^(†)	A		-	-	-	452,181.00	60	27.131	460,550.00	60	27.633	-	-	-	-	-	-	-	-	-	
2.5) ILS	A		-	-	-	-	-	1.711	-	-	2.950	-	-	-	-	-	-	-	-	-	
2.6) Refurb Test Vehicles/Field Service Reps.	A		-	-	-	-	-	0.988	-	-	1.619	-	-	-	-	-	-	-	-	-	
2.7) Refurb. Differentials	A		-	-	-	-	-	1.530	-	-	3.221	-	-	-	-	-	-	-	-	-	
2.8) Systems Eng/ Program Mgmt Support	A		-	-	-	-	-	2.099	-	-	2.219	-	-	-	-	-	-	-	-	-	
Subtotal: 2) LAV Reset			-	-	0.000	-	-	36.652	-	-	51.686	-	-	-	-	-	-	-	-	-	
3) Prior Years Cumulative Funding																					
3.1) Prior Years Cumulative Funding	A		-	-	1,573.543	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 1								P-1 Line Item Number / Title: 2038 / LAV PIP							Aggregated Items Title: LAV PIP				

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
Subtotal: 3) Prior Years Cumulative Funding			-	-	1,573.543	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4) LAV Modification and Sustainment																				
4.1) New Equipment Training	A		-	-	-	-	-	-	-	-	-	-	-	0.071	-	-	-	-	-	0.071
4.2) PVT/FAT (2)	A		-	-	-	-	-	-	-	-	-	-	-	0.628	-	-	-	-	-	0.628
4.3) M & S Kits (DSSM)(†)	A		2,069.43	749	1.550	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.4) Systems Eng/ Program Mgmt Support (3)	A		-	-	0.066	-	-	-	-	-	1.510	-	-	2.214	-	-	-	-	-	2.214
4.5) ILS	A		-	-	-	-	-	-	-	-	0.207	-	-	0.337	-	-	-	-	-	0.337
4.6) M&S Kits (Intercom) (4)(†)	A		-	-	-	-	-	-	28,940.93	237	6.859	39,916.10	441	17.603	-	-	-	39,916.10	441	17.603
4.7) Installations	A		-	-	-	-	-	-	-	-	0.472	-	-	0.177	-	-	-	-	-	0.177
4.8) M&S Kits (TCM) (5)(†)	A		-	-	-	-	-	-	-	-	-	111,323.35	167	18.591	-	-	-	111,323.35	167	18.591
4.9) M&S Kits(ESM) (6)(†)	A		-	-	-	-	-	-	-	-	-	39,450.00	60	2.367	-	-	-	39,450.00	60	2.367
Subtotal: 4) LAV Modification and Sustainment			-	-	1.616	-	-	-	-	-	9.048	-	-	41.988	-	-	-	-	-	41.988
Total			-	-	1,779.908	-	-	36.652	-	-	60.734	-	-	41.988	-	-	-	-	-	41.988

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

(†) indicates the presence of a P-5a

Footnotes:

(1) Funding in FY21 for LAV Reset has been reprioritized while ensuring the Marine Corps continues to evolve toward a Force that is aligned with the National Defense Strategy.

(2) FY21 increase of \$0.628 is for production verification test of intercom kits procured in FY20.

(3) FY21 \$0.704M increase is for engineering support (Cost Element 4.2) that directly supports a new effort (procurement of an electrical system modernization kit).

(4) FY21 unit cost increase is due to the LAV-C2 (command and control) and LAV-M (mortar) variants being procured which have a more complex intercom and a higher unit cost than FY20 buy of LAV-25, LAV-L (Logistics), LAV-R (Recovery) and LAV-AT (Anti-Tank).

(5) FY21 increase of \$18.591M is related to unit price increases due to variant mix and complexity of radio units required in those variants. For example, the LAV-C2 (command and control) variant requires more radios. Tactical Communication Modernization (TCM) radios will be compliant to National Security Administration (NSA) requirements by 2024.

(6) FY21 increase of \$2.367M is due to 1st year procurement of 60 ESM-Electrical System Modernization (Alternator/Distributor and slip ring for LAV-25's). Unit prices fluctuate because the LAV-25 requires a slip ring which is not required in the other variants.

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 1				P-1 Line Item Number / Title: 2038 / LAV PIP					Aggregated Items: LAV PIP			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1) LAV ANTI-TANK MODERNIZATION												
1.2) Hardware-ATWS Kits(Reserves)		2016	Raytheon / McKinney, TX	C / FFP	TACOM, Warren, MI	Jul 2016	Nov 2018	24	1,502K	Y		
1.9) Hardware-ATWS Systems		2015	Raytheon / McKinney, TX	C / FFP	TACOM, Warren, MI	Jun 2015	May 2017	44	1,607K	Y		Mar 2011
1.9) Hardware-ATWS Systems		2016	Raytheon / McKinney, TX	C / FFP	TACOM, Warren, MI	Dec 2015	Apr 2018	27	1,491K	Y		Mar 2011
1.9) Hardware-ATWS Systems		2017	Raytheon / McKinney, TX	C / FFP	TACOM, Warren, MI	Nov 2016	Oct 2018	4	1,505K	Y		Mar 2011
2) LAV Reset												
2.4) Reset Kits ^(†)		2019	GDLS / London, Ontario Canada	C / FFP	TACOM, Warren, MI	Jan 2019	Oct 2019	60	452,181.00	Y		Aug 2018
2.4) Reset Kits ^(†)		2020 ⁽⁷⁾	GDLS / London, Ontario Canada	C / FFP	TACOM, Warren, MI	Oct 2019	Oct 2020	60	460,550.00	Y		Aug 2018
4) LAV Modification and Sustainment												
4.3) M & S Kits (DSSM) ^(†)		2018	Rose-A- Lee Technologies / Sterling Heights, MI	C / FFP	TACOM, Warren, MI	Jun 2018	Sep 2018	749	2,070.06	N	Aug 2017	Aug 2017
4.6) M&S Kits (Intercom) ^{(4)(†)}		2020	TBD / TBD	C / TBD	TBD	Jan 2020	Jul 2020	237	28,940.93	N	Aug 2019	Aug 2019
4.6) M&S Kits (Intercom) ^{(4)(†)}		2021	TBD / TBD	C / TBD	TBD2019-08	Dec 2020	Jun 2021	441	39,916.10	N	Aug 2019	Aug 2019
4.8) M&S Kits (TCM) ^{(5)(†)}		2021	TBD / TBD	C / FFP	TACOM, Warren, MI	Dec 2020	Jun 2021	167	111,323.35	Y		Oct 2020
4.9) M&S Kits(ESM) ^{(6)(†)}		2021	GDLS / London, ON. Canada	C / FFP	TACOM, Warren, MI	Dec 2020	Jun 2021	60	39,450.00	Y		Jun 2020
^(†) indicates the presence of a P-21 Footnotes: ⁽⁷⁾ The increase between initial and reorder lead times increases from FY19 to FY20 to preserve the delivery schedule. The maintenance depot cannot induct FY20-funded kits until the FY19 deliveries are complete.												

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Exhibit P-21, Production Schedule: PB 2021 Navy																							Date: February 2020										
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 1										P-1 Line Item Number / Title: 2038 / LAV PIP													Aggregated Items: LAV PIP										
Items <i>(Units in Each)</i>							Fiscal Year 2015												Fiscal Year 2016												BALANCE		
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2014	BAL DUE AS OF 1 OCT	Calendar Year 2015												Calendar Year 2016														
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
2) LAV Reset																																	
2.4) Reset Kits																																	
	1	2019	NAVY	60	0	60																											60
	1	2020	NAVY	60 ⁽⁸⁾	0	60																											60
4) LAV Modification and Sustainment																																	
4.3) M & S Kits (DSSM)																																	
	2	2018	NAVY	749	0	749																											749
4.6) M&S Kits (Intercom) ⁽⁴⁾																																	
	3	2020	NAVY	237	0	237																											237
	3	2021	NAVY	441	0	441																											441
4.8) M&S Kits (TCM) ⁽⁵⁾																																	
	4	2021	NAVY	167	0	167																											167
4.9) M&S Kits(ESM) ⁽⁶⁾																																	
	5	2021	NAVY	60	0	60	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	60		

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Exhibit P-21, Production Schedule: PB 2021 Navy																							Date: February 2020										
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 1										P-1 Line Item Number / Title: 2038 / LAV PIP													Aggregated Items: LAV PIP										
Items <i>(Units in Each)</i>							Fiscal Year 2017												Fiscal Year 2018													BALANCE	
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017												Calendar Year 2018														
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
2) LAV Reset																																	
2.4) Reset Kits																																	
	1	2019	NAVY	60	0	60																											60
	1	2020	NAVY	60 ⁽⁸⁾	0	60																											60
4) LAV Modification and Sustainment																																	
4.3) M & S Kits (DSSM)																																	
	2	2018	NAVY	749	0	749	A - - - 250																										499
4.6) M&S Kits (Intercom) ⁽⁴⁾																																	
	3	2020	NAVY	237	0	237																											237
	3	2021	NAVY	441	0	441																											441
4.8) M&S Kits (TCM) ⁽⁵⁾																																	
	4	2021	NAVY	167	0	167																											167
4.9) M&S Kits(ESM) ⁽⁶⁾																																	
	5	2021	NAVY	60	0	60	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	60		

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Exhibit P-21, Production Schedule: PB 2021 Navy																								Date: February 2020											
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 1										P-1 Line Item Number / Title: 2038 / LAV PIP														Aggregated Items: LAV PIP											
Items <i>(Units in Each)</i>							Fiscal Year 2019														Fiscal Year 2020														BALANCE
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019							Calendar Year 2020																					
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					
2) LAV Reset																																			
2.4) Reset Kits																																			
	1	2019	NAVY	60	0	60				A -	-	-	-	-	-	-	-	-	6	5	5	5	5	5	5	5	5	5	5	4	0				
	1	2020	NAVY	60 ⁽⁸⁾	0	60													A -	-	-	-	-	-	-	-	-	-	-	-	60				
4) LAV Modification and Sustainment																																			
4.3) M & S Kits (DSSM)																																			
	2	2018	NAVY	749	250	499	250	249																							0				
4.6) M&S Kits (Intercom) ⁽⁴⁾																																			
	3	2020	NAVY	237	0	237															A -	-	-	-	-	-	-	20	20	20	177				
	3	2021	NAVY	441	0	441																									441				
4.8) M&S Kits (TCM) ⁽⁵⁾																																			
	4	2021	NAVY	167	0	167																									167				
4.9) M&S Kits(ESM) ⁽⁶⁾																																			
	5	2021	NAVY	60	0	60																									60				
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					

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Exhibit P-21, Production Schedule: PB 2021 Navy																							Date: February 2020											
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 1										P-1 Line Item Number / Title: 2038 / LAV PIP													Aggregated Items: LAV PIP											
Items <i>(Units in Each)</i>							Fiscal Year 2021													Fiscal Year 2022													BALANCE	
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021													Calendar Year 2022														
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				
2) LAV Reset																																		
2.4) Reset Kits																																		
	1	2019	NAVY	60	60	0																												0
	1	2020	NAVY	60 ⁽⁸⁾	0	60	5	5	5	5	5	5	5	5	5	5	5																	0
4) LAV Modification and Sustainment																																		
4.3) M & S Kits (DSSM)																																		
	2	2018	NAVY	749	749	0																												0
4.6) M&S Kits (Intercom) ⁽⁴⁾																																		
	3	2020	NAVY	237	60	177	20	20	20	20	20	20	20	20	17																			0
	3	2021	NAVY	441	0	441			A -	-	-	-	-	-	34	37	37	37	37	37	37	37	37	37	37	37	37				0			
4.8) M&S Kits (TCM) ⁽⁵⁾																																		
	4	2021	NAVY	167	0	167			A -	-	-	-	-	-	13	14	14	14	14	14	14	14	14	14	14	14	14				0			
4.9) M&S Kits(ESM) ⁽⁶⁾																																		
	5	2021	NAVY	60	0	60			A -	-	-	-	-	-	5	5	5	5	5	5	5	5	5	5	5	5	5				0			
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				

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Exhibit P-21, Production Schedule: PB 2021 Navy								Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 1				P-1 Line Item Number / Title: 2038 / LAV PIP				Aggregated Items: LAV PIP			

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	GDLS - London, Ontario Canada	30	60	120	0	0	9	9	0	0	12	12
2	Rose-A- Lee Technologies - Sterling Heights, MI	360	720	1,080	0	8	3	11	0	0	0	0
3	TBD - TBD			TBD	0	2	6	8	0	2	6	8
4	TBD - TBD	100	240	360	0	3	6	9	0	3	6	9
5	GDLS - London, ON. Canada	50	175	200	0	3	6	9	0	3	6	9

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

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

Footnotes:

⁽⁸⁾ The increase between initial and reorder lead times between FY19 to FY20 is required to preserve the delivery schedule. The maintenance depot cannot induct FY20-funded kits until the FY19 deliveries are complete.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 2: Artillery and Other Weapons							P-1 Line Item Number / Title: 2185 / 155MM Ltwt Towed Howitzer					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0206623M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	1,366.838	24.858	25.065	0.059	0.000	0.059	0.058	2.061	2.101	2.144	-	1,423.184
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	1,366.838	24.858	25.065	0.059	0.000	0.059	0.058	2.061	2.101	2.144	-	1,423.184
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	1,366.838	24.858	25.065	0.059	0.000	0.059	0.058	2.061	2.101	2.144	-	1,423.184
<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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: LW155 (also known as the M777A2 howitzer) provides all weather, day/night direct, reinforcing, and general support fires to maneuver forces as well as direct support artillery. It is a joint program between the Marine Corps and Army, which is additionally supporting various foreign military purchases of the weapon system. The LW155 was first fielded by the Marine Corps in April 2005 and completed fielding in April 2013. The Army has fielded the system to its Stryker Brigades and Fires Brigades and completed fielding to its Infantry Brigades in September 2018. The LW155 is being significantly utilized in the Middle East in support of Operation Inherent Resolve. This budget line supports system updates to maintain and increase performance and lethality. M777A2 is the prominent weapon of the Marine indirect fires triad and currently the only cannon in the Service. Modernization efforts to include extended range will keep the M777 relevant to the concept of operations (distributed units operating with increased dispersion) envisioned in the Marine Operating Concept.												
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025		
Navy	Quantity	-	-	-	-	-	-	-	-	-	-	
	Total Obligation Authority	24.852	25.059	0.053	-	0.053	0.052	2.055	2.095	2.138		
NR	Quantity	-	-	-	-	-	-	-	-	-	-	
	Total Obligation Authority	0.006	0.006	0.006	-	0.006	0.006	0.006	0.006	0.006		
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-	-	
	Total Obligation Authority	24.858	25.065	0.059	-	0.059	0.058	2.061	2.101	2.144		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 2: Artillery and Other Weapons						P-1 Line Item Number / Title: 2185 / 155MM LtwT Towed Howitzer				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A			Other Related Program Elements: 0206623M			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / 155MM LtwT Towed Howitzer - Active				- / 1,366.838	- / 24.858	- / 25.065	- / 0.059	- / 0.000	- / 0.059
P-40	Total Gross/Weapon System Cost				- / 1,366.838	- / 24.858	- / 25.065	- / 0.059	- / 0.000	- / 0.059
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
Justification: FY 2019: \$24.858M (\$24.852M Active; \$0.006M Reserve) FY 2019 funding continued the installation of modification kits; such as the Improved Power Conditioning Control Module (I-PCCM), Mission Computer (MSC-R), and Chief of Section Display (CSD-R) (\$401M). Additionally, funding supported the procurement of Chrome Cannon tubes (\$3.710M) and Software Defined Radios, cables, and brackets (\$20.747M). Software Defined Radio modification enables more secure radio communication and facilitates new encryption protocol interoperability between artillery and supported forces. The new radio will provide the ability to perform voice and data functions over the same radio which increases operational flexibility for firing units. The FY19 column of the FY20 request included additional funding for Internal Navigation Unit (INU) Recapitalization. However, the INU Recap funding was included in and approved as part of the Omnibus 2019 Reprogramming Request and, therefore, is no longer reflected on the exhibit. FY 2020: \$25.065M (\$25.059M Active; \$0.006M Reserve) FY 2020 funding provides for continued procurement of components such as the final lot of chrome cannon tubes (QTY 165) that will outfit the entire USMC howitzer fleet (\$24.993M). Chrome cannon tubes increase safety, accuracy, and longevity of the howitzer by eliminating propellant residue inside the cannon tubes. Propellant residue causes spiral wear, which reduces the muzzle velocity of the howitzer, and fuze malfunctions of projectiles. Reduced muzzle velocity leads to projectiles impacting short of their intended targets. FY20 funding also continues other efforts such as supporting integration and installation of previously procured hardware modification kits (\$0.072M). FY 2021 Base Appropriation Request: \$0.059M (\$0.053M Active; \$0.006M Reserve) FY 2021 funding will support the retrofitting of previously procured hardware modifications such as software defined radios and chrome cannon tubes (\$0.059M). The chrome cannon tubes retrofits will address safety concerns while retrofitting of the software defined radio will facilitate new encryption protocols to provide continued communication between artillery and supported forces. Net funding decrease of \$25.006 from FY20 to FY21 reflects the completion of the procurement of chrome cannon tubes for the howitzer fleet.										

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Exhibit P-5, Cost Analysis: PB 2021 Navy													Date: February 2020								
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 2							P-1 Line Item Number / Title: 2185 / 155MM LtwT Towed Howitzer						Item Number / Title [DODIC]: 1 / 155MM LtwT Towed Howitzer - Active								
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
Procurement Quantity <i>(Units in Each)</i>				-			-			-			-			-			-		
Gross/Weapon System Cost <i>(\$ in Millions)</i>				1,366.838			24.858			25.065			0.059			0.000			0.059		
Less PY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Net Procurement (P-1) <i>(\$ in Millions)</i>				1,366.838			24.858			25.065			0.059			0.000			0.059		
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Total Obligation Authority <i>(\$ in Millions)</i>				1,366.838			24.858			25.065			0.059			0.000			0.059		
(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 Dollars)</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 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 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)			
Support - Active Cost																					
1.1) Hardware/electronic obsolescence and improvement ECP Retrofits	-	-	15.119	-	-	0.395	-	-	0.066	-	-	0.053	-	-	-	-	-	0.053			
1.2) Software Defined Radio ⁽¹⁾	-	-	5.135	-	-	20.747	-	-	-	-	-	-	-	-	-	-	-	-			
1.3) Chrome Cannon Tubes ⁽²⁾	-	-	28.648	-	-	3.710	-	-	24.993	-	-	-	-	-	-	-	-	-			
Subtotal: Support - Active Cost	-	-	48.902	-	-	24.852	-	-	25.059	-	-	0.053	-	-	-	-	-	0.053			
Support - Reserves - 155MM LtwT Towed Howitzer Cost																					
2.1) Systems Engineering/Program Management	-	-	0.577	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
2.2) Hardware/electronic obsolescence and improvement ECP retrofits	-	-	2.118	-	-	0.006	-	-	0.006	-	-	0.006	-	-	-	-	-	0.006			
Subtotal: Support - Reserves - 155MM LtwT Towed Howitzer Cost	-	-	2.695	-	-	0.006	-	-	0.006	-	-	0.006	-	-	-	-	-	0.006			
Support - Prior Years Cost																					
3.1) Prior Years Cumulative Funding	-	-	1,315.241	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Subtotal: Support - Prior Years Cost	-	-	1,315.241	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

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Exhibit P-5, Cost Analysis: PB 2021 Navy												Date: February 2020						
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 2						P-1 Line Item Number / Title: 2185 / 155MM Ltw Towed Howitzer						Item Number / Title [DODIC]: 1 / 155MM Ltw Towed Howitzer - Active						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$)	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)
Gross/Weapon System Cost	-	-	1,366.838	-	-	24.858	-	-	25.065	-	-	0.059	-	-	0.000	-	-	0.059

Footnotes:

- (1) FY18 & FY19 supports the fleet procurement of Software Defined Radios and associated brackets and cables. Radios will be procured using an existing Navy contract. The new Software Defined Radio will provide the ability to perform voice and data functions, which increases operational flexibility for firing, artillery unit. Deliveries are scheduled into the beginning of FY20.
- (2) Unit Cost is approximately \$151K per tube. Funding from FY17-FY20 will outfit the fleet. Chrome Cannon Tubes are procured via OGA at Watervliet Arsenal in New York.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 2: Artillery and Other Weapons							P-1 Line Item Number / Title: 2212 / Artillery Weapons System					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0206623M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	682.332	130.981	95.686	174.687	0.000	174.687	96.458	81.802	69.457	70.668	-	1,402.071
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	682.332	130.981	95.686	174.687	0.000	174.687	96.458	81.802	69.457	70.668	-	1,402.071
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	682.332	130.981	95.686	174.687	0.000	174.687	96.458	81.802	69.457	70.668	-	1,402.071
<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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description:												
This program maintains and modernizes the Marine Corps' Long Range Precision Fire (LRPF) by building a more lethal force capability for sea control and land based targets. Funding procures launchers, missiles, training equipment, and associated support to ensure mission critical readiness and capability on the battlefield in support of the National Defense Strategy (NDS) and Commandant Planning Guidance. The two primary launchers are: 1) The High Mobility Artillery Rocket System (HIMARS) is a C-130 transportable, wheeled, indirect fire, rocket/missile launcher capable of firing all rockets and missiles in the current and future Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM). A HIMARS system includes one launcher, two Re-Supply Systems (RSS), HIMARS Support Kit and the MFOM. The HIMARS provides Joint lethality in contested environments to the Marine Air-Ground Task Force (MAGTF) with 24 hour ground-based, responsive General Support/General Support Reinforcing (GS/GSR) indirect fires which accurately engage targets at long range, (60+km), with high volumes of lethal fire under all weather conditions throughout all phases of combat operations ashore, to include irregular warfare, distributed operations and anti-ship missions. HIMARS Launchers are being procured to support the reactivation of the HIMARS 5th Battalion, 10th Marines with IOC in FY21. HIMARS is also capable of firing the Reduced Range Practice Rocket (RRPR) for tactical training, classroom training and handling exercises. 2) The Remotely Operated Ground Unit Expeditionary-Fires (ROGUE-F) is the launcher vehicle for the NMESIS/GBASM system. Ground Based Anti-Ship Missile (GBASM) will procure long term and short term solutions for an Anti-Ship Missile (ASM) capability in support of the Marine Corps Expeditionary Advanced Base Operations (EABO) and the National Defense Strategy approach to build a more lethal Joint Force. The GBASM project will procure a USMC system while leveraging other Service-developed missiles to provide a ground based anti-access/area denial, anti-ship capability. Missile procurement details are held at a higher classification.												
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025		
Navy	Quantity	-	-	-	-	-	-	-	-	-	-	
	Total Obligation Authority	127.913	95.686	174.687	-	174.687	96.458	81.802	69.457	70.668		
NR	Quantity	-	-	-	-	-	-	-	-	-	-	
	Total Obligation Authority	3.068	-	-	-	-	-	-	-	-	-	

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 2: Artillery and Other Weapons					P-1 Line Item Number / Title: 2212 / Artillery Weapons System					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206623M				
Line Item MDAP/MAIS Code: N/A										
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	130.981	95.686	174.687	-	174.687	96.458	81.802	69.457	70.668

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 2: Artillery and Other Weapons						P-1 Line Item Number / Title: 2212 / Artillery Weapons System				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206623M				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / HIMARS	P-5a, P-21			- / 682.332	- / 130.981	- / 95.686	- / 174.687	- / 0.000	- / 174.687
P-40	Total Gross/Weapon System Cost				- / 682.332	- / 130.981	- / 95.686	- / 174.687	- / 0.000	- / 174.687
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
Justification: FY 2019: \$130.981M HIMARS is fielded to both the Active (\$127.913M) and Reserve (\$3.068M) components. FY19 baseline funding supports the re-activation of 5th Battalion 10th Marine Regiment (5/10) as a HIMARS Battalion. Funding is required for the procurement of HIMARS systems and support equipment for the new battalion and an associated increase in the total munitions requirement for rockets. Support funds provide maintenance vehicles, tool kits, training pods, test equipment, modification kits (long range communications, blue force tracker), shelters, install kits, spares and initial issue provisioning in various quantities to support 5th Battalion 10th Marines fielding. GMLRS Alternative Warhead (AW) and RRPRs are being procured, noting unit costs are dependent on total quantities procured amongst the Army, Marine Corps and Foreign Military Sales (FMS) organizations in contract award. FY 2020: \$95.686M Beginning in FY20 the USMC is accounting for base costs and ancillary support items separately to better align with the Army's budget structure. Funding will continue the procurement of HIMARS launchers and communications equipment in support of the activation of 5/10. FY20 peculiar support equipment will include universal fire control systems (UFCS), project management administration, and production engineering for HIMARS. In addition, ancillary support items will be funded including; carrier, engineering services, system engineering, production engineering, fielding, government testing, and launcher peculiar support equipment. FY20 Peculiar Support Equipment increase accounts for the procurement of HIMARS maintenance vehicles, tool kits, training pods, test equipment, modification kits (long range communications, blue force tracker), shelters, install kits, spares and initial issue provisioning in various quantities to support 5th Battalion 10th Marines IOC in FY21. The RRPR quantity increase in FY 2020 will support the additional annual training requirement for 5/10. RRPR unit prices are provided by the Army. The decrease of \$35.295M from FY 2019 to FY2020 is due to realignment of the Guided Multiple Launch Rocket System (GMLRS) procurement budget (both active and reserve costs) to a separate Procurement, Marine Corps budget line item: 3025 - Guided Multiple Launch Rocket System (GMLRS). All GMLRS budgetary data prior to FY 2020 will reside in LI: - 2212 Artillery Weapon System (HIMARS). FY 2021 Baseline Appropriation Request: \$174.687 Funding procures launchers, carriers, and equipment to support continued expansion of USMC launcher capacity and practice rockets. FY21 peculiar support equipment includes HIMARS Re-supply Vehicle and VHF communications suite, HIMARS launcher VHF communications suite, launcher HF On-The-Move antennas, and initial issue provisioning to support 5th Battalion 10th Marines IOC in FY21. Missile procurement details are held at a higher classification. OCO:										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 2: Artillery and Other Weapons		P-1 Line Item Number / Title: 2212 / Artillery Weapons System
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206623M
Line Item MDAP/MAIS Code: N/A		
FY 2021 OCO Appropriation Request: N/A		

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Exhibit P-5, Cost Analysis: PB 2021 Navy												Date: February 2020						
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 2						P-1 Line Item Number / Title: 2212 / Artillery Weapons System						Item Number / Title [DODIC]: 1 / HIMARS						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				682.332		130.981		95.686		174.687		0.000		174.687				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				682.332		130.981		95.686		174.687		0.000		174.687				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				682.332		130.981		95.686		174.687		0.000		174.687				
(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 Dollars)</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 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 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)
Flyaway Cost																		
Recurring Cost																		
1.1.1) Launcher ^(†) (1)	-	-	-	6,533K	10	65.331	7,378K	8	59.027	4,254K	7	29.781	-	-	-	4,254K	7	29.781
1.1.2) Carrier ^(†) (2)	-	-	-	597,660.00	10	5.977	642,625.00	8	5.141	661,903.00	7	4.633	-	-	-	661,903.00	7	4.633
1.1.3) Engineering Services	-	-	0.861	-	-	0.735	-	-	0.778	-	-	0.795	-	-	-	-	-	0.795
1.1.4) Program Management Admin	-	-	19.165	-	-	0.580	-	-	0.593	-	-	0.599	-	-	-	-	-	0.599
1.1.5) Peculiar Support Equipment ⁽³⁾	-	-	4.083	-	-	15.008	-	-	23.672	-	-	8.516	-	-	-	-	-	8.516
1.1.6) Peculiar Support Re-Supply Vehicle ^(†)	-	-	-	170,500.00	36	6.138	-	-	-	-	-	-	-	-	-	-	-	-
1.1.7) Prior Year Flyaway, recurring costs	-	-	17.627	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	41.736	-	-	93.769	-	-	89.211	-	-	44.324	-	-	-	-	-	44.324
Subtotal: Flyaway Cost	-	-	41.736	-	-	93.769	-	-	89.211	-	-	44.324	-	-	-	-	-	44.324
Hardware Cost																		
Recurring Cost																		
2.1.1) Missiles ⁽⁴⁾	-	-	-	-	-	-	-	-	-	-	-	125.000	-	-	-	-	-	125.000
2.1.2) Tactical GMLRS Hardware (Active) ^(†)	125,237.92	828	103.697	120,372.00	238	28.649	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2021 Navy										Date: February 2020							
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 2						P-1 Line Item Number / Title: 2212 / Artillery Weapons System						Item Number / Title [DODIC]: 1 / HIMARS					

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

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$)	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)
2.1.3) Tactical GMLRS Hardware (Reserves) ^(†)	121,000.00	94	11.374	120,372.00	20	2.407	-	-	-	-	-	-	-	-	-	-	-	-
2.1.4) Tactical GMLRS Hardware Ancillary Production	-	-	0.409	-	-	0.449	-	-	-	-	-	-	-	-	-	-	-	-
2.1.5) Tactical GMLRS Hardware Ancillary Production (Reserves)	-	-	-	-	-	0.049	-	-	-	-	-	-	-	-	-	-	-	-
2.1.6) Reduced Range Practice Rocket ^(†) (5)	6,255.64	3,900	24.397	7,609.00	648	4.931	7,494.00	864	6.475	7,672.00	699	5.363	-	-	-	7,672.00	699	5.363
2.1.7) M31 Guided Multiple Launch Rocket Systems	201,038.61	2,020	406.098	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.1.8) M31 GMLRS (DODIC HA51) OCO	-	-	77.033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.1.9) ATACMS Procurement	1,700K	1	1.700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	624.708	-	-	36.485	-	-	6.475	-	-	130.363	-	-	-	-	-	130.363
<i>Subtotal: Hardware Cost</i>	-	-	624.708	-	-	36.485	-	-	6.475	-	-	130.363	-	-	-	-	-	130.363
Support Cost																		
3.1) Munitions Engineering Services	-	-	12.819	-	-	0.727	-	-	-	-	-	-	-	-	-	-	-	-
3.2) Prior Year Support Costs	-	-	3.069	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support Cost</i>	-	-	15.888	-	-	0.727	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	682.332	-	-	130.981	-	-	95.686	-	-	174.687	-	-	0.000	-	-	174.687

^(†) indicates the presence of a P-5a

Footnotes:

- (1) From FY20 to FY21, there is a unit cost decrease per launcher since the Universal Fire Control System (UFCS) is not included in the FY21 - FY23 costs. The UFCS will be provided as GFE from existing inventory. The USMC is accounting for HIMARS Launcher base costs and ancillary support items separately to better align with the Army's budget structure.
- (2) Unit Cost Increase from FY20 to FY21 accounts for price inflation.
- (3) Decrease of \$15.156 from FY20-FY21 is related to the procurement of less quantities of peculiar support equipment.
- (4) Missile procurement details are held at a higher classification level.
- (5) FY21 unit cost matches the Army's Budget Exhibit estimate.

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy								Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 2			P-1 Line Item Number / Title: 2212 / Artillery Weapons System					Item Number / Title [DODIC]: 1 / HIMARS				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) Launcher ^(†)		2019	Lockheed / Dallas, Tx	SS / FFP	Huntsville, AL	Jul 2019	Jan 2021	10	6,533K	Y	Dec 2019	
1.1.1) Launcher ^(†)		2020	Lockheed / Dallas, Tx	SS / FFP	Huntsville, AL	Jul 2020	Jan 2022	8	7,378K	Y	Dec 2020	
1.1.1) Launcher ^(†)		2021	Lockheed / Dallas, Tx	SS / FFP	Huntsville, AL	Jul 2021	Jan 2023	7	4,254K	Y	Dec 2021	
1.1.2) Carrier ^(†)		2019	Lockheed / Dallas, Tx	SS / FFP	Huntsville, AL	Jul 2019	Jan 2021	10	597,660.00	Y	Dec 2019	
1.1.2) Carrier ^(†)		2020	Lockheed / Dallas, Tx	SS / FFP	Huntsville, AL	Jul 2020	Jan 2022	8	642,625.00	Y	Dec 2020	
1.1.2) Carrier ^(†)		2021	Lockheed / Dallas, Tx	SS / FFP	Huntsville, AL	Jul 2021	Jan 2023	7	661,903.00	Y	Dec 2021	
1.1.6) Peculiar Support Re-Supply Vehicle ^(†)		2019	Oshkosh Corp LLC / Oshkosh WI	SS / FFP	Huntsville, AL	Feb 2019	Feb 2021	36	170,500.00	Y	Dec 2019	Aug 2018
2.1.2) Tactical GMLRS Hardware (Active) ^(†)		2018	Lockheed Martin / Dallas, TX	SS / FPIF	Aviation and Missile Command	Apr 2018	Aug 2019	312	136,436.19	Y	Feb 2018	Feb 2017
2.1.2) Tactical GMLRS Hardware (Active) ^(†)	✓	2018	Lockheed Martin / Dallas, TX	SS / FPIF	Aviation and Missile Command	Apr 2018	Aug 2019	30	136,436.19	Y	Feb 2018	Feb 2017
2.1.2) Tactical GMLRS Hardware (Active) ^(†)		2019	Lockheed Martin / Dallas, TX	SS / FPIF	Aviation and Missile Command	Mar 2019	Jun 2020	238	120,372.00	Y	Feb 2019	Feb 2018
2.1.3) Tactical GMLRS Hardware (Reserves) ^(†)		2018	Lockheed Martin / Dallas, TX	SS / FPIF	Aviation and Missile Command	Apr 2018	Aug 2019	18	136,436.19	Y	Nov 2018	Feb 2017
2.1.3) Tactical GMLRS Hardware (Reserves) ^(†)		2019	Lockheed Martin / Dallas, TX	SS / FPIF	Aviation and Missile Command	Mar 2019	Jun 2020	20	120,372.00	Y	Jul 2020	Feb 2018
2.1.6) Reduced Range Practice Rocket ^(†)		2018	LetterKenny Munitions Center / Chambersburg, PA	MIPR	Letterkenny, PA	Jul 2018	Nov 2019	648	7,696.00	Y	Sep 2019	
2.1.6) Reduced Range Practice Rocket ^(†)		2019	LetterKenny Munitions Center / Chambersburg, PA	MIPR	Letterkenny, PA	May 2019	Apr 2021	648	7,609.00	Y	Apr 2021	
2.1.6) Reduced Range Practice Rocket ^(†)		2020	LetterKenny Munitions Center / Chambersburg, PA	MIPR	Letterkenny, PA PA Letterkenny, PA	May 2020	Apr 2022	864	7,494.00	Y	Apr 2022	
2.1.6) Reduced Range Practice Rocket ^(†)		2021	Lockheed Martin / Dallas, TX	C / TBD	Letterkenny, PA	Oct 2020	Feb 2022	699	7,672.00	Y	Apr 2023	
^(†) indicates the presence of a P-21												

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020																	
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 2										P-1 Line Item Number / Title: 2212 / Artillery Weapons System										Item Number / Title [DODIC]: 1 / HIMARS																	
Cost Elements (Units in Each)							Fiscal Year 2018										Fiscal Year 2019												B A L A N C E								
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 7	BAL DUE AS OF 1 OCT				Calendar Year 2018										Calendar Year 2019																	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L		A U G	S E P						
1.1.1) Launcher ⁽¹⁾																																					
	1	2019	NAVY	10	0	10													A -				-	-	-					10							
	1	2020	NAVY	8	0	8																									8						
	1	2021	NAVY	7	0	7																									7						
1.1.2) Carrier ⁽²⁾																																					
	2	2019	NAVY	10	0	10													A -				-	-	-					10							
	2	2020	NAVY	8	0	8																									8						
	2	2021	NAVY	7	0	7																									7						
1.1.6) Peculiar Support Re-Supply Vehicle																																					
	3	2019	NAVY	36	0	36													A -				-	-	-	-	-	-	-	-	-	-	-	-	36		
2.1.2) Tactical GMLRS Hardware (Active)																																					
Prior Years Deliveries: 486																																					
	4	2018	NAVY	312	0	312													A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156	156	0	
✓	4	2018	NAVY	30	0	30													A -	-	-	-	-	-	-	-	-	-	-	-	-	-	30		0		
	4	2019	NAVY	238	0	238																	A -	-	-	-	-	-	-	-	-	-	-	-	238		
2.1.3) Tactical GMLRS Hardware (Reserves)																																					
Prior Years Deliveries: 76																																					
	5	2018	NAVY	18	0	18													A -	-	-	-	-	-	-	-	-	-	-	-	-	18		0			
	5	2019	NAVY	20	0	20																	A -	-	-	-	-	-	-	-	-	-	-	20			
2.1.6) Reduced Range Practice Rocket ⁽⁵⁾																																					
Prior Years Deliveries: 3252																																					
	7	2018	NAVY	648	0	648													A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	648			
	7	2019	NAVY	648	0	648																									A -	-	-	-	-	-	648
	7	2020	NAVY	864	0	864																													864		
	6	2021	NAVY	699	0	699																													699		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020															
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 2										P-1 Line Item Number / Title: 2212 / Artillery Weapons System										Item Number / Title [DODIC]: 1 / HIMARS															
Cost Elements (Units in Each)							Fiscal Year 2020										Fiscal Year 2021													B A L A N C E					
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020										Calendar Year 2021																		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P				
1.1.1) Launcher ⁽¹⁾																																		0	
	1	2019	NAVY	10	0	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8		
	1	2020	NAVY	8	0	8											A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7
	1	2021	NAVY	7	0	7																					A	-	-	-	7				
1.1.2) Carrier ⁽²⁾																																		0	
	2	2019	NAVY	10	0	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1		
	2	2020	NAVY	8	0	8											A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
	2	2021	NAVY	7	0	7																					A	-	-	-	7				
1.1.6) Peculiar Support Re-Supply Vehicle																																		0	
	3	2019	NAVY	36	0	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	3	3	3	3	3	3	3	12		
2.1.2) Tactical GMLRS Hardware (Active)																																		0	
Prior Years Deliveries: 486																																		0	
	4	2018	NAVY	312	312	0																												0	
✓	4	2018	NAVY	30	30	0																												0	
	4	2019	NAVY	238	0	238	-	-	-	-	-	-	-	-	-	238																			0
2.1.3) Tactical GMLRS Hardware (Reserves)																																		0	
Prior Years Deliveries: 76																																		0	
	5	2018	NAVY	18	18	0																												0	
	5	2019	NAVY	20	0	20	-	-	-	-	-	-	-	-	-	20																			0
2.1.6) Reduced Range Practice Rocket ⁽⁵⁾																																		0	
Prior Years Deliveries: 3252																																		0	
	7	2018	NAVY	648	0	648	-	54	54	54	54	54	54	54	54	54	54	-	-	-	-	-	-	54	54	54	54	54	54	54	54	324			
	7	2019	NAVY	648	0	648	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	54	54	54	54	54	54	864			
	7	2020	NAVY	864	0	864											A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	699	
	6	2021	NAVY	699	0	699											A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	699
							O C T	N O V	D E C	J A N	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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LI 2212 - Artillery Weapons System
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Exhibit P-21, Production Schedule: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 2					P-1 Line Item Number / Title: 2212 / Artillery Weapons System				Item Number / Title [DODIC]: 1 / HIMARS			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Lockheed - Dallas, Tx		65	65	0	0	0	0	0	0	0	0
2	Lockheed - Dallas, Tx			15	0	0	0	0	0	0	0	0
3	Oshkosh Corp LLC - Oshkosh WI			TBD	0	0	0	0	0	0	0	0
4	Lockheed Martin - Dallas, TX	1,080	3,000	6,000	0	2	0	2	0	2	24	26
5	Lockheed Martin - Dallas, TX	1,848	3,000	6,000	8	2	0	2	2	2	20	22
6	Lockheed Martin - Dallas, TX	504	5,760	11,520	0	2	15	17	0	2	16	18
7	LetterKenny Munitions Center - Chambersburg, PA	540	864	1,440	0	2	15	17	0	2	16	18

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

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

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 2: Artillery and Other Weapons							P-1 Line Item Number / Title: 2220 / Wpns & Cmbt Vehs under \$5 million					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0206623M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	127.553	44.937	31.945	24.867	0.000	24.867	35.331	11.331	12.084	12.348	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	127.553	44.937	31.945	24.867	0.000	24.867	35.331	11.331	12.084	12.348	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	127.553	44.937	31.945	24.867	0.000	24.867	35.331	11.331	12.084	12.348	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Family of Infantry Weapons Systems (FIWS) provides for continuous monitoring, assessment of and implementation of Joint Service and USMC unique system modifications for individual and crew-served weapons. This includes efforts such as: improving weapon capability, operation, maintainability, supportability, service life, ergonomics, and safety enhancements. FIWS also supports replacement of principle end items (PEI) due to combat losses, wash-outs, and increases in units required, as well as continuing product improvement and modernization of various weapon systems and their support equipment. Gunners Protection Kit (GPK) for mounted weapons systems procurement was also funded in FIWS through FY19.

Gunners Protection Kit (GPK) supports the Tube-launched, Optically Tracked, Wire-guided (TOW) Objective Gunners Protection Kit Version 2.0 (TOGPK 2.0) which is the planned upgrade and replacement for the TOW Gunners Protection Kit (TGPK) currently in use with TOW High Mobility Multipurpose Wheeled Vehicle variants. TOGPK 2.0 affords the TOW gunners protection from small arms fire and Improvised Explosive Device fragmentation. TOGPK 2.0 addresses user concerns regarding limited workspace and TOW slew as well as improved operator visibility. The Reducible Height Gunners Protection Kit (RHGPK) enables Joint Light Tactical Vehicles (JLTV), Medium/Heavy Tactical Vehicle Replacement (MTVR) and Logistics Vehicle System Replacement (LVSR) to be transported in the lower vehicle stowage areas of Landing Platform/Dock (LPD 17) and Landing Helicopter Dock class ships. GPK was previously funded in the Family of Infantry Weapons (FIWS) and was given its own MCPC designation beginning in FY20.

Company and Battalion Mortars provides procurement, modification, and sustainment of mortars and mortar fire control systems to enable access to immediate indirect fires in support of mounted and dismounted forces to the company and battalion level. This initiative sustains the new lightweight company and battalion mortar capability and more than 50 mortar components, incorporates component product improvements and modifications such as improved sights and aiming devices, software upgrades to the Mortar Fire Control Application (MFCA) and hardware refresh/upgrades for the Lightweight Hand-held Mortar Ballistic Computer (LHMBC) capability.

Escalation of Force - Equipment (EoF-E) funding supports type-classification, testing and procurement of new advancements and technologies to provide an increased capability over existing or outdated equipment currently or associated in the Escalation of Force-Mission Modules (EoF-MMs). EoF-MMs provide commanders with an improved ability to respond to situations with varying levels of non-lethal force by way of modular capability sets that can be tailored and scaled to fit missions down to the platoon and squad level.

Ocular Interruption (OI) is the replacement of the 'Dazzling Laser' program for the LA-9/P and the GLARE-MOUT 532P-M (Mini Green) laser. OI is a non-damaging dazzling system that will be used in Escalation of Force-Missions to provide a non-lethal, force protection capability to warn and visually suppress targeted personnel at ranges from 10 to 500 meters.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 2: Artillery and Other Weapons		P-1 Line Item Number / Title: 2220 / Wpns & Cmbt Vehs under \$5 million
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206623M
Line Item MDAP/MAIS Code: N/A		
Family of Incident Response Systems (FIRS) supports Countering Weapons of Mass Destruction (CWMD) and Chemical, Biological, Radiological and Nuclear (CBRN) mission areas by providing first response protection, detection, identification, and decontamination equipment to the Marine Air-Ground Task Force (MAGTF) and the Chemical Biological Incident Response Force (CBIRF). Family of Chemical, Biological, Radiological and Nuclear Systems (FCBRNS) provides CBRN protection, detection/ identification, hazard modeling and simulation, and decontamination equipment required by the general purpose force to train and operate in a CBRN environment or support Counter Weapons of Mass Destruction (CWMD) to the Marine Air-Ground Task Force (MAGTF). FCBRNS allows the Marine Corps to survive, fight and sustain itself in contaminated environments, and gives pause to our enemies when planning the use of CBRN weapons.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 2: Artillery and Other Weapons						P-1 Line Item Number / Title: 2220 / Wpns & Cmbt Vehs under \$5 million				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206623M				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Wpns & Cmbt Vehs under \$5 million	P-5a, P-21			- / 127.553	- / 44.937	- / 31.945	- / 24.867	- / -	- / 24.867
P-40	Total Gross/Weapon System Cost				- / 127.553	- / 44.937	- / 31.945	- / 24.867	- / 0.000	- / 24.867
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. 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 2019: \$44.937M Family of Infantry Weapons Systems - \$29.056 supported the continuous monitoring, assessment of and implementation of Joint Service and USMC unique system modifications. This includes efforts such as: improve weapon capability, operation, maintainability, supportability, service life, ergonomics, and safety enhancements. Funds support procurement and fielding of M27 Infantry Automatic Rifles (IAR), Modular Handgun Systems (MHS), M320A1 Grenade Launchers, Tow Objective Gunner Protection Kit 2.0 (TOGPK 2.0), and M4 Carbines. The procurement of additional M27s increases the lethality of Marine Corps' ground combat element while conducting a range of military operations. The M27 is currently used by Marine infantry units and has proven to be highly reliable, giving Marine ground forces the ability to provide firepower superiority and effective suppression as needed. The Modular Handgun System is being purchased to replace the legacy M9, M9A1, M45A1, and M007 pistols with a more affordable and efficient pistol for maintenance. The MHS also provides modularity and greater shooter ergonomics over the current models, which will allow for more accurate fire for military personnel of different sizes. Additionally, the M110 SASS PIP replaces the Compact Semi Auto Sniper System (CSASS) stated in the FY20 request. Through market research and discussion with industry, it was determined that a much better capability (specifically in range and lethality) than CSASS could be procured for a similar cost. This effort entails an engineering change proposal (ECP) to the existing M110 SASS currently in USMC inventory. The M320A1 Grenade Launcher will replace the M203 in Marine Infantry and Infantry-like units. Due to its side breach, the M320A1 will allow for the use of more capable 40mm grenades for counter-defilade, breaching and non-lethal applications. The TOGPK 2.0 increases the protection level (survivability), and increases the traverse capability (lethality) of mounted weapons systems over legacy GPKs for gunners in Marine Corps vehicles. M4 Carbines are being procured to support the Small Arms strategy of divesting the Ground Combat Element of M16A4s. Funding also supports principle end items (PEI), as well as continuing product improvement and modernization of sniper and special purpose weapons, and support equipment. Additionally funding also supports various program/acquisition support activities, such as ammunition costs related to those production verification activities. Family of Incident Response Systems (FIRS) - \$1.042M supported the annual modernization of the Unified Command Suite (UCS) and engineering, programmatic, and logistics support for the Explosive Ordnance Disposal (EOD) Tactical Triage Kit (TTK). The legacy UCS, which is CBIRF's primary command and control vehicle, would face obsolescence if scheduled modernizations of its satellite communications and land mobile radio systems were not applied in FY19. Company and Battalion Mortars - \$2.266M procured Advanced Video Borescopes providing improved mortar cannon inspection and diagnostic capability and the M224A1 60mm Mortar System Handle and Firing Mechanism (HFM) Redesign providing improved quick-reaction aiming and firing ability. Escalation of Force Equipment (EoF-E) - \$0.228M procured Escalation of Force Mission Module upgraded components such as the Improved Voice Translation Device and the dazzling laser capability. Ocular Interruption (OI) - \$12.345M procured 1,049 OI systems. These new laser dazzling systems are "non-damaging" systems used in Escalation of Force Missions to provide a non-lethal, force protection capability to warn and visually suppress targeted personnel out to 500 meters. These systems are replacing the legacy LA-9/P and GLARE-MOUT 532P-M (Mini Green) systems, which have been deemed inherently dangerous by the Navy Laser Safety Review Board. In addition, parts kits will be procured to complete the initial provisioning for these systems in accordance with the Depot Maintenance Float Activity (DMFA) support strategy.										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 2: Artillery and Other Weapons		P-1 Line Item Number / Title: 2220 / Wpns & Cmbt Vehs under \$5 million
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206623M
Line Item MDAP/MAIS Code: N/A		
FY 2020: \$31.945M		
Family of Infantry Weapons Systems - \$17.022M will support the continuous monitoring, assessment of and implementation of Joint Service and USMC unique system modifications. This includes efforts such as: improve weapon capability, operation, maintainability, supportability, service life, ergonomics, and safety enhancements.		
The funding decrease from FY19 to FY20 of \$12.034M is due to the establishment of a separate program for the Gunners Protection Kit (GPK). Funding supports procurement of Semi-Automatic Sniper System (SASS) Product Improvement Program (PIP), M320A1 Grenade Launchers, and Small Arms Suppressors. The SASS PIP will update the M110 with enhanced shooter ergonomics, increased ballistic potential, and increased operational availability time. The engineering change proposal (ECP) will improve the sniper's ability to rapidly engage multiple, moving targets with greater range and lethality. The M320A1 Grenade Launcher will replace the M203 in Marine Corps units. Due to its side breach, the M320A1 will allow for the use of more capable 40mm grenades for counter-defilade, breaching and non-lethal applications. Suppressors will be procured in order to improve communication on the battlefield, as well as reduce detection by a threat through reduced audible and visible signatures. Suppressors will also support the effort to reduce Marines' hearing loss. Funding also supports principle end items (PEI), as well as continuing product improvement and modernization of sniper and special purpose weapons, and support equipment. Additionally, funding also supports various program/acquisition support activities, such as ammunition costs related to those production verification activities.		
Gunners Protection Kit (GPK) - \$11.365M procures TOW Objective Gunner Protection Kits 2.0 (TOGPK 2.0), covers, and Initial Issue Provisioning (IIP). Additional cost elements were added in FY20 to account for the IIP and covers once more accurate cost data was available. FY20 IIP includes the procurement of additional hearing protection for the gunner when employing the TOW missile. Production support cost element funds logistics, safety, and fielding travel support costs. TOGPK 2.0 provides enhanced survivability and ballistic protection to the gunner when compared to existing gunner protection kits. This requirement was funded under Family of Infantry Weapons Systems prior to FY20. Reducible Height Gunner Protection Kit (RHGPK) will begin procurement in FY21.		
Company and Battalion Mortars - \$3.018M supports component and assembly upgrades to the inventory of 60mm and 81mm mortar systems, mortar system inspection and maintenance equipment, and mortar fire control systems; ammunition costs related to mortar production verification activities, as required; Advanced Video Borescopes; and hardware for mortar fire control systems.		
Escalation of Force Equipment (EoF-E) - \$0.000M - The USMC terminated the Escalation of Force Equipment program in FY20 in order to better align with the National Defense Strategy.		
Ocular Interruption (OI) - \$0.000M - The procurement of Ocular Interruption units was completed in FY19.		
Family of Incident Response Systems (FIRS) - \$0.540M will be used to support the annual modernization of the Unified Command Suite (UCS). The legacy UCS, which is CBIRF's primary command and control vehicle, faces obsolescence if scheduled modernizations of its satellite communications and land mobile radio systems are not applied in FY20. The FY20 request for FIRS represents the UCS modernization costs only. The decrease of \$.502M from FY19 to FY20 is due to engineering, programmatic, and logistics support provided for the Explosive Ordnance Disposal (EOD) Tactical Triage Kit (TTK) in FY19 that is not a requirement in FY20.		
FY 2021 Base Appropriation: \$24.867M		
Family of Infantry Weapons Systems - \$8.075M supports procurement and fielding of the M320A1 Grenade Launcher Module (GLM), the M110 Semi-Automatic Sniper System Product Improvement Program (SASS PIP), and the Advanced Sniper Rifle (ASR). The M320A1 GLM replaces the M203A2 in Marine Corps units. Due to its side breach, the M320A1 allows for the use of advanced 40mm ammunition for counter-defilade, breaching and non-lethal applications, and also offers improved accuracy and (if using advanced ammunition) range over the legacy system. The SASS PIP will update the M110 with enhanced shooter ergonomics, increased ballistic potential, and increased operational availability time. The engineering change proposal (ECP) will improve the sniper's ability to rapidly engage multiple, moving targets with greater range and lethality. ASR will replace all current bolt-action sniper rifles in the Marine Corps. It is a multi-caliber system featuring extended range, greater lethality and a wider variety of special purpose ammunition than current systems. All of these programs are modernization efforts vital to maintaining parity with near peer competitors. This modernization effort is driven by the Close Combat Lethality Task Force and Marine Corps investments to develop a 5th Generation Fighter, and is in alignment with the National Defense Strategy. The funding also supports the continuous monitoring, assessment of and implementation of Joint Service and USMC unique system modifications. This includes efforts such as: improve weapon capability, operation, maintainability, supportability, service life, ergonomics, and safety enhancements. Funding also supports principle end items, as well as ammunition costs related to production verification and fielding activities. The funding decrease from FY20 to FY21 of \$8.947M reflects Marine Corps funding priorities.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 2: Artillery and Other Weapons		P-1 Line Item Number / Title: 2220 / Wpns & Cmbt Vehs under \$5 million
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206623M
Line Item MDAP/MAIS Code: N/A		
Family of Incident Response Systems (FIRS) - \$0.556M will be used to support the annual modernization of the Unified Command Suite (UCS). The legacy UCS, which is CBIRF's primary command and control vehicle, faces obsolescence if scheduled modernizations of its satellite communications and land mobile radio systems are not applied in FY21. The increase of \$.016M from FY20 to FY21 is due to scheduled engineering changes and upgrades to the UCS Block II to include the modernization of the SIPR Laptop and Serial Port Server. Family of Chemical, Biological, Radiological and Nuclear (FCBRN) Systems - \$0.813M will be used to procure 64 Radiological Detection Systems as replacement for obsolescent equipment. The increase of \$.813M from FY20 to FY21 is due to FY21 being the first year of PMC funds for this MCPC. Gunnery Protection Kit (GPK) - \$11.949M will procure Reducible Height Gunnery Protection Kits (RHGPK), covers, and Initial Issue Provisioning (IIP). In addition, it funds logistics, safety, and fielding travel support costs. RHGPK will be reducible in height to enable Joint Light Tactical Vehicles (JLTV) to be transported in the lower vehicle stowage areas of Landing Platform/Dock (LPD 17) and Landing Helicopter Dock class ships and to enable Medium/Heavy Tactical Vehicle Replacement and Logistics Vehicle System Replacement to be transported in the main vehicle stowage decks of LPD 17 class ships. TOGPK 2.0 and RHGPK provide enhanced survivability and ballistic protection to the gunner when compared to existing gunner protection kits. The increase of \$0.584M from FY20 to FY21 reflects the transition from TOGPK 2.0 to RHGPK. Company and Battalion Mortars - \$3.474 will support the procurement of Mortar Fire Control Application (MFCA) hardware; M671A1 Mortar Sights; and 60mm and 81mm Mortar System SL-3, as required. The MFCA Mortar Fire Control Application (MFCA) will reside on hardware from the Target Handoff System (THS) program of record and will allow users to perform aero-ballistic calculations for the USMC inventory of 60mm and 81mm mortar systems and 120mm mortar systems. M671A1 Mortar Sights support the US Marine Corps' intent to divest of tritium devices. The 60mm and 81mm Mortar System SL-3 provides replacement items to offset fair wear and tear loss. All of these improvements will help to modernize the 30-plus-year-old mortar systems and allow for extended life and performance of the system for the warfighter. The increase of \$0.456M from FY20 to FY21 is in support of the procurement of the MFCA hardware.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 2								P-1 Line Item Number / Title: 2220 / Wpns & Cmbt Vehs under \$5 million							Aggregated Items Title: Wpns & Cmbt Vehs under \$5 million					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
1) Company and Battalion Mortars																				
1.1) Company and Battalion Mortars ⁽¹⁾	A		-	-	12.830	-	-	2.266	-	-	3.018	-	-	3.474	-	-	-	-	-	3.474
Subtotal: 1) Company and Battalion Mortars			-	-	12.830	-	-	2.266	-	-	3.018	-	-	3.474	-	-	-	-	-	3.474
2) Family of Infantry Weapons Systems																				
2.1) Production Support	A		-	-	6.011	-	-	0.902	-	-	1.094	-	-	0.817	-	-	-	-	-	0.817
2.2) Infantry Automatic Rifle (IAR) ⁽¹⁾	A		1,000.00	5,614	5.614	1,000.00	6,992	6.992	-	-	-	-	-	-	-	-	-	-	-	-
2.3) IAR Accessories ⁽²⁾	A		-	-	1.716	-	-	2.404	-	-	-	-	-	-	-	-	-	-	-	-
2.4) M320A1 Grenade Launcher ^{(3)(t)}	A		-	-	-	992.00	4,753	4.715	1,158.00	3,730	4.319	1,158.00	1,480	1.714	-	-	-	1,158.00	1,480	1.714
2.5) Semi Auto Sniper System (SASS) PIP ^(t)	A		-	-	-	-	-	-	8,393.00	270	2.266	8,393.00	184	1.544	-	-	-	8,393.00	184	1.544
2.7) Modular Handgun System (MHS) Pistol ^(t)	A		-	-	-	175.50	30,305	5.319	-	-	-	-	-	-	-	-	-	-	-	-
2.8) MHS Accessories ⁽⁴⁾	A		-	-	-	-	-	1.958	-	-	-	-	-	-	-	-	-	-	-	-
2.9) Advanced Sniper Rifle ^{(5)(t)}	A		-	-	-	-	-	-	-	-	-	16,000.00	250	4.000	-	-	-	16,000.00	250	4.000
2.10) TOGPK 2.0: Production Articles ^(t)	A		-	-	-	38,300.00	74	2.834	-	-	-	-	-	-	-	-	-	-	-	-
2.11) TOGPK 2.0: Technical Manuals	A		-	-	-	-	-	0.466	-	-	-	-	-	-	-	-	-	-	-	-
2.12) TOGPK 2.0: Production Support	A		-	-	-	-	-	0.043	-	-	-	-	-	-	-	-	-	-	-	-
2.13) Small Arms Suppressor ^(t)	A		-	-	-	-	-	-	1,099.95	8,494	9.343	-	-	-	-	-	-	-	-	-
2.14) M4 Carbine ^{(6)(t)}	A		-	-	-	674.00	5,079	3.423	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 2) Family of Infantry Weapons Systems			-	-	13.341	-	-	29.056	-	-	17.022	-	-	8.075	-	-	-	-	-	8.075
3) Escalation of Force/Mission Modules																				
3.1) EoF Various Equipment (Various)	A		-	-	2.898	-	-	0.228	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 3) Escalation of Force/ Mission Modules			-	-	2.898	-	-	0.228	-	-	-	-	-	-	-	-	-	-	-	-
4) Ocular Interruption																				

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 2								P-1 Line Item Number / Title: 2220 / Wpns & Cmbt Vehs under \$5 million							Aggregated Items Title: Wpns & Cmbt Vehs under \$5 million				

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
4.1) Procurement of OI Systems ^(†)	A		12,679.60	593	7.519	11,763.17	1,049	12.340	-	-	-	-	-	-	-	-	-	-	-	-
4.2) Production Support	A		-	-	0.020	-	-	0.005	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 4) Ocular Interruption			-	-	7.539	-	-	12.345	-	-	-	-	-	-	-	-	-	-	-	-
5) Family of Incident Response Systems																				
5.1) Family of Incident Response Systems ⁽⁷⁾	A		-	-	0.454	-	-	1.042	-	-	0.540	-	-	0.556	-	-	-	-	-	0.556
Subtotal: 5) Family of Incident Response Systems			-	-	0.454	-	-	1.042	-	-	0.540	-	-	0.556	-	-	-	-	-	0.556
6) Family of CBRN Systems																				
6.1) Family of CBRN Systems ⁽⁸⁾	A		-	-	-	-	-	-	-	-	-	-	-	0.813	-	-	-	-	-	0.813
Subtotal: 6) Family of CBRN Systems			-	-	0.000	-	-	-	-	-	-	-	-	0.813	-	-	-	-	-	0.813
7) Gunners Protection Kit																				
7.1) TOGPK 2.0 Production Units ^(†)	A		-	-	-	-	-	-	38,300.00	260	9.958	-	-	-	-	-	-	-	-	-
7.2) TOGPK 2.0 Covers and Initial Issue Provisioning ⁽⁹⁾	A		-	-	-	-	-	-	-	-	1.104	-	-	-	-	-	-	-	-	-
7.3) RHGPK Production Units ^{(10)(†)}	A		-	-	-	-	-	-	-	-	-	39,133.00	277	10.840	-	-	-	39,133.00	277	10.840
7.4) RHGPK Covers and Initial Issue Provisioning	A		-	-	-	-	-	-	-	-	-	-	-	0.799	-	-	-	-	-	0.799
7.5) Production Support	A		-	-	-	-	-	-	-	-	0.303	-	-	0.310	-	-	-	-	-	0.310
Subtotal: 7) Gunners Protection Kit			-	-	0.000	-	-	-	-	-	11.365	-	-	11.949	-	-	-	-	-	11.949
8) Prior Years Cumulative Funding																				
8.1) Prior Years Cumulative Funding	A		-	-	90.491	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 8) Prior Years Cumulative Funding			-	-	90.491	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	127.553	-	-	44.937	-	-	31.945	-	-	24.867	-	-	-	-	-	24.867

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

(†) indicates the presence of a P-5a

Footnotes:

⁽¹⁾ The increase of \$0.456M from FY20 to FY21 reflects the procurement of the MFCA hardware.

⁽²⁾ IAR Accessories include SL-3, ancillary equipment, and spare parts

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 2	P-1 Line Item Number / Title: 2220 / Wpns & Cmbt Vehs under \$5 million	Aggregated Items Title: Wpns & Cmbt Vehs under \$5 million
⁽³⁾ M320A1: There will be a new Army contract for the FY20 - FY23 procurement. The increase in unit cost from FY19 to FY20 is based on the estimated impact of lower quantities with the expected stepladder pricing on the new Army contract that is being negotiated. ⁽⁴⁾ MHS accessories include items such as a holster and grips.. ⁽⁵⁾ ASR stepladder pricing is the same for all quantities above 200. Unit price is the procurement cost which is the cost of weapons systems and initial spares. ⁽⁶⁾ Contract for M4 Carbines will be competed by TACOM for each Delivery Order between FN and Colt. Delivery Order #1 has been awarded to Colt; Delivery Order #2 is TBD. Until Delivery Order #2 is awarded, manufacturer and delivery lead times are estimates only. ⁽⁷⁾ The increase of \$.016M from FY20 to FY21 is due to scheduled engineering changes and upgrades to the UCS Block II to include the modernization of the SIPR Laptop and Serial Port Server. ⁽⁸⁾ The increase of \$.813M from FY20 to FY21 is due to FY21 being the first year of PMC funding for FCBRN to procure 64 Radiological Detection Systems. ⁽⁹⁾ TOGPK 2.0 initial provisioning in FY21 includes hearing protection ⁽¹⁰⁾ The increase of \$10.840M from FY20 to FY21 is for the procurement of the RHGPK.		

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 2				P-1 Line Item Number / Title: 2220 / Wpns & Cmbt Vehs under \$5 million					Aggregated Items: Wpns & Cmbt Vehs under \$5 million			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
2) Family of Infantry Weapons Systems												
2.2) Infantry Automatic Rifle (IAR)		2017	Heckler & Koch@Ashburn, VA / Ashburn, VA	C / IDIQ	MARCORSYSCOM, Quantico, VA	Apr 2018	Jan 2019	2,649	1,000.00	Y		Mar 2018
2.2) Infantry Automatic Rifle (IAR)		2018	Heckler & Koch@Ashburn, VA / Ashburn, VA	C / IDIQ	MARCORSYSCOM	Apr 2018	Jan 2019	2,965	1,000.00	Y		Mar 2018
2.2) Infantry Automatic Rifle (IAR)		2019	Heckler & Koch@Ashburn, VA / Ashburn, VA	C / IDIQ	MARCORSYSCOM, Quantico, VA	Nov 2018	Aug 2019	6,992	1,000.00	Y		Oct 2018
2.4) M320A1 Grenade Launcher ⁽³⁾		2019	Capco LLC / Grand Junction, CO	C / IDIQ	Picatinny, NJ	Feb 2019	Sep 2019	4,753	992.00	Y		
2.4) M320A1 Grenade Launcher ⁽³⁾		2020	TBD / TBD	C / IDIQ	Picatinny, NJ	Apr 2020	Sep 2020	3,730	1,158.00	Y		
2.4) M320A1 Grenade Launcher ⁽³⁾		2021	TBD / TBD	C / TBD	Picatinny, NJ	Feb 2021	Jul 2021	1,480	1,158.00	Y		
2.5) Semi Auto Sniper System (SASS) PIP		2020	NSWC, Crane / Crane, IN	TBD	TBD	Apr 2020	Jan 2021	270	8,393.00	Y		
2.5) Semi Auto Sniper System (SASS) PIP		2021	NSWC, Crane / Crane, IN	TBD	TBD	Feb 2021	Nov 2021	184	8,393.00	Y		
2.7) Modular Handgun System (MHS) Pistol		2019	Sig Sauer / Newington, NH	C / IDIQ	Picatinny, NJ	Jan 2019	Feb 2019	30,305	175.50	Y		
2.9) Advanced Sniper Rifle ⁽⁵⁾		2021	Barrett Firearms Mfg Inc / Christiana, TN	C / IDIQ	SOF, Tampa, FL	Apr 2021	Aug 2021	250	16,000.00	Y		
2.10) TOGPK 2.0: Production Articles		2019	O'GARA-HESS & EISENHARDT ARMORING COMPANY LLC / Fairfield, OH	C / FFP	Picatinny, NJ	Dec 2019	Jul 2020	74	38,300.00	Y		Jul 2019
2.13) Small Arms Suppressor		2020	DLA / DLA, Phil, PA	C / TBD	Philadelphia, PA	Mar 2020	Mar 2020	8,494	1,099.95	N		
2.14) M4 Carbine ⁽⁶⁾		2019	FN or Colt ⁽¹¹⁾ / TBD	C / IDIQ	TACOM	Feb 2019	Aug 2019	5,079	674.00	Y		
4) Ocular Interruption												
4.1) Procurement of OI Systems		2017	B.E. Meyers / Redmond, WA	C / IDIQ	Quantico, VA	Jul 2017	Nov 2017	43	13,907.00	Y		
4.1) Procurement of OI Systems		2018	B.E. Meyers / Redmond, WA	C / IDIQ	Quantico, VA	Dec 2017	Feb 2018	550	12,584.00	Y		
4.1) Procurement of OI Systems		2019	B.E. Meyers / Redmond, WA	C / IDIQ	Quantico, VA	Dec 2018	Feb 2019	1,049	11,763.17	Y		
7) Gunners Protection Kit												
7.1) TOGPK 2.0 Production Units ^(†)		2020	TBD ⁽¹²⁾ / Picatinny, NJ	C / FFP	Picatinny, NJ	Jul 2020	Feb 2021	260	38,300.00	Y		
7.3) RHGPK Production Units ^{(10)(†)}		2021	TBD / MARCORSYSCOM, Quantico, VA	C / FFP	Quantico, VA	Jul 2021	Feb 2022	277	39,133.00	N	Sep 2020	Dec 2020
^(†) indicates the presence of a P-21												
Footnotes:												

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 2	P-1 Line Item Number / Title: 2220 / Wpns & Cmbt Vehs under \$5 million	Aggregated Items: Wpns & Cmbt Vehs under \$5 million
(11) Annual Production Rates TBD, based on manufacturer chosen (12) FY20 TOGPK 2.0 contract will be competitively awarded.		

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020											
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 2										P-1 Line Item Number / Title: 2220 / Wpns & Cmbt Vehs under \$5 million										Aggregated Items: Wpns & Cmbt Vehs under \$5 million											
Items (Units in Each)							Fiscal Year 2017										Fiscal Year 2018													B A L A N C E	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017										Calendar Year 2018														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
7) Gunners Protection Kit																															
7.1) TOGPK 2.0 Production Units																															
	6	2020	NAVY	260	0	260																									260
7.3) RHGPK Production Units ⁽¹⁰⁾																															
	7	2021	NAVY	277	0	277																									277
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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Exhibit P-21, Production Schedule: PB 2021 Navy																							Date: February 2020													
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 2										P-1 Line Item Number / Title: 2220 / Wpns & Cmbt Vehs under \$5 million													Aggregated Items: Wpns & Cmbt Vehs under \$5 million													
Items (Units in Each)							Fiscal Year 2019												Fiscal Year 2020													B A L A N C E				
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019												Calendar Year 2020																	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P						
7) Gunners Protection Kit																																				
7.1) TOGPK 2.0 Production Units																																				
	6	2020	NAVY	260	0	260																											A -	-	-	260
7.3) RHGPK Production Units ⁽¹⁰⁾																																				
	7	2021	NAVY	277	0	277																											277			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P						

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020													
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 2										P-1 Line Item Number / Title: 2220 / Wpns & Cmbt Vehs under \$5 million										Aggregated Items: Wpns & Cmbt Vehs under \$5 million													
Items <i>(Units in Each)</i>							Fiscal Year 2021										Fiscal Year 2022													BALANCE			
OCO	MFR#	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021										Calendar Year 2022																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP		
7) Gunners Protection Kit																																	
7.1) TOGPK 2.0 Production Units																																	
	6	2020	NAVY	260	0	260	-	-	-	-	30	30	30	30	30	30	30	20														0	
7.3) RHGPK Production Units ⁽¹⁰⁾																																	
	7	2021	NAVY	277	0	277											A	-	-	-	-	-	-	-	15	22	25	25	25	25	25	25	90
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2021 Navy																							Date: February 2020									
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 2										P-1 Line Item Number / Title: 2220 / Wpns & Cmbt Vehs under \$5 million													Aggregated Items: Wpns & Cmbt Vehs under \$5 million									
Items (Units in Each)							Fiscal Year 2023												Fiscal Year 2024												BALANCE	
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2022	BAL DUE AS OF 1 OCT	Calendar Year 2023												Calendar Year 2024													
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
7) Gunners Protection Kit																																
7.1) TOGPK 2.0 Production Units																																
	6	2020	NAVY		260	260	0																				0					
7.3) RHGPK Production Units ⁽¹⁰⁾																																
	7	2021	NAVY		277	187	90	25	25	25	15																0					
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

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Exhibit P-21, Production Schedule: PB 2021 Navy				Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 2			P-1 Line Item Number / Title: 2220 / Wpns & Cmbt Vehs under \$5 million			Aggregated Items: Wpns & Cmbt Vehs under \$5 million	

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	TBD ⁽¹²⁾ - Picatinny, NJ	100	300	400	0	0	7	7	0	0	5	5
2	TBD - MARCORSYSCOM, Quantico, VA	100	300	400	0	0	7	7	0	0	5	5

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

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

Footnotes:

⁽¹²⁾ FY20 TOGPK 2.0 contract will be competitively awarded.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 4: Other Support							P-1 Line Item Number / Title: 2061 / Modification Kits					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0206624M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	737.110	22.904	22.760	3.067	0.000	3.067	3.292	3.189	3.253	3.318	-	798.893
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	737.110	22.904	22.760	3.067	0.000	3.067	3.292	3.189	3.253	3.318	-	798.893
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	737.110	22.904	22.760	3.067	0.000	3.067	3.292	3.189	3.253	3.318	-	798.893
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: Provides weapons and combat vehicle improvements in the areas of survivability, lethality, mobility, and command and control. Additionally, Engineering Change Proposals (ECPs) and upgrades address current and future reliability, sustainability, maintainability, and obsolescence issues to ensure mission readiness and effectiveness on the battlefield. M1A1 MOD KIT: The M1A1 Mod Kit line sustains and improves the technology of the M1A1 tank and Armored Vehicle Launched Bridge (AVLB) to provide the MAGTF with the most relevant armor protected firepower, shock effect and maneuver platforms. Funding supports the procurement, fielding, and testing of critical operational and safety related modifications used to enhance and maintain platform characteristics, such as reliability-availability-maintainability and in operationally relevant attributes relating to survivability, lethality, mobility, and command and control. Additionally, funding also supports items such as miscellaneous tools and test items that support these platforms. Assault Bridging Modernization Program: Replaces the legacy M60 armored vehicle and launching system of the current AVLB with the chassis of an M1A1 main battle tank, configured with a modern launching system, to support the launch and recovery of assault bridging in support of Marine Air-Ground Task Force (MAGTF) maneuver. This program will establish commonality across the DoD fleet, eliminates obsolescence and diminishing manufacturing sources and materiel shortfall issues, while increasing the operational effectiveness and readiness of the MAGTF. IRV: The Improved Recovery Vehicle (also known as the M88A2 Hercules) is the Marine Air-Ground Task Force's heavy lift, recovery, and battlefield maintenance asset in support of Marine Corps mobile assets (ie. ACV, AAV, LAV, ARV) whose organic recovery capability is exceeded by the vehicle weight. This line is designed to sustain and improve the technology of the IRV. Funding supports the procurement, fielding, and testing of critical operational and safety related modifications used to enhance and maintain platform characteristics, such as reliability-availability-maintainability and in operationally relevant attributes relating to survivability, lethality, mobility, and command and control. Additionally, funding also supports items such as miscellaneous tools and test items that support the IRV.												
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025		
Navy	Quantity	-	-	-	-	-	-	-	-	-	-	
	Total Obligation Authority	20.302	20.747	2.848	-	2.848	3.069	2.962	3.021	3.081		
NR	Quantity	-	-	-	-	-	-	-	-	-	-	
	Total Obligation Authority	2.602	2.013	0.219	-	0.219	0.223	0.227	0.232	0.237		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 4: Other Support					P-1 Line Item Number / Title: 2061 / Modification Kits					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206624M				
Line Item MDAP/MAIS Code: N/A										
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	22.904	22.760	3.067	-	3.067	3.292	3.189	3.253	3.318

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 4: Other Support						P-1 Line Item Number / Title: 2061 / Modification Kits				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206624M				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Modification Kits	P-5a, P-21			- / 639.658	- / 20.671	- / 20.139	- / -	- / -	- / -
P-5	1 / M88A2 Hercules				13 / 97.452	- / 2.233	- / 2.621	- / 3.067	- / 0.000	- / 3.067
P-40	Total Gross/Weapon System Cost				- / 737.110	- / 22.904	- / 22.760	- / 3.067	- / 0.000	- / 3.067
*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 2019: \$22.904M. FY 2019 M1A1 MOD KIT \$14.971 (Active \$12.580M; Reserves \$2.391M): These funds support modifications to the M1A1 Abrams tank (Active and Reserve components) to increase capabilities in the operational attributes of survivability, lethality, mobility, and command and control. Funds support the procurement of efforts such as, Improved Side Armor (ISA), Gunner's Primary Sight Lower Panel (GPSLP), and Tactical Communications Modernization (TCM). ISA is a modification that significantly increases the survivability of the M1A1 tank. GPSLP is a modification to the tank's fire control system that enables the tank to fire two new types of ammunition being developed by the U.S. Army, increasing the lethality of the vehicle. TCM supports the procurement of new tactical radios to replace the obsolete AN/PRC 119 that is currently fielded. FY 2019 Assault Bridging Modernization \$5.700M: These funds support the procurement of 1 Test Article for the Assault Bridge which replaces the legacy M60 armored vehicle and launching system of the current AVLB with the chassis of an M1A1 main battle tank, configured with a modern launching system, to support the launch and recovery of assault bridging in support of MAGTF maneuver. FY 2019 IRV \$2.233M (Active \$2.022M; Reserves \$0.211M): These funds support the continued procurement of modification kits and associated systems technical support addressing modernization, sustainment, and obsolescence mitigation for the IRV platform. Additionally, this funding supports modifications to tools and test equipment unique to the product office's portfolio of combat vehicles, such as the Direct Support Electrical Systems Test Set (DSESTS) and echeloned tool kits. FY 2020: \$22.760M FY 2020 M1A1 MOD KIT \$14.439 (Active \$12.641M; Reserves \$1.798M): These funds continue to support modifications to the M1A1 Abrams tank (Active and Reserve components) to increase capabilities in the operational attributes of survivability, lethality, mobility and command and control. Funds in support of survivability efforts allow for the procurement of Improved Side Armor (ISA) which significantly increases the survivability of the M1A1 tank. Funds in support of lethality efforts procure a new Gunner's Primary Sight Lower Panel (GPSLP). This modification to the tank's fire control system will enable the tank to fire two new types of ammunition being developed by the U.S. Army, increasing the lethality of the vehicle. Funds for the command and control effort procure communication systems as part of the Tactical Communications Modernization (TCM) effort. TCM procures new tactical radios to replace the obsolete AN/PRC 119 that is currently fielded. Funds for installation kits support the capabilities efforts of survivability, lethality, and command and control. These funds procure the cables, mounting hardware, installation material, and labor for the Abrams Integrated Display and Targeting System (AIDATS), ISA, and TCM installation process. The decrease from FY19 to FY20 is attributed to the reduction in level of effort for Command and Control which consists of Tactical Communication Modernization (TCM). FY 2020 Assault Bridging Modernization \$5.700M:										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 02: Weapons and combat vehicles / BSA 4: Other Support		P-1 Line Item Number / Title: 2061 / Modification Kits
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206624M
Line Item MDAP/MAIS Code: N/A		
These funds support the procurement of 1 Production Article for the Assault Bridge which replaces the legacy M60 armored vehicle and launching system of the current AVLB with the chassis of an M1A1 main battle tank, configured with a modern launching system, to support the launch and recovery of assault bridging in support of MAGTF maneuver. FY 2020 IRV \$2.621M (Active \$2.406M; Reserves \$0.215M): These funds will support the continued procurement of modification kits and associated systems technical support addressing modernization, sustainment, and obsolescence mitigation for the IRV platform. Funding increase from FY19 to FY20 of \$.298M will support modifications to tools and test equipment unique to the product office's portfolio of combat vehicles, such as the Direct Support Electrical Systems Test Set (DSESTS) and echeloned tool kits. FY 2021 Base Appropriation Request: \$3.067M FY 2021 M1A1 MOD KIT \$0.000M: The net decrease of \$14.439M from FY20 to FY21 is a result of service decision to transition the M1A1 program to full sustainment and stop modernization. FY 2021 IRV \$3.067 (Active \$2.848M; Reserves \$0.219M): These funds will continue to procure modification kits and associated system technical support addressing modernization, sustainment, and obsolescence mitigation for the IRV platform. This line is designed to sustain and improve the technology of the IRV. Funding supports the procurement, fielding, and testing of critical operational and safety related modifications used to enhance and maintain platform characteristics, such as reliability-availability-maintainability and in operationally relevant attributes relating to survivability, lethality, mobility, and command and control. Funding also supports items such as miscellaneous tools and test items that support the IRV. Funding increase from FY20 to FY21 of \$0.446M will support the integration on WIN 10 operating systems into the DSESTS, Electronic Maintenance Support System (EMSS) with combined application platform/software loader verification, and the completion of Exterior Stowage Modification Kits. Funding in this line item has been reprioritized while ensuring the Marine Corps continues to evolve toward a Force that is aligned with the National Defense Strategy. OCO: N/A		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 4						P-1 Line Item Number / Title: 2061 / Modification Kits									Aggregated Items Title: Modification Kits					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
1) M1A1 Modification Kits																				
1.1) Abrams Integrated Display and Targeting System ^(†)	A		76.872	266	20.448	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.2) Survivability - ISA ^(†)	A		82.583	24	1.982	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.3) Survivability Reserve - ISA ^(†)	A		82.625	16	1.322	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.4) Program Management Support ⁽¹⁾			-	-	11.148	-	-	1.280	-	-	-	-	-	-	-	-	-	-	-	-
1.5) Engineering Support	A		-	-	3.191	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.6) Installation Kits - Reserve ⁽²⁾	A		-	-	0.486	-	-	-	-	-	0.298	-	-	-	-	-	-	-	-	-
1.7) Installation Kits ⁽³⁾	A		-	-	3.362	-	-	3.374	-	-	4.126	-	-	-	-	-	-	-	-	-
1.8) Lethality ⁽⁴⁾	A		-	-	1.989	-	-	1.840	-	-	4.021	-	-	-	-	-	-	-	-	-
1.9) Lethality - Reserve ⁽⁵⁾	A		-	-	0.775	-	-	0.433	-	-	-	-	-	-	-	-	-	-	-	-
1.10) Specialized Equipment ⁽⁶⁾	A		-	-	0.825	-	-	0.272	-	-	-	-	-	-	-	-	-	-	-	-
1.11) Specialized Equipment - Reserve	A		-	-	0.760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.12) Command and Control ⁽⁷⁾	A		-	-	0.574	-	-	5.603	-	-	2.635	-	-	-	-	-	-	-	-	-
1.13) Command and Control - Reserve ⁽⁸⁾	A		-	-	-	-	-	1.958	-	-	1.500	-	-	-	-	-	-	-	-	-
1.14) Survivability	A		-	-	-	-	-	0.211	-	-	1.859	-	-	-	-	-	-	-	-	-
Subtotal: 1) M1A1 Modification Kits			-	-	46.862	-	-	14.971	-	-	14.439	-	-	-	-	-	-	-	-	-
2) Prior Year Cumulative Funding																				
2.1) Other Prior Year	A		-	-	592.796	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 2) Prior Year Cumulative Funding			-	-	592.796	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3) Assault Bridging Modernization																				
3.1) Assault Bridging Modernization	A		-	-	-	-	-	5.700	-	-	5.700	-	-	-	-	-	-	-	-	-
Subtotal: 3) Assault Bridging Modernization			-	-	0.000	-	-	5.700	-	-	5.700	-	-	-	-	-	-	-	-	-
Total			-	-	639.658	-	-	20.671	-	-	20.139	-	-	-	-	-	-	-	-	-
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 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 4	P-1 Line Item Number / Title: 2061 / Modification Kits	Aggregated Items Title: Modification Kits
(†) indicates the presence of a P-5a Footnotes: (1) Product support is being consolidated under the production lines (lethality, survivability, communication, mobility) (2) Includes AIDATS, TCM, and APS. Installation cost will vary based on throughput at the rebuild line and fielding plan. (3) Includes AIDATS,TCM, and APS. Installation cost will vary based on throughput at the rebuild line and fielding plan. (4) Lethality consolidates upgrade modifications to the ADL Increment II, the Gunners Primary Sight Lower Panel in the FEP System which is part of the implementation of ADL II, and improves proficiency of the Advanced Gunnery Training System in the Tanks. Also included in this line are costs associated with production items such as engineering support, safety support, and product support for active funding. (5) Lethality consolidates upgrade modifications to the ADL Increment II, Gunners Primary Sight Lower Panel in the FEP System which is part of the implementation of ADL II, and to improve proficiency of the Advanced Gunnery Training System in the Tanks. Also included in this line are costs associated with production items such as engineering support, safety support, and product support for reserve funding. (6) Procured AIDATS and TCSH Cables and Brackets. (7) Consists of Tactical Communication Modernization (TCM) radio procurement for active funding. (8) Consists of Tactical Communication Modernization (TCM) radio procurement for reserve funding.		

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 4				P-1 Line Item Number / Title: 2061 / Modification Kits					Aggregated Items: Modification Kits			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1) M1A1 Modification Kits												
1.1) Abrams Integrated Display and Targeting System ^(†)		2016	Raytheon / McKinney, TX	C / FFP	MCSC, Quantico, VA	Aug 2016	Oct 2018	40	173.250	N	Jan 2014	Mar 2014
1.1) Abrams Integrated Display and Targeting System ^(†)		2017	Raytheon / McKinney, TX	C / FFP	MCSC, Quantico, VA	Aug 2017	Dec 2018	144	58.976	N	Jan 2014	Mar 2014
1.1) Abrams Integrated Display and Targeting System ^(†)		2018	Raytheon / McKinney, TX	C / FFP	MCSC, Quantico, VA	Aug 2018	May 2019	82	61.280	N	Jan 2014	Mar 2014
1.2) Survivability - ISA		2018	TACOM@Warren, MI / Warren, MI	MIPR	TACOM, Warren, MITACOM, Warren, MI	Jun 2018	Mar 2019	24	82.600	N	Jun 2017	Jul 2017
1.3) Survivability Reserve - ISA		2018	TACOM, Warren, MI@Warren, MI / Warren, MI	MIPR	TACOM, Warren MITACOM, Warren MI	Jun 2018	Mar 2019	16	82.600	N	Jun 2017	Jul 2017

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020																
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 4										P-1 Line Item Number / Title: 2061 / Modification Kits										Aggregated Items: Modification Kits																
Items <i>(Units in Each)</i>							Fiscal Year 2016										Fiscal Year 2017														B A L A N C E					
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Calendar Year 2016										Calendar Year 2017																			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P						
1) M1A1 Modification Kits																																				
1.1) Abrams Integrated Display and Targeting System																																				
	8	2016	NAVY		40	0	40											A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40
	8	2017	NAVY		144	0	144																									A	-	-	144	
	8	2018	NAVY		82	0	82																											82		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P						

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Exhibit P-21, Production Schedule: PB 2021 Navy																							Date: February 2020											
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 4										P-1 Line Item Number / Title: 2061 / Modification Kits													Aggregated Items: Modification Kits											
Items <i>(Units in Each)</i>							Fiscal Year 2018												Fiscal Year 2019													BALANCE		
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018												Calendar Year 2019															
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				
1) M1A1 Modification Kits																																		
1.1) Abrams Integrated Display and Targeting System																																		
	8	2016	NAVY	40	0	40	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	3	3	3	3	3	4	4	4	4	0			
	8	2017	NAVY	144	0	144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	12	12	12	12	12	12	12	12	24			
	8	2018	NAVY	82	0	82													A	-	-	-	-	-	-	-	-	-	9	9	9	9	9	37
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				

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Exhibit P-21, Production Schedule: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 4					P-1 Line Item Number / Title: 2061 / Modification Kits				Aggregated Items: Modification Kits			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Raytheon - McKinney, TX	12	108	400	0	0	9	9	0	0	9	9

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

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

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Exhibit P-5, Cost Analysis: PB 2021 Navy												Date: February 2020						
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 4						P-1 Line Item Number / Title: 2061 / Modification Kits						Item Number / Title [DODIC]: 1 / M88A2 Hercules						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total				
Procurement Quantity <i>(Units in Each)</i>				13		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				97.452		2.233		2.621		3.067		0.000		3.067				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				97.452		2.233		2.621		3.067		0.000		3.067				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				97.452		2.233		2.621		3.067		0.000		3.067				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>				7,496.308		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Recurring Cost																		
1.1.1) M88A2 Hercules	5,791.615	13	75.291	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.2) Mod Kits (Various Types of Kits)	-	-	8.071	-	-	0.997	-	-	0.695	-	-	0.710	-	-	0.000	-	-	0.710
1.1.3) Mod Kits (Various Types of Kits) - Reserve	-	-	0.861	-	-	0.211	-	-	0.205	-	-	0.209	-	-	0.000	-	-	0.209
1.1.4) Computer Refresh	-	-	0.662	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.5) Computer Refresh - Reserve	-	-	0.010	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: Recurring Cost	-	-	84.895	-	-	1.208	-	-	0.900	-	-	0.919	-	-	0.000	-	-	0.919
Subtotal: Hardware Cost	-	-	84.895	-	-	1.208	-	-	0.900	-	-	0.919	-	-	0.000	-	-	0.919
Support Cost																		
2.1) M88A2 Hercules System Technical Support Contract	-	-	6.368	-	-	0.560	-	-	1.370	-	-	1.475	-	-	0.000	-	-	1.475
2.2) M88A2 Hercules System Technical Support Contract - Reserve	-	-	0.350	-	-	0.000	-	-	0.010	-	-	0.010	-	-	0.000	-	-	0.010
2.3) DSESTS	-	-	5.839	-	-	0.465	-	-	0.341	-	-	0.663	-	-	0.000	-	-	0.663
Subtotal: Support Cost	-	-	12.557	-	-	1.025	-	-	1.721	-	-	2.148	-	-	0.000	-	-	2.148

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Exhibit P-5, Cost Analysis: PB 2021 Navy													Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 02 / 4						P-1 Line Item Number / Title: 2061 / Modification Kits							Item Number / Title [DODIC]: 1 / M88A2 Hercules					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Gross/Weapon System Cost	7,496.308	13	97.452	-	-	2.233	-	-	2.621	-	-	3.067	-	-	0.000	-	-	3.067

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 03: Guided missiles and equipment / BSA 1: Guided Missiles							P-1 Line Item Number / Title: 3006 / Ground Based Air Defense (GBAD)					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0206313M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	122.243	18.334	147.606	18.920	0.000	18.920	236.768	238.585	274.882	301.852	21.675	1,380.865
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	122.243	18.334	147.606	18.920	0.000	18.920	236.768	238.585	274.882	301.852	21.675	1,380.865
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	122.243	18.334	147.606	18.920	0.000	18.920	236.768	238.585	274.882	301.852	21.675	1,380.865
<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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: Ground Based Air Defense supports the Low Altitude Air Defense (LAAD) Battalion's mission of Short Range Air Defense (SHORAD) and provides the Marine Air Ground Task Force (MAGTF) to include; Bases, Posts and Stations, the necessary Force Protection to defeat the full spectrum of threats associated with the Marine Corps Low-Altitude Air Defense mission, to include hostile aerial threats from Unmanned Aerial Systems (UAS). With the proliferation of both military and commercial UAS platforms, the program is pursuing and acquiring more lethal and survivable GBAD Marine Air Defense Integrated System (MADIS) platforms; such as JLTV's with armored protection and better maneuverability than a High Mobility Multipurpose Wheeled Vehicle (HMMWV), providing increased Counter-UAS capabilities now and continually spiraling out increasing capability for the foreseeable future. Marine Air Defense Integrated System Family of Systems (MADIS FoS): The MADIS FoS provides the Marine Corps with an organic, upgradable, and state of the art capability to protect MAGTF maneuver forces, installations and other designated defended assets from Fixed/Rotary Wing (FW/RW) aircraft and Unmanned Aircraft Systems. The MAGTF is at increased risk of lethal air attack and fires coordination from next generation aircraft as well as significant advances from small UAS (sUAS) threats due to their rapid development and proliferation by the commercial sector. To address these threats, the MADIS FoS consists of mission tailored variants designed for sustained operations ashore, afloat, and aboard installations. The MADIS FoS includes Advanced Man Portable Air Defense (A-MANPADS) platform which provides close-in, low altitude, surface-to-air fires and command and control in defense of the MAGTF. The MADIS Increment 1 (Inc 1) will be accomplished with the procurement and installation of Government Furnished C-UAS equipment on a Joint Light Tactical Vehicle (JLTV) beginning in FY20. MADIS Increment 2 will focus on extended range for the Inc 1 system as well as kinetic and non-kinetic capability supporting increased lethality. The Installations MADIS (I-MADIS) detects, tracks, and enables identification of sUAS operating above and in close proximity to an installation. The I-MADIS will begin procurement in FY20. Medium Range Intercept Capability (Inc 3): The MRIC will provide the MAGTF Commander the ability to defend fixed/semi-fixed and other designated defended assets against cruise missiles, mortars, and precision guided missiles from a ground based air defense platform. MRIC is designed as a system-of systems and will be integrated with Marine Corps organic Command and Control (C2) and Joint Integrated Air Missile Defense (IAMD) architecture. The program will enhance the MAGTF's ground based air defense capability to rapidly prosecute aerial threats and expand layered defense to the MAGTF and supported Naval Forces. The MRIC will begin procurement in FY22 and will be comprised of missiles launchers, intercept missiles, and a Command and Control (C2) system.												

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 03: Guided missiles and equipment / BSA 1: Guided Missiles						P-1 Line Item Number / Title: 3006 / Ground Based Air Defense (GBAD)				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206313M				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Ground Based Air Defense (GBAD)	P-5a			- / 122.243	- / 18.334	- / 147.606	- / 18.920	- / 0.000	- / 18.920
P-40	Total Gross/Weapon System Cost				- / 122.243	- / 18.334	- / 147.606	- / 18.920	- / 0.000	- / 18.920
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
Justification: FY 2019: \$18.334M -Funds provided for the initial procurement of 203 Identification Friend or Foe (IFF) Mode V Belt Packs, required cables, adapters, pouches, and technical manual updates, as well as associated support. IFF is the military designation of the Air Traffic Control (ATC) system that is used to identify and track military aircraft; and identify and defeat hostile UAS and aircraft. Due to the negotiation of a lower unit price under a new contract, the program was able to procure additional IFF Mode V Belt Packs. FY 2020: \$147.606M Ground Based Air Defense-MADIS FoS \$13.165M - Funds the second and final procurement of a total of 156 Identification Friend or Foe (IFF) Mode V belt packs and cables. IFF is the military designation of the Air Traffic Control (ATC) System that is used to identify and track military aircraft; and identify and defeat hostile UAS and aircraft. \$0.646M Funds the procurement of QTY 4 Virtual Stinger Trainers (VST). VST is designed to enhance the training of Stinger Gunners by immersing them in a virtual environment to conduct Stinger engagements. The USMC will support the LAAD mission using the VST to introduce Marines at the Air Defense School House (ADSH) to the fundamentals of Stinger engagements and reinforce those fundamentals through repetition. \$127.932M - Funds provide for low rate initial production (LRIP) of Marine Air Defense Integrated System Increment (MADIS Inc 1) JLTv systems, an increase from 0 to 26 vehicles. (26) LRIP systems are required to support concurrent engineering tests as well as Operational Assessment. \$3.103M - Funds provide for the initial procurement of the Installations-MADIS (I-MADIS), to support critical infrastructure at bases, posts or stations, an increase from 0 to 1. \$2.065M - Funds provide for the initial procurement of 26 Night Sights to replace equipment reaching obsolescence. The Night Sight will enable Marines to perform target acquisition during day or night, during reduced visibility conditions and when engaging low observable targets. \$0.695M - Funds the required support to the I-MADIS system. This includes required fielding support, integrated logistics, and site surveys. FY 2021 Baseline Appropriation Request: \$18.920M Funding in this line item has been reprioritized while ensuring the Marine Corps continues to evolve toward a force that is aligned with the National Defense Strategy. Ground Based Air Defense-MADIS FoS \$14.230M - Will fund MADIS Inc 1 Low Rate Initial Production (LRIP) technical and production labor support which includes engineering, integration, cyber security, safety, information assurance, and software support. This support is required to fully integrate (26) vehicle kits onto the JLTv and ensure the system meets operational requirements. \$3.538M - Will fund the procurement of one I-MADIS. I-MADIS supports critical infrastructure at bases, posts or stations.										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 03: Guided missiles and equipment / BSA 1: Guided Missiles		P-1 Line Item Number / Title: 3006 / Ground Based Air Defense (GBAD)
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M
Line Item MDAP/MAIS Code: N/A		
\$1.152M - Will fund required support to the I-MADIS system. This includes required fielding support, integrated logistics, and site survey support. The decrease of \$128.686M from FY20 to FY21 is due to a change in major components of the MADIS Inc 1 requiring additional integration, engineering, developmental and operational testing prior to MS C in 4QFY21. The program continues to leverage existing efforts through the Army to minimize development costs and maintain schedule.		

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Exhibit P-5, Cost Analysis: PB 2021 Navy													Date: February 2020								
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1							P-1 Line Item Number / Title: 3006 / Ground Based Air Defense (GBAD)						Item Number / Title [DODIC]: 1 / Ground Based Air Defense (GBAD)								
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
Procurement Quantity <i>(Units in Each)</i>				-			-			-			-			-			-		
Gross/Weapon System Cost <i>(\$ in Millions)</i>				122.243			18.334			147.606			18.920			0.000			18.920		
Less PY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Net Procurement (P-1) <i>(\$ in Millions)</i>				122.243			18.334			147.606			18.920			0.000			18.920		
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Total Obligation Authority <i>(\$ in Millions)</i>				122.243			18.334			147.606			18.920			0.000			18.920		
(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 Dollars)</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 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 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)			
Flyaway Cost																					
Recurring Cost																					
1.1.1) Identification Friend or Foe (IFF) Recurring ^(†) (1)	-	-	-	84,389.16	203	17.131	84,388.54	156	13.165	-	-	-	-	-	-	-	-	-			
1.1.2) Marine Air Defense Integrated System (MADIS Inc 1) ^(†) (2)	-	-	-	-	-	-	4,920K	26	127.932	-	-	-	-	-	-	-	-	-			
1.1.3) Installations Marine Air Defense Integrated System (I-MADIS) ^(†) (3)	-	-	-	-	-	-	3,103K	1	3.103	3,538K	1	3.538	-	-	-	3,538K	1	3.538			
1.1.6) Advanced ManPads (A-MANPADS) Prior Years Cumulative Funding	-	-	30.558	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
1.1.7) Stinger Service Life Extension Program (SLEP) Cumulative Funding	-	-	70.401	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Subtotal: Recurring Cost	-	-	100.959	-	-	17.131	-	-	144.200	-	-	3.538	-	-	-	-	-	3.538			
Non Recurring Cost																					
1.2.1) Virtual Stinger Trainer Non-Recurring ^(†) (4)	-	-	-	-	-	-	161,516.00	4	0.646	-	-	-	-	-	-	-	-	-			

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Exhibit P-5, Cost Analysis: PB 2021 Navy											Date: February 2020							
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1						P-1 Line Item Number / Title: 3006 / Ground Based Air Defense (GBAD)						Item Number / Title [DODIC]: 1 / Ground Based Air Defense (GBAD)						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$)	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)
1.2.2) Night Sights ^(†) (5)	-	-	-	-	-	-	79,407.41	26	2.065	-	-	-	-	-	-	-	-	-
1.2.5) GBAD Prior Years Flyaway/Non Recurring Cumulative Funding	-	-	16.988	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	16.988	-	-	-	-	-	2.711	-	-	-	-	-	-	-	-	-
Subtotal: Flyaway Cost	-	-	117.947	-	-	17.131	-	-	146.911	-	-	3.538	-	-	-	-	-	3.538
Support Cost																		
2.1) MADIS Inc 1 Integration Support ⁽⁶⁾	-	-	-	-	-	-	-	-	-	-	-	14.230	-	-	-	-	-	14.230
2.3) Identification Friend or Foe (IFF) Support	-	-	-	-	-	1.203	-	-	-	-	-	-	-	-	-	-	-	-
2.5) I-MADIS Logistics Support ⁽⁷⁾	-	-	-	-	-	-	-	-	0.695	-	-	1.152	-	-	-	-	-	1.152
2.6) GBAD Prior Years Cumulative Support Funding	-	-	4.296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support Cost	-	-	4.296	-	-	1.203	-	-	0.695	-	-	15.382	-	-	-	-	-	15.382
Gross/Weapon System Cost	-	-	122.243	-	-	18.334	-	-	147.606	-	-	18.920	-	-	0.000	-	-	18.920

^(†) indicates the presence of a P-5a

Footnotes:

⁽¹⁾ Due to the negotiation of a lower unit price under a new contract, the program was able to procure additional IFF Mode 5 Belt Packs in FY19.

⁽²⁾ Marine Air Defense Integrated System Increment 1 (MADIS Inc 1) is the procurement and installation of Government Furnished Equipment on a Joint Light Tactical Vehicle (JLTV) in order to mitigate the risk of attacks from UAS and FW/RW aircraft. GFE Components include Fire Control Optics, EOIR Optics, turrets, drone on drone defeat capability, Modi, Mobile Vehicle Power Amplifier (MVPA), SkyView, C2 components, and a radar. Decrease from FY20 request to FY21 request is due to a change in major components of the MADIS Inc 1 requiring additional integration, engineering, developmental and operational testing prior to MS C in 4QFY21. The program continues to leverage existing efforts through the Army to minimize development costs and maintain schedule.

⁽³⁾ The Marine Corps will procure and install a C-UAS/GBAD capability at a Base, Post or Station every year across the FYDP beginning in FY20 in order to detect, track, and enable identification of sUAS operating above and in close proximity to an installation. The increase in unit cost between FY20 and FY21 is due to I-MADIS component integration labor is phased to align with the delivery schedule for the various components that create the I-MADIS capability. FY21 CE 1.1.3 includes integration costs supporting the FY20 procurement for those long-lead items delivering in FY21 as well as a certain portion of the FY21 procurement's integration costs for non-long lead items tied to the FY21 buy.

⁽⁴⁾ Change from FY20 request. VST is a new cost element. The program is required to procure the Virtual Stinger Trainers to replace aging and obsolescent equipment.

(†) indicates the presence of a P-5a

Footnotes:

- (1) Due to the negotiation of a lower unit price under a new contract, the program was able to procure additional IFF Mode 5 Belt Packs in FY19.
- (2) Marine Air Defense Integrated System Increment 1 (MADIS Inc 1) is the procurement and installation of Government Furnished Equipment on a Joint Light Tactical Vehicle (JLTV) in order to mitigate the risk of attacks from UAS and FW/RW aircraft. GFE Components include Fire Control Optics, EOIR Optics, turrets, drone on drone defeat capability, Modi, Mobile Vehicle Power Amplifier (MVPA), SkyView, C2 components, and a radar. Decrease from FY20 request to FY21 request is due to a change in major components of the MADIS Inc 1 requiring additional integration, engineering, developmental and operational testing prior to MS C in 4QFY21. The program continues to leverage existing efforts through the Army to minimize development costs and maintain schedule.
- (3) The Marine Corps will procure and install a C-UAS/GBAD capability at a Base, Post or Station every year across the FYDP beginning in FY20 in order to detect, track, and enable identification of sUAS operating above and in close proximity to an installation. The increase in unit cost between FY20 and FY21 is due to I-MADIS component integration labor is phased to align with the delivery schedule for the various components that create the I-MADIS capability. FY21 CE 1.1.3 includes integration costs supporting the FY20 procurement for those long-lead items delivering in FY21 as well as a certain portion of the FY21 procurement's integration costs for non-long lead items tied to the FY21 buy.
- (4) Change from FY20 request. VST is a new cost element. The program is required to procure the Virtual Stinger Trainers to replace aging and obsolescent equipment.

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Exhibit P-5, Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1	P-1 Line Item Number / Title: 3006 / Ground Based Air Defense (GBAD)	Item Number / Title [DODIC]: 1 / Ground Based Air Defense (GBAD)
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
⁽⁵⁾ The increased unit cost from the FY20 request to the FY21 submission reflects the receipt of estimated pricing from industry. The quantity decrease from FY20 to FY21 is due to the decrease of MADIS Inc 1 systems procured in FY21 and change in acquisition strategy to procure night sights in the year the MADIS Inc 1 systems are procured. ⁽⁶⁾ Will fund MADIS Inc 1 Low Rate Initial Production (LRIP) technical and production labor support which includes engineering, integration, cyber security, safety, information assurance, and software support. This support is required to fully integrate (26) vehicle kits onto the JLTV and ensure the system meets operational requirements Increase from FY20 to FY21 is to support the beginning of Low Rate Initial Production integration. The decrease from the FY20 request to the FY21 budget submissions is due to a change in major components of the MADIS Inc 1 requiring additional integration, engineering, developmental and operational testing prior to MS C in 4QFY21. The program continues to leverage existing efforts through the Army to minimize development costs and maintain schedule. ⁽⁷⁾ Will fund required support to the I-MADIS system. This includes fielding support, integrated logistics, and site surveys. The decrease from the FY20 request to the FY21 submission is due to the finalization of the requirements and acquisition strategy. Increase from FY20 to FY21 is due to the ramp up of logistics support required for the C2 integration efforts.		

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1			P-1 Line Item Number / Title: 3006 / Ground Based Air Defense (GBAD)						Item Number / Title [DODIC]: 1 / Ground Based Air Defense (GBAD)			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) Identification Friend or Foe (IFF) Recurring		2019	USARMY / Aberdeen Proving Ground, MD	C / FFP	Aberdeen Proving Ground, MD	Apr 2019	Aug 2021	203	84,389.16	Y		Mar 2017
1.1.1) Identification Friend or Foe (IFF) Recurring		2020	USARMY / Aberdeen Proving Ground, MD	C / FFP	Aberdeen Proving Ground, MD	Apr 2020	Aug 2022	156	84,388.54	N		
1.1.2) Marine Air Defense Integrated System (MADIS Inc 1)		2020	DLA / DLA, Phil, PA	Various	McClellan, CA	Jun 2020	Nov 2020	26	4,920K	Y		
1.1.3) Installations Marine Air Defense Integrated System (I-MADIS)		2020	NIWC / Charleston, SC	Various	Charleston, SC	Jan 2020	Jul 2020	1	3,103K	Y		Oct 2019
1.1.3) Installations Marine Air Defense Integrated System (I-MADIS)		2021 ⁽⁸⁾	NIWC / Charleston, SC	Various	Charleston, SC	Jan 2021	Jul 2021	1	3,538K	N		
1.2.1) Virtual Stinger Trainer Non-Recurring		2020	TBD / TBD	C / TBD	MCSC, Quantico	Aug 2020	Sep 2020	4	161,516.00	N		
1.2.2) Night Sights		2020	TBD / TBD	C / FFP	MCSC, Quantico	Jul 2020	Jan 2021	26	79,407.41	N		

Footnotes:

⁽⁸⁾ Date of first delivery refers to delivery of components required for integration

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 03: Guided missiles and equipment / BSA 1: Guided Missiles						P-1 Line Item Number / Title: 3011 / Anti-Armor Missile-Javelin						
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	2,021	11	97	98	-	98	1	4	4	4	Continuing	Continuing
Gross/Weapon System Cost (<i>\$ in Millions</i>)	325.413	3.106	20.207	19.888	0.000	19.888	1.027	2.411	2.456	2.506	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	325.413	3.106	20.207	19.888	0.000	19.888	1.027	2.411	2.456	2.506	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	325.413	3.106	20.207	19.888	0.000	19.888	1.027	2.411	2.456	2.506	Continuing	Continuing
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	161.016	282.364	208.320	202.939	-	202.939	1,027.000	602.750	614.000	626.500	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	161.016	282.364	208.320	202.939	-	202.939	1,027.000	602.750	614.000	626.500	Continuing	Continuing
Description:												
Javelin provides the United States Army and the United States Marine Corps (USMC) with a man-portable fire-and-forget medium-range anti-armor missile with enhanced situational awareness and direct-fire effects that are able to defeat armored vehicles, fortifications, and soft targets in full spectrum operations. Javelin has a high kill rate against a variety of targets at extended ranges under adverse environments caused by day/night, weather, battlefield obscurants, and multiple counter-measure conditions. The system's soft launch feature permits firing from a fighting position or from an enclosure, and the modular design allows for the evolution of both software and hardware upgrades to meet changing threats and requirements. The system consists of a reusable Command Launch Unit (CLU) with a built-in-test (BIT) along with a modular missile encased in a disposable launch tube assembly, and includes training devices for tactical and classroom exercises. Javelin's fire-and-forget technology allows the gunner to fire without the need to track targets while providing enhanced lethality through the use of a tandem warhead that is able to defeat all current armor threats. This system is effective against both stationary and moving targets and provides defensive capability against attacking/hovering helicopters. The performance improvements in the current production of Javelin Block I CLUs include an increased target identification range, increased surveillance time, and an external interface for video output. The performance improvements in the current production of Javelin Block I missiles include an increased probability of hit/kill at 2500m, improved warhead lethality, and reduced time of flight. The CLU is being used as a stand-alone surveillance and target acquisition asset. The Army is the lead for this joint program with the USMC.												
[P5 / Guided Missiles]: The unit cost per missile is determined by the combined procurement quantities of 850 missiles per year ordered by multiple services including the Army, USMC, and Foreign Military Sales (FMS). Missile procurement quantities are accurate across the Five Year Defense Plan (FYDP).												
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025		
Navy	Quantity	11	97	98	-	98	1	4	4	4		
	Total Obligation Authority	2.939	20.025	19.703	-	19.703	0.877	2.236	2.277	2.322		
NR	Quantity	-	-	-	-	-	-	-	-	-		
	Total Obligation Authority	0.167	0.182	0.185	-	0.185	0.150	0.175	0.179	0.184		
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-		
	Total Obligation Authority	3.106	20.207	19.888	-	19.888	1.027	2.411	2.456	2.506		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 03: Guided missiles and equipment / BSA 1: Guided Missiles						P-1 Line Item Number / Title: 3011 / Anti-Armor Missile-Javelin				
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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / JAVELIN	P-5a, P-21			2,021 / 325.413	11 / 3.106	97 / 20.207	98 / 19.888	- / 0.000	98 / 19.888
P-40	Total Gross/Weapon System Cost				2,021 / 325.413	11 / 3.106	97 / 20.207	98 / 19.888	- / 0.000	98 / 19.888
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
Justification: FY 2019: \$3.106M (Active \$2.939M, Reserve \$0.167M) Funding supports the procurement of 11 Javelin missiles to replenish inventory due to end of life service conditions. Funding also provides for engineering and logistics support of the Javelin system, the updating of reserve equipment, and program management support. FY 2020: \$20.207M (Active \$20.025M, Reserve \$0.182M) Funding supports the procurement of 97 Javelin missiles to replenish inventory due to end of life service conditions. Funding also provides for engineering and logistics support of the Javelin system, updating of reserve equipment, and program management support. FY 2021 Base Appropriation Request: \$19.888M (Active \$19.703M, Reserve \$0.185M) Funding supports the procurement of 98 Javelin missiles to replenish inventory due to end of life service conditions. Funding also provides for engineering and logistics support of the Javelin system, updating of reserve equipment, and program management support. The funding decrease of \$0.319M from FY 2020 to FY 2021 results in the reduction of engineering and logistics support required for Javelin missiles to meet warfighter requirements.										

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Exhibit P-5, Cost Analysis: PB 2021 Navy												Date: February 2020						
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1						P-1 Line Item Number / Title: 3011 / Anti-Armor Missile-Javelin						Item Number / Title [DODIC]: 1 / JAVELIN						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total				
Procurement Quantity <i>(Units in Each)</i>				2,021		11		97		98		-		98				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				325.413		3.106		20.207		19.888		0.000		19.888				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				325.413		3.106		20.207		19.888		0.000		19.888				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				325.413		3.106		20.207		19.888		0.000		19.888				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>				161.016		282.364		208.320		202.939		-		202.939				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
1.1.1) Guided Missiles ^(†) (1)	150.111	2,063	309.678	143.794	11	1.582	177.565	97	17.224	174.620	98	17.113	-	-	-	174.620	98	17.113
1.1.2) Recurring Missile Surcharge ⁽²⁾	-	-	3.258	-	-	0.105	-	-	0.863	-	-	0.860	-	-	-	-	-	0.860
1.1.3) Missile Engineering Support	-	-	8.513	-	-	0.686	-	-	1.067	-	-	0.938	-	-	-	-	-	0.938
1.1.4) Missile Program Support	-	-	3.539	-	-	0.566	-	-	0.871	-	-	0.792	-	-	-	-	-	0.792
1.1.5) Reserves-Training Equipment	-	-	0.425	-	-	0.167	-	-	0.182	-	-	0.185	-	-	-	-	-	0.185
Subtotal: Recurring Cost	-	-	325.413	-	-	3.106	-	-	20.207	-	-	19.888	-	-	-	-	-	19.888
Subtotal: Flyaway Cost	-	-	325.413	-	-	3.106	-	-	20.207	-	-	19.888	-	-	-	-	-	19.888
Gross/Weapon System Cost	161.016	2,021	325.413	282.364	11	3.106	208.320	97	20.207	202.939	98	19.888	-	-	0.000	202.939	98	19.888
†) indicates the presence of a P-5a																		
Footnotes:																		
(1) The unit cost per missile through FY 2022 is based on the current Government Estimate for the procurement of the Javelin Spiral II F-Model missile variant. Starting in FY 2023, the unit cost decreases due to modernization efforts in the production and procurement of the new G-Model missile variant.																		
(2) The recurring missile surcharge is calculated based on the total cost of missile procurements per year.																		

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1				P-1 Line Item Number / Title: 3011 / Anti-Armor Missile-Javelin					Item Number / Title [DODIC]: 1 / JAVELIN			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) Guided Missiles ^(†)		2016	JJV All Up Round ⁽³⁾ / Tucson AZ, Orlando FL	SS / FFP	AMCOM, Redstone Arsenal, AL	Apr 2016	Aug 2019	350	144.505	Y		
1.1.1) Guided Missiles ^(†)	✓	2016	JJV All Up Round ⁽³⁾ / Tucson AZ, Orlando FL	SS / FFP	AMCOM, Redstone Arsenal, AL	Apr 2016	Aug 2019	48	144.505	Y		
1.1.1) Guided Missiles ^(†)		2017	JJV All Up Round ⁽³⁾ / Tucson AZ, Orlando FL	SS / FFP	AMCOM, Redstone Arsenal, AL	Jul 2017	Nov 2019	522	143.818	Y		
1.1.1) Guided Missiles ^(†)	✓	2017	JJV All Up Round ⁽³⁾ / Tucson AZ, Orlando FL	SS / FFP	AMCOM, Redstone Arsenal, AL	Jul 2017	Nov 2019	9	149.532	Y		
1.1.1) Guided Missiles ^(†)		2018	JJV All Up Round ⁽³⁾ / Tucson AZ, Orlando FL	SS / FFP	AMCOM, Redstone Arsenal, AL	Jun 2018	Nov 2020	233	132.474	Y		
1.1.1) Guided Missiles ^(†)	✓	2018	JJV All Up Round ⁽³⁾ / Tucson AZ, Orlando FL	SS / FFP	AMCOM, Redstone Arsenal, AL	Jun 2018	Nov 2020	9	132.474	Y		
1.1.1) Guided Missiles ^(†)		2019	JJV All Up Round ⁽³⁾ / Tucson AZ, Orlando FL	SS / FFP	AMCOM, Redstone Arsenal, AL	Sep 2019	Mar 2022	11	143.794	Y		
1.1.1) Guided Missiles ^(†)		2020	JJV All Up Round ⁽³⁾ / Tucson AZ, Orlando FL	SS / FFP	AMCOM, Redstone Arsenal, AL	Jun 2020	May 2022	97	177.565	Y		
1.1.1) Guided Missiles ^(†)		2021	JJV All Up Round ⁽³⁾ / Tucson AZ, Orlando FL	SS / FFP	AMCOM, Redstone Arsenal, AL	Jun 2021	May 2023	98	174.620	Y		

^(†) indicates the presence of a P-21

Footnotes:

⁽³⁾ Javelin Joint Venture (JJV) includes Raytheon in Tucson, Arizona and Lockheed Martin in Orlando, Florida. Procuring Contracting Office (PCO) location is the Aviation and Missile Command (AMCOM) Redstone Arsenal, Alabama. Funded Sole Source (SS) / Firm Fixed Price (FFP).

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1										P-1 Line Item Number / Title: 3011 / Anti-Armor Missile-Javelin										Item Number / Title [DODIC]: 1 / JAVELIN														
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2016										Fiscal Year 2017													BALANCE				
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Calendar Year 2016										Calendar Year 2017																	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP			
1.1.1) Guided Missiles ⁽¹⁾																																		
Prior Years Deliveries: 892																																		
	1	2016	NAVY	350	0	350							A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	350			
✓	1	2016	NAVY	48	0	48							A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48			
	1	2017	NAVY	522	0	522																								A -	-	-	-	522
✓	1	2017	NAVY	9	0	9																								A -	-	-	9	
	1	2018	NAVY	233	0	233																								233				
✓	1	2018	NAVY	9	0	9																								9				
	1	2019	NAVY	11	0	11																								11				
	1	2020	NAVY	97	0	97																								97				
	1	2021	NAVY	98	0	98																								98				
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				

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Exhibit P-21, Production Schedule: PB 2021 Navy																							Date: February 2020													
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1										P-1 Line Item Number / Title: 3011 / Anti-Armor Missile-Javelin													Item Number / Title [DODIC]: 1 / JAVELIN													
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2018													Fiscal Year 2019													BALANCE			
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018													Calendar Year 2019																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						
1.1.1) Guided Missiles ⁽¹⁾																																				
Prior Years Deliveries: 892																																				
	1	2016	NAVY	350	0	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	87	87	176				
✓	1	2016	NAVY	48	0	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	24				
	1	2017	NAVY	522	0	522	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	522				
✓	1	2017	NAVY	9	0	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9				
	1	2018	NAVY	233	0	233										A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	233				
✓	1	2018	NAVY	9	0	9										A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9			
	1	2019	NAVY	11	0	11																													A -	11
	1	2020	NAVY	97	0	97																													97	
	1	2021	NAVY	98	0	98																													98	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020															
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1										P-1 Line Item Number / Title: 3011 / Anti-Armor Missile-Javelin										Item Number / Title [DODIC]: 1 / JAVELIN															
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2020												Fiscal Year 2021												BALANCE				
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020												Calendar Year 2021																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					
1.1.1) Guided Missiles ⁽¹⁾																																			
Prior Years Deliveries: 892																																			
	1	2016	NAVY	350	174	176	88	88																										0	
✓	1	2016	NAVY	48	24	24	12	12																										0	
	1	2017	NAVY	522	0	522	-	60	174	174	114																						0		
✓	1	2017	NAVY	9	0	9	-	3	3	3																							0		
	1	2018	NAVY	233	0	233	-	-	-	-	-	-	-	-	-	-	-	-	-	125	108												0		
✓	1	2018	NAVY	9	0	9	-	-	-	-	-	-	-	-	-	-	-	-	-	5	4												0		
	1	2019	NAVY	11	0	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11				
	1	2020	NAVY	97	0	97													A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	97
	1	2021	NAVY	98	0	98																								A -	-	-	-	-	98
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					

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Exhibit P-21, Production Schedule: PB 2021 Navy																			Date: February 2020													
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1							P-1 Line Item Number / Title: 3011 / Anti-Armor Missile-Javelin												Item Number / Title [DODIC]: 1 / JAVELIN													
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2022												Fiscal Year 2023												BALANCE	
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022												Calendar Year 2023													
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1.1.1) Guided Missiles ⁽¹⁾																																
Prior Years Deliveries: 892																																
	1	2016	NAVY	350	350	0																										0
✓	1	2016	NAVY	48	48	0																										0
	1	2017	NAVY	522	522	0																										0
✓	1	2017	NAVY	9	9	0																										0
	1	2018	NAVY	233	233	0																										0
✓	1	2018	NAVY	9	9	0																										0
	1	2019	NAVY	11	0	11	-	-	-	-	-	11																				0
	1	2020	NAVY	97	0	97	-	-	-	-	-	-	38	59																		0
	1	2021	NAVY	98	0	98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	60					0	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		

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Exhibit P-21, Production Schedule: PB 2021 Navy								Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1				P-1 Line Item Number / Title: 3011 / Anti-Armor Missile-Javelin				Item Number / Title [DODIC]: 1 / JAVELIN			

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	JJV All Up Round ⁽³⁾ - Tucson AZ, Orlando FL	850	3,960	6,480	11	3	23	26	6	3	29	32

"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).

Footnotes:

⁽³⁾ Javelin Joint Venture (JJV) includes Raytheon in Tucson, Arizona and Lockheed Martin in Orlando, Florida. Procuring Contracting Office (PCO) location is the Aviation and Missile Command (AMCOM) Redstone Arsenal, Alabama. Funded Sole Source (SS) / Firm Fixed Price (FFP).

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 03: Guided missiles and equipment / BSA 1: Guided Missiles							P-1 Line Item Number / Title: 3016 / Family Anti-Armor Weapon Systems (FOAAWS)					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0603635M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	107.574	13.590	21.913	21.891	0.000	21.891	21.885	21.894	21.892	22.330	-	252.969
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	107.574	13.590	21.913	21.891	0.000	21.891	21.885	21.894	21.892	22.330	-	252.969
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	107.574	13.590	21.913	21.891	0.000	21.891	21.885	21.894	21.892	22.330	-	252.969
<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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: Family of Anti-Armor Weapon Systems (FOAAWS) The solution to the Follow on to SMAW (FOTS) capability requirement is a Family of Marine-portable Rocket Systems. This Family of Systems is composed of separate lightweight, short-range, and fire-and-forget weapons. The Family of Systems will be deployed to Marine Infantry Squads and Combat Engineer Battalions across the spectrum of conflict, under all environmental conditions, to neutralize or destroy a variety of ground targets including personnel, thin-skinned vehicles, and positions. The Family of Systems include the SMAW MK-153 Mod 0, SMAW MK-153 Mod 2, and the Multi-purpose Anti-Armor Weapon System (MAAWS) M3A1. SMAW Mod 2 integrated a laser range finder and thermal weapon sight onto the improved SMAW launcher. The improved system is a lighter, more accurate, easier to maintain, and more reliable replacement to the SMAW Mod 0 launcher. The MAAWS M3A1 is a multipurpose, man-portable, line-of-sight, reloadable, recoilless, anti-armor and anti-personnel weapon system. It is a revision of the 84mm Carl Gustaf (M3) man-portable, recoilless rifle produced by Saab Bofors Dynamics. This system will enable the Marine Infantry Squads and Combat Engineer Battalions to engage in offensive and defensive operations with anti-armor, anti-personnel, anti-material, and assault capabilities. The MAAWS consists of the M3A1 Carl Gustaf Recoilless Rifle, Fire Control System and MeOpta red dot back up sight. Munitions include two Sub-caliber Adapter Training Devices and a suite of 84mm ammunition with greater capabilities than the SMAW Mod 2 system. The suite of 84mm ammunition provides obscuration, illumination, personnel denial, armored vehicle denial and penetration, bunker and hardened facility penetration, and soft target destruction capabilities to meet various mission requirements.												

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 03: Guided missiles and equipment / BSA 1: Guided Missiles						P-1 Line Item Number / Title: 3016 / Family Anti-Armor Weapon Systems (FOAAWS)				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A			Other Related Program Elements: 0603635M			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Follow on To Smaw - Active	P-5a, P-21			- / 107.574	- / 13.590	- / 21.913	- / 21.891	- / 0.000	- / 21.891
P-40	Total Gross/Weapon System Cost				- / 107.574	- / 13.590	- / 21.913	- / 21.891	- / 0.000	- / 21.891
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
Justification: FY 2019: \$13.590M The FY 2019 baseline request of \$13.590M funded the procurement of 215 Multi-purpose Anti-Armor Weapon System M3A1s. FY 2020: \$21.913M The FY 2020 baseline request will fund the procurement of 342 Multi-purpose Anti-Armor Weapon System M3A1 as a follow on capability to SMAW MOD 2 per Joint Force 2025 guidance and Close Combat Lethality Task Force concepts and objectives. Increase of \$8.323M funding from FY19 to FY20 directly funds procurement of 127 additional Multi-purpose Anti-Armor Weapon Systems M3A1 to supporting the Initial Operational Capability by 2QFY21. The FY20 MAAWS M3A1 quantity and unit cost increase is due to inflation and no change in the step-ladder pricing. FY 2021 Base Appropriation Request: \$21.891M The FY 2021 baseline request supports the following: \$15.996 will fund the procurement of 256 Multi-purpose Anti-Armor Weapon System M3A1 as a follow on capability to SMAW MOD 2 per Joint Force 2025 and Close Combat Lethality Task Force concepts and objectives. Additionally, \$2.983M funds Product Improvement upgrades to the rifle and the Fire Control System due to deficiencies identified during user evaluation of Sight Range Performance and Squad Integration requirements. The Sight Range Performance Testing identified deficiencies in the Fire Control System to recognize relevant targets at the range of 1,000 meters with and without night vision optics. Squad Integration Testing identified deficiencies in how the M3A1 and the 84mm ammunition is carried by Marines and how compatible the M3A1 will be with parachute rigging. \$0.770 funds one Fire Control System Spare Kit per M3A1 MAAWS System and \$1.218 funds one 7.62mm and one 20mm SubCal Adaptors for the M3A1 MAAWS System. Sub Cal Adapters is a training system that simulates back blast. Funds in the amount of \$.924M will provide Engineering, Logistics, and Program Management Services. The decrease in MAAWS unit cost from FY20 to FY21 is due to a configuration change to the Reflex (Red Dot) sight.										

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Exhibit P-5, Cost Analysis: PB 2021 Navy													Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1							P-1 Line Item Number / Title: 3016 / Family Anti-Armor Weapon Systems (FOAAWS)						Item Number / Title [DODIC]: 1 / Follow on To Smaw - Active					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				107.574		13.590		21.913		21.891		0.000		21.891				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				107.574		13.590		21.913		21.891		0.000		21.891				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				107.574		13.590		21.913		21.891		0.000		21.891				
(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 Dollars)</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 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 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)
Flyaway Cost																		
Recurring Cost																		
1.1.1) M3A1 Multi-purpose Anti-Armor Weapon System (MAAWS) ⁽¹⁾	-	-	-	63,209.30	215	13.590	64,070.18	342	21.912	62,483.00	256	15.996	-	-	-	62,483.00	256	15.996
1.1.2) Product Improvement ⁽²⁾	-	-	-	-	-	-	-	-	-	-	-	2.983	-	-	-	-	-	2.983
1.1.3) Spare Kits/ Accessories ⁽³⁾	-	-	-	-	-	-	-	-	-	-	-	0.770	-	-	-	-	-	0.770
1.1.4) Sub-Cal Adaptors ⁽⁴⁾	-	-	-	-	-	-	-	-	-	-	-	1.218	-	-	-	-	-	1.218
1.1.5) Prior Years Cumulative Funding	-	-	102.276	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	102.276	-	-	13.590	-	-	21.912	-	-	20.967	-	-	-	-	-	20.967
Subtotal: Flyaway Cost	-	-	102.276	-	-	13.590	-	-	21.912	-	-	20.967	-	-	-	-	-	20.967
Support Cost																		
2.1) Technical, Engineering and Program Management Services	-	-	5.298	-	-	-	-	-	0.001	-	-	0.924	-	-	-	-	-	0.924
Subtotal: Support Cost	-	-	5.298	-	-	-	-	-	0.001	-	-	0.924	-	-	-	-	-	0.924
Gross/Weapon System Cost	-	-	107.574	-	-	13.590	-	-	21.913	-	-	21.891	-	-	0.000	-	-	21.891

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Exhibit P-5, Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1	P-1 Line Item Number / Title: 3016 / Family Anti-Armor Weapon Systems (FOAAWS)	Item Number / Title [DODIC]: 1 / Follow on To Smaw - Active
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
(†) indicates the presence of a P-5a Footnotes: (1) The M3A1 Multi-purpose Anti-Armor Weapon System (MAAWS) procurement will continue throughout the FYDP, to fulfill its requirement as a follow on capability to SMAW MOD 2 per Force 2025 and Close Combat Lethality Task Force (CCLTF) concepts and objectives. The decrease in MAAWS unit cost from FY20 to FY21 is due to a configuration change to the Reflex (Red Dot) sight. (2) Footnote (2): Product Improvement funding in FY21 funds upgrades to the rifle and the Fire Control System due to deficiencies identified during Sight Range Performance Testing, Squad Integration Testing and Ruggedization Testing. (3) The Spare Kits/Accessories funding includes procuring one Fire Control System (FCS) Spare Kit per M3A1 MAAWS System from FY21 - FY25. This includes spare lenses, batteries, and eye piece. (4) The Sub-Cal Adaptors funding includes procuring one 7.62mm and one 20mm Sub-Cal Adaptors (SCA) per M3A1 MAAWS System From FY21 - FY25.		

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy								Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1			P-1 Line Item Number / Title: 3016 / Family Anti-Armor Weapon Systems (FOAAWS)					Item Number / Title [DODIC]: 1 / Follow on To Smaw - Active				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) M3A1 Multi-purpose Anti-Armor Weapon System (MAAWS) ^(†)		2019	SAAB / Sweden	SS / FFP	Picatinny, NJ	Jan 2019	Jul 2019	215	63,209.30	Y		
1.1.1) M3A1 Multi-purpose Anti-Armor Weapon System (MAAWS) ^(†)		2020	SAAB / Sweden	SS / FFP	Picatinny, NJ	Jan 2020	Jul 2020	342	64,070.18	Y		
1.1.1) M3A1 Multi-purpose Anti-Armor Weapon System (MAAWS) ^(†)		2021	SAAB / Sweden	SS / FFP	Picatinny, NJ	Jan 2021	Jul 2021	256	62,483.00	Y		
^(†) indicates the presence of a P-21												

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Exhibit P-21, Production Schedule: PB 2021 Navy																			Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1								P-1 Line Item Number / Title: 3016 / Family Anti-Armor Weapon Systems (FOAAWS)												Item Number / Title [DODIC]: 1 / Follow on To Smaw - Active													
Cost Elements <i>(Units in Each)</i>								Fiscal Year 2019												Fiscal Year 2020												B A L A N C E	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019												Calendar Year 2020														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			
1.1.1) M3A1 Multi-purpose Anti-Armor Weapon System (MAAWS) ⁽¹⁾																																	
	1	2019	NAVY	215 ⁽⁵⁾		0	215				A -	-	-	-	-	-	100	-	50	-	65												0
	1	2020	NAVY	342 ⁽⁶⁾		0	342																A -	-	-	-	-	-	-	114	-	114	114
	1	2021	NAVY	256		0	256																										256
								O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		

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Exhibit P-21, Production Schedule: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1					P-1 Line Item Number / Title: 3016 / Family Anti-Armor Weapon Systems (FOAAWS)				Item Number / Title [DODIC]: 1 / Follow on To Smaw - Active			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	SAAB - Sweden	600	1,200	2,400	0	0	6	6	0	0	6	6

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

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to 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).

Footnotes:

- ⁽⁵⁾ The manufacturer is producing for both the Army and USMC. This delivery schedule reflects the Marine Corps planned deliveries in support of Marine Corps fielding plans.
- ⁽⁶⁾ The manufacturer is producing for both the Army and USMC. This delivery schedule reflects the Marine Corps planned deliveries in support of Marine Corps fielding plans.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 03: Guided missiles and equipment / BSA 1: Guided Missiles							P-1 Line Item Number / Title: 3017 / Anti-Armor Missile-TOW					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0603635M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	205.422	48.945	60.501	34.985	0.000	34.985	41.120	32.174	32.452	34.576	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	205.422	48.945	60.501	34.985	0.000	34.985	41.120	32.174	32.452	34.576	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	205.422	48.945	60.501	34.985	0.000	34.985	41.120	32.174	32.452	34.576	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The M41A7 Saber weapon system is a combat proven system that provides long-range, lethal anti-armor precision assault capability for the United States Marine Corps Infantry, Tank, and Light Armored Reconnaissance Battalions across modern operational environments. The M41A7 is the replacement for the M220 Tube-launched, Optically-tracked, Wire/Wireless-guided (TOW) 2 weapon system. Global Positioning System (GPS)-based location detection and an altitude determination subsystem generate a 10-digit grid coordinate of a target's position, and superior surveillance capability enables the warfighter to identify targets at long range and engage with TOW missiles or other weapon systems.

TOW missiles (BGM-71 Series) are the munition for the M41A7 system. The TOW missile is a highly lethal, cost effective, interoperable, multi-purpose anti-armor round that is used in either direct-fire or "fly-over, shoot down" mode against field fortifications and structures. In its current configuration, the combination of the M41A7 and the TOW missile provides the capability to defeat armored vehicles, bunkers, and buildings at extended ranges in all battlefield conditions.

The M41A7 is mounted from a variety of combat vehicle systems such as the Joint Lightweight Tactical Vehicle (JLTV), High Mobility Multipurpose Wheeled Vehicle (HMMWV), Mine Resistant Ambush Protected Vehicle (MRAP), and Light Armored Vehicle - Anti-Tank (LAV-AT), as well as having the capability for ground mounted operations.

Marine Corps Forces Special Operations Command identified the Spike Non Line of Sight (NLOS) as the preferred weapon system to satisfy an MARSOC Urgent Universal Needs Statement, tracking number 18024UA. Organic Precision Strike (Medium) will meet the Marine Corps Forces Special Operations Command (MARSOC) requirement for a lethal precision capability by procuring the Spike NLOS system to support current combat operations.

[P5 / Guided Missiles]: The Government Estimate for the TOW missile unit cost is determined by the weighted average of multiple missile variant unit costs, and vary annually due to different missile variants being procured.

[P5 / Spike NLOS]: Spike NLOS is a multi-purpose, electro-optical (EO), Man-in-the-loop (MITL) missile system with a real-time wireless data link for ranges between 1km and 32 km. It is manufactured by the Israeli company Rafael Advanced Defense Systems and is being delivered to US Special Forces via Lockheed Martin in partnership with Rafael. The Spike NLOS system is in operational use by the United States Special Operations Command (USSOCOM), Spain, the United Kingdom, South Korea, and Columbia, and is a possible replacement for aging Saber/TOW systems and offers to modernize the infantry to meet the requirements identified in the Marine Corps Operating Concept. The Spike NLOS launcher and High Explosive Anti-Tank (HEAT) and Penetrator Blast Fragmentation (PBF) missiles match or exceed the capabilities of the Saber/TOW systems in range and effects, which would enable small units to achieve a greater tactical edge to counter threats in complex and compartmentalized terrain. Capability /

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 03: Guided missiles and equipment / BSA 1: Guided Missiles						P-1 Line Item Number / Title: 3017 / Anti-Armor Missile-TOW				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0603635M				
Line Item MDAP/MAIS Code: N/A										
Shortfall: MARSOCs require the ability to strike stationary and mobile point targets in real time out to the limits of their ability to positively identify targets with organic ground and airborne assets while minimizing collateral damage. Potential target sets include personnel in the open or under light cover, light frame or single layer brick buildings, and unarmored or lightly armored vehicles (moving and stationary), to include Vehicle-Borne Improvised Explosive Devices (VBIEDs) or High Value Targets (HVTs) moving at speeds up to 45mph										
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Navy	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	48.759	60.309	34.792	-	34.792	40.927	31.977	32.252	34.372
NR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.186	0.192	0.193	-	0.193	0.193	0.197	0.200	0.204
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	48.945	60.501	34.985	-	34.985	41.120	32.174	32.452	34.576

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 03: Guided missiles and equipment / BSA 1: Guided Missiles						P-1 Line Item Number / Title: 3017 / Anti-Armor Missile-TOW				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A			Other Related Program Elements: 0603635M			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / ANTI ARMOR WEAPNS SYSTEM-HEAVY (AAWS-H)	P-5a, P-21			- / 205.422	- / 48.945	- / 60.501	- / 34.985	- / 0.000	- / 34.985
P-40	Total Gross/Weapon System Cost				- / 205.422	- / 48.945	- / 60.501	- / 34.985	- / 0.000	- / 34.985
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
Justification: FY 2019: \$48.945M (Active \$48.759M, Reserve \$0.186M) Funding supports the procurement of 704 TOW 2A Practice missiles to replenish inventory and support training requirements. Funding also provides for engineering, logistics, and program management efforts associated with the refurbishing and retrofitting of missiles in order to extend their service life; for reserve equipment support and for product improvement upgrades for the Saber System. FY 2020: \$60.501M (Active \$60.309M, Reserve \$0.192M) Funding supports the procurement of 565 TOW 2A Practice missiles to replenish inventory and support training requirements. Funding also provides for engineering, logistics, and program management efforts associated with the refurbishing and retrofitting of missiles in order to extend their service life; for reserve equipment support; and for product improvement upgrades for the Saber System. \$21.950M will procure three Spike NLOS missile systems for Marine Corps Forces Special Operations Command (MARSOC), with a future capability for expansion to additional systems. The estimated project cost of one MARSOC Spike NLOS system is \$7.317M, which includes the missile launch/guidance system, an associated vehicle or adaptation of an existing vehicle, an inventory of 10 missiles, and initial training and logistics support. FY 2021 Base Appropriation Request: \$34.985M (\$34.792M Active; \$0.193M Reserve) Funding supports the procurement of 515 TOW 2A Practice missiles to replenish inventory and support training requirements. Funding also provides for engineering, logistics, and program management efforts associated with the refurbishing and retrofitting of missiles in order to extend their service life; for reserve equipment support; and for product improvement upgrades for the Saber System. The decrease of \$25.516 between FY 2020 and FY 2021 reflects the fulfillment of the MARSOC Spike NLOS missile system requirement, the procurement of 50 less missiles and decreased engineering and program support necessary to meet Warfighter requirements for the TOW 2A Practice missile variant.										

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Exhibit P-5, Cost Analysis: PB 2021 Navy												Date: February 2020							
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1						P-1 Line Item Number / Title: 3017 / Anti-Armor Missile-TOW						Item Number / Title [DODIC]: 1 / ANTI ARMOR WEAPNS SYSTEM- HEAVY (AAWS-H)							
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total					
Procurement Quantity (Units in Each)				-		-		-		-		-		-					
Gross/Weapon System Cost (\$ in Millions)				205.422		48.945		60.501		34.985		0.000		34.985					
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-					
Net Procurement (P-1) (\$ in Millions)				205.422		48.945		60.501		34.985		0.000		34.985					
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-					
Total Obligation Authority (\$ in Millions)				205.422		48.945		60.501		34.985		0.000		34.985					
(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 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 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 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)
Flyaway - Prior Years Cumulative Funding Cost																			
Recurring Cost																			
1.1.1) Guided Missiles ^(†) (1)		80,211.57	1,763	141.413	63,128.00	704	44.442	54,429.00	565	30.752	57,456.00	515	29.590	-	-	-	57,456.00	515	29.590
1.1.2) Recurring Missile Surcharge ⁽²⁾		-	-	1.835	-	-	1.356	-	-	1.547	-	-	1.488	-	-	-	-	-	1.488
Subtotal: Recurring Cost		-	-	143.248	-	-	45.798	-	-	32.299	-	-	31.078	-	-	-	-	-	31.078
Non Recurring Cost																			
1.2.1) Spike NLOS ^(†) (3)		-	-	-	-	-	-	7,317K	3	21.950	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost		-	-	-	-	-	-	-	-	21.950	-	-	-	-	-	-	-	-	-
Subtotal: Flyaway - Prior Years Cumulative Funding Cost		-	-	143.248	-	-	45.798	-	-	54.249	-	-	31.078	-	-	-	-	-	31.078
Support Cost																			
2.1) Missile Engineering Support ⁽⁴⁾		-	-	4.443	-	-	1.554	-	-	2.924	-	-	2.088	-	-	-	-	-	2.088
2.2) Missile Program Support ⁽⁵⁾		-	-	3.724	-	-	1.144	-	-	2.851	-	-	1.626	-	-	-	-	-	1.626
2.3) Saber Launcher Support ⁽⁶⁾		-	-	53.326	-	-	0.263	-	-	0.285	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2021 Navy										Date: February 2020									
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1					P-1 Line Item Number / Title: 3017 / Anti-Armor Missile-TOW					Item Number / Title [DODIC]: 1 / ANTI ARMOR WEAPNS SYSTEM-HEAVY (AAWS-H)									
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:									

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$)	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)
2.4) Reserves-Training Equipment	-	-	0.681	-	-	0.186	-	-	0.192	-	-	0.193	-	-	-	-	-	0.193
<i>Subtotal: Support Cost</i>	-	-	62.174	-	-	3.147	-	-	6.252	-	-	3.907	-	-	-	-	-	3.907
Gross/Weapon System Cost	-	-	205.422	-	-	48.945	-	-	60.501	-	-	34.985	-	-	0.000	-	-	34.985

(†) indicates the presence of a P-5a

Footnotes:

(1) Missile unit costs are based on current Government Estimates for the procurement of the TOW 2A Practice missile variant; the increased cost per missile beginning in FY 2022 reflects current budget estimates that lead to lower procurement quantities.

(2) The recurring missile surcharge is calculated based on the total cost of missile procurements per year.

(3) The funding decrease of \$21.950M between FY 2020 and FY 2021 reflects the fulfillment of the MARSOC Spike NLOS missile system requirement.

(4) The Missile Engineering Support cost element was split from the overall Saber Engineering Support due to the need to track TOW missile-specific engineering support costs that are not utilized by the Saber Launcher system.

(5) The Missile Program Support cost element includes USMC Program Management Office (PMO) Support for Saber Product Improvement, and was split from overall Saber Program Support due to the need to track TOW missile-specific program support costs that are not utilized by the Saber Launcher system.

(6) Saber Launcher Support consolidates Saber Maintenance and Support Equipment, Saber Subsystems/Components, and Saber Programmatic and Engineering Support. The funding decrease in FY 2020 and out is the result of reduced tasking as the Saber Launcher system is transferred between programs.

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1			P-1 Line Item Number / Title: 3017 / Anti-Armor Missile-TOW						Item Number / Title [DODIC]: 1 / ANTI ARMOR WEAPNS SYSTEM-HEAVY (AAWS-H)			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) Guided Missiles ^(†)		2017	Raytheon, Tucson AZ ⁽⁷⁾ / AMCOM, Redstone Arsenal, AL	SS / FPIF	AMCOM, Redstone Arsenal, AL	Sep 2017	Mar 2020	157	58,273.00	Y		
1.1.1) Guided Missiles ^(†)		2018	Raytheon, Tucson AZ ⁽⁷⁾ / AMCOM, Redstone Arsenal, AL	SS / FPIF	AMCOM, Redstone Arsenal, AL	Apr 2018	Mar 2020	738	51,220.87	Y		
1.1.1) Guided Missiles ^(†)	✓	2018	Raytheon, Tucson AZ ⁽⁷⁾ / AMCOM, Redstone Arsenal, AL	SS / FPIF	AMCOM, Redstone Arsenal, AL	Apr 2018	Mar 2020	83	51,220.00	Y		
1.1.1) Guided Missiles ^(†)		2019	Raytheon, Tucson AZ ⁽⁷⁾ / AMCOM, Redstone Arsenal, AL	SS / FPIF	AMCOM, Redstone Arsenal, AL	May 2019	Apr 2021	704	63,128.00	Y		
1.1.1) Guided Missiles ^(†)		2020 ⁽⁸⁾	Raytheon, Tucson AZ ⁽⁷⁾ / AMCOM, Redstone Arsenal, AL	SS / FPIF	AMCOM, Redstone Arsenal, AL	Apr 2020	Apr 2022	565	54,429.00	Y		
1.1.1) Guided Missiles ^(†)		2021 ⁽⁹⁾	Raytheon, Tucson AZ ⁽⁷⁾ / AMCOM, Redstone Arsenal, AL	SS / FPIF	AMCOM, Redstone Arsenal, AL	Apr 2021	Apr 2023	515	57,456.00	Y		
1.2.1) Spike NLOS ^(†)		2020	Lockheed Martin, Dallas, TX ⁽¹⁰⁾ / Dallas, TX	C / CPFF	Fort Belvoir, VA	Jan 2020	Aug 2021	3	7,317K	Y		
^(†) indicates the presence of a P-21 Footnotes: ⁽⁷⁾ Raytheon in Tucson, Arizona is currently the only industry source that is both equipped and qualified to produce TOW missiles. Procuring Contracting Office (PCO) location is the Aviation and Missile Command (AMCOM) Redstone Arsenal, Alabama. Funded Sole Source (SS) / Fixed Price Incentive Fee (FPIF). Multi-year contracts do not follow the Administrative Lead Time (ALT) shown for annual year contracts. ⁽⁸⁾ FY 2020 Base procurement dollars support the fourth year of a five-year (FY17-21) multi-year contract. 10 U.S. Code #2431 and DoD FM Reg. Vol 2B, Ch 4 mandate Production Rates be defined in terms of budget year. ⁽⁹⁾ FY 2021 Base procurement dollars support the fifth year of a five-year (FY17-21) multi-year contract. 10 U.S. Code #2431 and DoD FM Reg. Vol 2B, Ch 4 mandate Production Rates be defined in terms of budget year. ⁽¹⁰⁾ Lockheed Martin in Dallas, Texas is the manufacturing source for the FY 2020 Spike NLOS missile systems required for MARSOC.												

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020																					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1										P-1 Line Item Number / Title: 3017 / Anti-Armor Missile-TOW										Item Number / Title [DODIC]: 1 / ANTI ARMOR WEAPNS SYSTEM- HEAVY (AAWS-H)																					
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2017										Fiscal Year 2018														B A L A N C E										
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017										Calendar Year 2018																								
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P											
1.1.1) Guided Missiles ⁽¹⁾																																									
Prior Years Deliveries: 785																																									
	1	2017	NAVY	157	0	157											A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	157						
	1	2018	NAVY	738	0	738																					A -	-	-	-	-	-	-	-	-	-	-	-	-	-	738
✓	1	2018	NAVY	83	0	83																					A -	-	-	-	-	-	-	-	-	-	-	-	-	-	83
	1	2019	NAVY	704	0	704																															704				
	1	2020	NAVY	565	0	565																															565				
	1	2021	NAVY	515	0	515																															515				
1.2.1) Spike NLOS ⁽³⁾																																									
	2	2020	NAVY	3	0	3																															3				
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P											

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Exhibit P-21, Production Schedule: PB 2021 Navy																							Date: February 2020													
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1										P-1 Line Item Number / Title: 3017 / Anti-Armor Missile-TOW													Item Number / Title [DODIC]: 1 / ANTI ARMOR WEAPNS SYSTEM- HEAVY (AAWS-H)													
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2019													Fiscal Year 2020													BALANCE			
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT				Calendar Year 2019										Calendar Year 2020																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						
1.1.1) Guided Missiles ⁽¹⁾																																				
Prior Years Deliveries: 785																																				
	1	2017	NAVY	157	0	157	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	157						0					
	1	2018	NAVY	738	0	738	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	155	155	155	173			0					
✓	1	2018	NAVY	83	0	83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	20	20	20	5			0					
	1	2019	NAVY	704	0	704								A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	704				
	1	2020	NAVY	565	0	565																		A -	-	-	-	-	-	-	565					
	1	2021	NAVY	515	0	515																											515			
1.2.1) Spike NLOS ⁽³⁾																																				
	2	2020	NAVY	3	0	3																A -	-	-	-	-	-	-	-	-	-	-	-	-	-	3
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1										P-1 Line Item Number / Title: 3017 / Anti-Armor Missile-TOW										Item Number / Title [DODIC]: 1 / ANTI ARMOR WEAPNS SYSTEM- HEAVY (AAWS-H)														
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2021										Fiscal Year 2022													BALANCE				
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021										Calendar Year 2022																	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP			
1.1.1) Guided Missiles ⁽¹⁾																																		
Prior Years Deliveries: 785																																		
	1	2017	NAVY	157	157	0																												0
	1	2018	NAVY	738	738	0																												0
✓	1	2018	NAVY	83	83	0																												0
	1	2019	NAVY	704	0	704																												-
	1	2020	NAVY	565	0	565	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	157	175	168	65	0							
	1	2021	NAVY	515	0	515	A -						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	515					
1.2.1) Spike NLOS ⁽³⁾																																		
	2	2020	NAVY	3	0	3	-	-	-	-	-	-	-	-	-	3																		0
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1										P-1 Line Item Number / Title: 3017 / Anti-Armor Missile-TOW										Item Number / Title [DODIC]: 1 / ANTI ARMOR WEAPNS SYSTEM- HEAVY (AAWS-H)														
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2023										Fiscal Year 2024													BALANCE				
O C C O	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			
1.1.1) Guided Missiles ⁽¹⁾																																		
Prior Years Deliveries: 785																																		
	1	2017	NAVY	157	157	0																												0
	1	2018	NAVY	738	738	0																												0
✓	1	2018	NAVY	83	83	0																												0
	1	2019	NAVY	704	704	0																												0
	1	2020	NAVY	565	565	0																												0
	1	2021	NAVY	515	0	515	-	-	-	-	-	-	150	150	148	67																		0
1.2.1) Spike NLOS ⁽³⁾																																		
	2	2020	NAVY	3	3	0																												0
																																		O C T

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Exhibit P-21, Production Schedule: PB 2021 Navy				Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1			P-1 Line Item Number / Title: 3017 / Anti-Armor Missile-TOW			Item Number / Title [DODIC]: 1 / ANTI ARMOR WEAPNS SYSTEM- HEAVY (AAWS-H)	

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Raytheon, Tucson AZ ⁽⁷⁾ - AMCOM, Redstone Arsenal, AL	2,100	7,200	16,800	3	2	16	18	3	2	16	18
2	Lockheed Martin, Dallas, TX ⁽¹⁰⁾ - Dallas, TX	1	3	5	0	0	11	11	0	0	0	0

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

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

Footnotes:

⁽⁷⁾ Raytheon in Tucson, Arizona is currently the only industry source that is both equipped and qualified to produce TOW missiles. Procuring Contracting Office (PCO) location is the Aviation and Missile Command (AMCOM) Redstone Arsenal, Alabama. Funded Sole Source (SS) / Fixed Price Incentive Fee (FPIF). Multi-year contracts do not follow the Administrative Lead Time (ALT) shown for annual year contracts.

⁽¹⁰⁾ Lockheed Martin in Dallas, Texas is the manufacturing source for the FY 2020 Spike NLOS missile systems required for MARSOC.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 03: Guided missiles and equipment / BSA 1: Guided Missiles							P-1 Line Item Number / Title: 3025 / Guided MLRS Rocket (GMLRS)					
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: 260												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	312	952	120	1,072	398	703	645	784	-	3,914
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	0.000	44.765	133.689	17.456	151.145	61.045	108.452	110.352	122.746	-	598.505
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	0.000	44.765	133.689	17.456	151.145	61.045	108.452	110.352	122.746	-	598.505
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	0.000	44.765	133.689	17.456	151.145	61.045	108.452	110.352	122.746	-	598.505
<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 Dollars</i>)	-	-	141,884.62	140,429.62	145,466.67	140,993.47	153,379.40	154,270.27	171,088.37	156,563.78	-	152,786.92
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	143,477.56	140,429.62	145,466.67	140,993.47	153,379.40	154,270.27	171,088.37	156,563.78	-	152,913.90
Description: Guided Multiple Launch Rocket System (GMLRS) rockets are surface-to-surface artillery rockets fired from the High Mobility Artillery Rocket System (HIMARS) launchers. GMLRS rockets provide 24/7, all-weather precision fires to engage both area and point targets at short, medium, and long ranges. In order to align with the National Defense Strategy and continuously deliver performance with affordability and speed, the Marine Corps procures its GMLRS rockets in concert with Army via the Precision Fires Rocket and Missile project office. The GMLRS program is critical to sustaining a Joint Force military advantage and maintaining a favorable regional balance of power in the theaters in which HIMARS deploys. There are three variants of the GMLRS; Unitary (U); Alternative Warhead (AW); and Dual Purpose Improved Conventional Munition (DPICM). GMLRS-U utilizes a 200-pound high explosive warhead to engage point targets with limited collateral damage. GMLRS-AW was developed as a non-cluster munition replacement for DPICM that is used to engage area and imprecisely located targets. The GMLRS-AW rocket is 90% common with the Unitary variant. GMLRS-U and GMLRS-AW are currently in full rate production.												
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025		
Navy	Quantity	-	294	930	120	1,050	377	682	626	765		
	Total Obligation Authority	-	41.637	130.495	17.456	147.951	57.807	105.126	106.959	119.285		
NR	Quantity	-	18	22	-	22	21	21	19	19		
	Total Obligation Authority	-	3.128	3.194	-	3.194	3.238	3.326	3.393	3.461		
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-		
	Total Obligation Authority	-	44.765	133.689	17.456	151.145	61.045	108.452	110.352	122.746		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 03: Guided missiles and equipment / BSA 1: Guided Missiles						P-1 Line Item Number / Title: 3025 / Guided MLRS Rocket (GMLRS)				
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: 260										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Guided MLRS Rocket (GMLRS)	P-5a, P-21			- / 0.000	- / 0.000	312 / 44.765	952 / 133.689	120 / 17.456	1,072 / 151.145
P-40	Total Gross/Weapon System Cost				- / 0.000	- / 0.000	312 / 44.765	952 / 133.689	120 / 17.456	1,072 / 151.145
*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: Prior to FY 2020 Guided Multiple Launch Rocket System (GMLRS) was budgeted out of the Artillery Weapons System (HIMARS) line item. (LI:2212) GMLRS costs are driven by total U.S. Army, Marine Corps, and Foreign Military Sales (FMS) buys and follows a buy-to-budget procurement approach. FY 2020: \$27.846M (\$24.718M Active; Reserves \$3.128M) FY 2020 funding will support the procurement of GMLRS Alternative Warhead (AW) for active and reserve components (Active Quantity: 174, Reserves Quantity: 18). Tactical GMLRS Hardware unit costs are dependent on total quantities negotiated by the Army Contracting Command-Redstone with Lockheed Martin and procured for the Army, Marine Corps and Foreign Military Sales (FMS) organizations. FY 2021 Baseline Appropriation Request: \$133.689M (\$130.495M Active; Reserves \$3.194M) FY 2021 Baseline funding will support the procurement of GMLRS Alternative Warhead (AW) for active and reserve components (Active Quantity: 930, Reserves Quantity: 22). The Marine Corps does not have sufficient GMLRS inventory to address it's designated operational requirements to service longer range targets with minimal collateral damage. The baseline increase of \$105.843M from FY2020 to FY2021 supports the build up of missile capacity to address this shortfall including a realignment from 155mm DPICM replacement procurement to GMLRS-AW procurement in order to achieve minimum GMLRS-AW global inventory levels. These increases are in alignment with the Commandant's Planning Guidance and the National Defense Strategy. Tactical GMLRS Hardware unit costs are dependent on total quantities negotiated by the Army Contracting Command-Redstone with Lockheed Martin and procured for the Army, Marine Corps and Foreign Military Sales (FMS) organizations. The Marine Corps Tactical GMLRS Hardware unit cost does not include the Reduced Range Practice Rocket. OCO: FY 2020 OCO: \$16.919M Funds will support the replenishment of 120 GMLRS munitions expended in efforts involving contingency operations, Operation Freedom's Sentinel-Afghanistan (OFS-A). FY 2021 OCO Appropriation Request: \$17.456M Funds will support the replenishment of 120 GMLRS munitions expended in efforts involving contingency operations, Operation Freedom's Sentinel-Afghanistan (OFS-A).										

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Exhibit P-5, Cost Analysis: PB 2021 Navy												Date: February 2020						
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1						P-1 Line Item Number / Title: 3025 / Guided MLRS Rocket (GMLRS)						Item Number / Title [DODIC]: 1 / Guided MLRS Rocket (GMLRS)						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		312		952		120		1,072				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				0.000		0.000		44.765		133.689		17.456		151.145				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				0.000		0.000		44.765		133.689		17.456		151.145				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				0.000		0.000		44.765		133.689		17.456		151.145				
(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 Dollars)</i>				-		-		143,477.56		140,429.62		145,466.67		140,993.47				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
1.1.1) Production Engineering Support (Reserves)	-	-	-	-	-	-	-	-	0.109	-	-	-	-	-	-	-	-	-
1.1.2) Tactical GMLRS Hardware ^(†) (1)	-	-	-	-	-	-	139,046.00	294	40.880	139,284.00	930	129.534	139,245.00	120	16.709	139,279.05	1,050	146.243
1.1.3) Tactical GMLRS Hardware (Reserves) ^(†) (2)	-	-	-	-	-	-	139,046.00	18	2.503	139,284.00	22	3.064	-	-	-	139,284.00	22	3.064
1.1.4) First Destination Transport	-	-	-	-	-	-	-	-	0.277	-	-	0.821	-	-	0.145	-	-	0.966
1.1.5) Production Engineering Support	-	-	-	-	-	-	-	-	0.499	-	-	0.270	-	-	0.602	-	-	0.872
Subtotal: Recurring Cost	-	-	-	-	-	-	-	-	44.268	-	-	133.689	-	-	17.456	-	-	151.145
Subtotal: Flyaway Cost	-	-	-	-	-	-	-	-	44.268	-	-	133.689	-	-	17.456	-	-	151.145
Support Cost																		
2.1) Government Management	-	-	-	-	-	-	-	-	0.497	-	-	-	-	-	-	-	-	-
Subtotal: Support Cost	-	-	-	-	-	-	-	-	0.497	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	0.000	-	-	0.000	143,477.56	312	44.765	140,429.62	952	133.689	145,466.67	120	17.456	140,993.47	1,072	151.145
(†) indicates the presence of a P-5a																		

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Exhibit P-5, Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1	P-1 Line Item Number / Title: 3025 / Guided MLRS Rocket (GMLRS)	Item Number / Title [DODIC]: 1 / Guided MLRS Rocket (GMLRS)
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
Footnotes: (1) The unit cost and quantity for FY21 is an estimate from the Army based on GMLRS variant type, quantity, and total dollars identified from all services procuring GMLRS. This includes the Marine Corps, Army and five FMS countries. The actual unit cost will be determined upon contract award. These increases are in alignment with the Commandant's Planning Guidance and the National Defense Strategy. (2) The unit cost and quantity for FY21 is an estimate from the Army based on GMLRS variant type, quantity, and total dollars identified from all services procuring GMLRS. This includes the Marine Corps, Army and five FMS countries. The actual unit cost will be determined upon contract award. These increases are in alignment with the Commandant's Planning Guidance and the National Defense Strategy.		

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1			P-1 Line Item Number / Title: 3025 / Guided MLRS Rocket (GMLRS)						Item Number / Title [DODIC]: 1 / Guided MLRS Rocket (GMLRS)			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.2) Tactical GMLRS Hardware ^(†)		2020	Lockheed Martin / Dallas, TX	SS / FPIF	Aviationand Missile Command	Feb 2020	Sep 2022	174	139,046.00	N	Feb 2021	Feb 2019
1.1.2) Tactical GMLRS Hardware ^(†)	✓	2020	Lockheed Martin / Dallas, TX	SS / FPIF	Aviationand Missile Command	Feb 2020	Sep 2022	120	139,046.00	N	Feb 2021	Feb 2019
1.1.2) Tactical GMLRS Hardware ^(†)		2021 ⁽³⁾	Lockheed Martin / Dallas, TX	SS / FPIF	Aviation and Missile Cmd	Feb 2021	Aug 2023	930	139,284.00	N	Feb 2022	Feb 2020
1.1.2) Tactical GMLRS Hardware ^(†)	✓	2021	Lockheed Martin / Dallas, TX	SS / FPIF	Aviation and Missile Cmd	Oct 2020	Apr 2023	120	139,245.00	N	Feb 2022	Feb 2020
1.1.3) Tactical GMLRS Hardware (Reserves) ^(†)		2020	Lockheed Martin / Dallas, TX	SS / FPIF	Aviation and Missile Cmd	Feb 2020	May 2021	18	139,046.00	N	Feb 2019	Feb 2019
1.1.3) Tactical GMLRS Hardware (Reserves) ^(†)		2021	Lockheed Martin / Dallas, TX	SS / FPIF	Aviation and Missile Cmd	Feb 2021	May 2022	22	139,284.00	N	Feb 2020	

^(†) indicates the presence of a P-21

Footnotes:

⁽³⁾ Lockheed Martin is currently the industry source that is both facilitized and qualified to produce GMLRS rocket. FY21 annual production contract will be a base year contract with multiple option years.

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020										
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1										P-1 Line Item Number / Title: 3025 / Guided MLRS Rocket (GMLRS)										Item Number / Title [DODIC]: 1 / Guided MLRS Rocket (GMLRS)										
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2020										Fiscal Year 2021													BALANCE
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020										Calendar Year 2021													
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	
1.1.2) Tactical GMLRS Hardware ⁽¹⁾																														
	1	2020	NAVY	174	0	174					A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	174
✓	1	2020	NAVY	120	0	120					A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120
	1	2021	NAVY	930	0	930																A -	-	-	-	-	-	-	-	930
✓	1	2021	NAVY	120	0	120										A -	-	-	-	-	-	-	-	-	-	-	-	-	-	120
1.1.3) Tactical GMLRS Hardware (Reserves) ⁽²⁾																														
	2	2020	NAVY	18	0	18					A -	-	-	-	-	-	-	-	-	-	-	-	-	-	9	9				0
	2	2021	NAVY	22	0	22																A -	-	-	-	-	-	-	-	22
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020													
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1										P-1 Line Item Number / Title: 3025 / Guided MLRS Rocket (GMLRS)										Item Number / Title [DODIC]: 1 / Guided MLRS Rocket (GMLRS)													
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2022												Fiscal Year 2023												BALANCE		
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022												Calendar Year 2023														
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
1.1.2) Tactical GMLRS Hardware ⁽¹⁾																																	
	1	2020	NAVY	174	0	174	-	-	-	-	-	-	-	-	-	-	16	16	16	16	16	16	16	16	16	16	15	15			0		
✓	1	2020	NAVY	120	0	120	-	-	-	-	-	-	-	-	-	-	11	11	11	11	11	11	11	11	11	11	11	10			0		
	1	2021	NAVY	930	0	930	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	78	774		
✓	1	2021	NAVY	120	0	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	10	10	10	10	10	60		
1.1.3) Tactical GMLRS Hardware (Reserves) ⁽²⁾																																	
	2	2020	NAVY	18	18	0																											0
	2	2021	NAVY	22	0	22	-	-	-	-	-	-	-	10	10	2																	0
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020												
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1										P-1 Line Item Number / Title: 3025 / Guided MLRS Rocket (GMLRS)										Item Number / Title [DODIC]: 1 / Guided MLRS Rocket (GMLRS)												
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2024										Fiscal Year 2025													BALANCE		
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2023	BAL DUE AS OF 1 OCT	Calendar Year 2024										Calendar Year 2025															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P	
1.1.2) Tactical GMLRS Hardware ⁽¹⁾																																
	1	2020	NAVY	174	174	0																										0
✓	1	2020	NAVY	120	120	0																										0
	1	2021	NAVY	930	156	774	78	78	78	78	78	78	78	78	76	74																0
✓	1	2021	NAVY	120	60	60	10	10	10	10	10	10																				0
1.1.3) Tactical GMLRS Hardware (Reserves) ⁽²⁾																																
	2	2020	NAVY	18	18	0																										0
	2	2021	NAVY	22	22	0																										0
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		

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Exhibit P-21, Production Schedule: PB 2021 Navy									Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 03 / 1					P-1 Line Item Number / Title: 3025 / Guided MLRS Rocket (GMLRS)					Item Number / Title [DODIC]: 1 / Guided MLRS Rocket (GMLRS)			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)								
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder				
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	
1	Lockheed Martin - Dallas, TX	2,160	10,002	10,002	0	2	16	18	0	5	15	20	
2	Lockheed Martin - Dallas, TX			600	0	0	0	0	0	0	0	0	

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

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

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 4: Command and Control Systems							P-1 Line Item Number / Title: 4644 / Common Aviation Command and Control System (CAC2S)					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A				Other Related Program Elements: 0206313M, 0206335M					
Line Item MDAP/MAIS Code: N36												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	129.666	32.587	30.812	35.057	0.000	35.057	18.585	22.092	20.415	23.463	-	312.677
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	129.666	32.587	30.812	35.057	0.000	35.057	18.585	22.092	20.415	23.463	-	312.677
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	129.666	32.587	30.812	35.057	0.000	35.057	18.585	22.092	20.415	23.463	-	312.677
<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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: Common Aviation Command and Control System (CAC2S) - A coordinated modernization effort to replace the existing aviation command and control equipment of the Marine Air Command and Control System (MACCS) and to provide the Aviation Combat Element (ACE) with the necessary hardware, software, equipment, and facilities to effectively command, control, and coordinate aviation operations. The CAC2S system will accomplish the MACCS missions with a suite of operationally scalable modules to support the Marine Air Ground Task Force (MAGTF), Joint, and Coalition Forces. The CAC2S integrates the functions of aviation command and control into an interoperable system that will support the core competencies of all Marine Corps warfighting concepts. The CAC2S, in conjunction with the MACCS organic sensors (AN/TPS-63, AN/TPS-59, and AN/TPS-80 (Ground/Air Task Oriented Radar (G/ATOR)) and weapon system Composite Tracking Network (CTN) will provide enhanced air control, improved situational awareness, sensor integration (G/ATOR and AN/TPS-59), full Tactical Data Link integration, airspace and battle planning and command functionality as well as sensor netting integration (Composite Tracking Network (CTN)). CAC2S, with these organic MACCS programs, support the tenets of Expeditionary Maneuver Warfare and fosters joint interoperability. CAC2S Increment I replaces legacy aviation command and control systems in the following Marine aviation agencies: Direct Air Support Center (DASC), Tactical Air Command Center (TACC), and Tactical Air Operations Center (TAOC).												

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 4: Command and Control Systems						P-1 Line Item Number / Title: 4644 / Common Aviation Command and Control System (CAC2S)				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A			Other Related Program Elements: 0206313M, 0206335M			
Line Item MDAP/MAIS Code: N36										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Common Aviation Command and Control System (CAC2S)	P-5a			- / 129.666	- / 32.587	- / 30.812	- / 35.057	- / 0.000	- / 35.057
P-40	Total Gross/Weapon System Cost				- / 129.666	- / 32.587	- / 30.812	- / 35.057	- / 0.000	- / 35.057
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
Justification: FY 2019 (\$32.587M): Funds procured tactical voice/data radios associated with the CAC2S MRQ-13 Communications System (CS) refresh/upgrade. The CS was originally fielded in FY 2006 and has been sustained and repurposed to provide CAC2S operators access to tactical radios required to communicate with aircraft and external agencies. The CS is a High Mobility Multipurpose Wheeled Vehicle (HMMWV) mounted shelter containing voice over internet protocol (VoIP) networking/intercom components and tactical radios that enables remote communications access and control from laptop computers within the CAC2S operations facility/tent. The seventy-seven (77) CS vehicles associated with CAC2S currently retain 2006 era radios. These obsolete radios must be replaced to meet NSA crypto modernization mandates and enable CAC2S to maintain voice/data interoperability with joint forces. FY 2019 funds made available through the FY 2018 Should Cost initiative allowed accelerated procurement of tactical radios for the CS refresh/upgrade to occur beginning 1 year ahead of schedule. Accelerated procurement of the tactical radios increases CS interoperability, reliability and sustainability and enable CAC2S to meet NSA crypto modernization mandates as the legacy/obsolete CS radios and networking components are replaced with modern, readily supportable communications equipment. All required AN/PRC-160 radios were procured to support all 77 CS units, and 47% of the required AN/PRC-158 radios were procured which will enable the program to outfit 36 CS units. The FY 2019 budget also supports the procurement of the Multi-function Information Distribution System (MIDS) Block II upgrade required to comply with DoD frequency remapping and NSA crypto modernization mandates by FY 2020. FY 2020 (\$30.812M): In FY 2020, CAC2S will continue with the procurement of radios and voice networking/intercom components associated with the AN/MRQ-13 Communications System (CS) refresh/upgrade. The CS upgrade/refresh consists of the procurement of 2 variants of tactical radios and radio auxiliary support equipment, and various voice networking/intercom components which will replace the current obsolete voice/data communications components with modernized equipment that is more reliable, readily supportable and cyber-secure. In FY 2020, CAC2S will procure all required AN/PRC-158 Radios to upgrade all quantity 77 AN/MRQ-13 CS units. The funding will also be utilized to initiate the procurement of voice over internet protocol (VoIP) networking/intercom components and continue to procure auxiliary radio support equipment. Funding in FY 2020 will also continue to support AN/TSQ-297 CAC2S Full Deployment Unit (FDU) fielding and associated, on-site new equipment training (NET) that is provided with CAC2S deliveries to the operating forces. Supports installation of engineering changes that require integration upon initial delivery of the production systems. FY 2021 Base Appropriation (\$35.057M): Funds will complete the procurement of the CAC2S MRQ-13 Communications System (CS) refresh/upgrade. FY 2021 funding will continue the procurement of the required voice over internet protocol (VoIP) networking/intercom components and radio auxiliary support equipment required to interface with the tactical radios. These upgraded CS units will provide CAC2S improved voice/data networks and interoperability with joint forces and will eliminate obsolescence issues associated with the legacy VoIP components. FY 2021 was increased by \$2.006M from the FY 2020 request to the FY 2021 request. This will support the integration of the CS voice communications components.										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 4: Command and Control Systems		P-1 Line Item Number / Title: 4644 / Common Aviation Command and Control System (CAC2S)
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0206335M
Line Item MDAP/MAIS Code: N36		
The \$4.245M increase from FY 2020 to FY 2021 is to support the procurement of voice communications components and voice over internet protocol (VoIP) networking/intercom components required to complete the refresh/upgrade of the AN/MRQ-13 CS.		

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Exhibit P-5, Cost Analysis: PB 2021 Navy													Date: February 2020								
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 4							P-1 Line Item Number / Title: 4644 / Common Aviation Command and Control System (CAC2S)						Item Number / Title [DODIC]: 1 / Common Aviation Command and Control System (CAC2S)								
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
Procurement Quantity (Units in Each)				-			-			-			-			-			-		
Gross/Weapon System Cost (\$ in Millions)				129.666			32.587			30.812			35.057			0.000			35.057		
Less PY Advance Procurement (\$ in Millions)				-			-			-			-			-			-		
Net Procurement (P-1) (\$ in Millions)				129.666			32.587			30.812			35.057			0.000			35.057		
Plus CY Advance Procurement (\$ in Millions)				-			-			-			-			-			-		
Total Obligation Authority (\$ in Millions)				129.666			32.587			30.812			35.057			0.000			35.057		
(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 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 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 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)		
Flyaway Cost																					
Recurring Cost																					
1.1.1) Limited Deployment Unit (LDU)(†)		2,422K	8	19.377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1.1.2) LDU (Reserve)(†)		2,158K	1	2.158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1.1.3) Full Deployment Unit (FDU) AN/ TSQ-297(V)1 Variant(†) (1)		1,634K	31	50.664	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1.1.4) Full Deployment Unit (FDU) AN/ TSQ-297(V)2 Variant(†) (2)		2,725K	3	8.175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1.1.5) Full Deployment Unit (FDU) AN/ TSQ-297(V)3 Variant(†) (3)		1,530K	7	10.707	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1.1.7) ECP Production		-	-	4.383	-	-	1.671	-	-	-	-	-	-	-	-	-	-	-	-		
Subtotal: Recurring Cost		-	-	95.464	-	-	1.671	-	-	-	-	-	-	-	-	-	-	-	-		
Non Recurring Cost																					
1.2.1) LDU Refurbishment		-	-	1.127	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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Exhibit P-5, Cost Analysis: PB 2021 Navy												Date: February 2020						
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 4						P-1 Line Item Number / Title: 4644 / Common Aviation Command and Control System (CAC2S)						Item Number / Title [DODIC]: 1 / Common Aviation Command and Control System (CAC2S)						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$)	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)
1.2.2) AN/MRQ-13 Communications Subsystem Upgrade (4)	-	-	-	-	-	18.816	-	-	25.481	-	-	35.057	-	-	-	-	-	35.057
Subtotal: Non Recurring Cost	-	-	1.127	-	-	18.816	-	-	25.481	-	-	35.057	-	-	-	-	-	35.057
Subtotal: Flyaway Cost	-	-	96.591	-	-	20.487	-	-	25.481	-	-	35.057	-	-	-	-	-	35.057
Hardware Cost																		
Recurring Cost																		
2.1.1) Army-Navy/ Portable Radio Communication 117G (AN/PRC 117G)	-	-	0.804	-	-	0.218	-	-	-	-	-	-	-	-	-	-	-	-
2.1.2) GPS - MPE-S (See ACRN defined in P5 Remarks) (5)	-	-	0.025	-	-	0.009	-	-	-	-	-	-	-	-	-	-	-	-
2.1.3) MIDS Block II Crypto Modernization (6)	-	-	-	-	-	0.811	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	0.829	-	-	1.038	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware Cost	-	-	0.829	-	-	1.038	-	-	-	-	-	-	-	-	-	-	-	-
Support Cost																		
3.1) Production Support	-	-	6.053	-	-	1.580	-	-	-	-	-	-	-	-	-	-	-	-
3.2) Engineering/Fielding Support (7)	-	-	7.414	-	-	3.965	-	-	2.798	-	-	-	-	-	-	-	-	-
3.3) Common Software Baseline	-	-	8.311	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.4) Program Acquisition Support	-	-	2.279	-	-	1.680	-	-	-	-	-	-	-	-	-	-	-	-
3.5) New Equipment Training (NET) (8)	-	-	8.189	-	-	3.837	-	-	2.533	-	-	-	-	-	-	-	-	-
Subtotal: Support Cost	-	-	32.246	-	-	11.062	-	-	5.331	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	129.666	-	-	32.587	-	-	30.812	-	-	35.057	-	-	0.000	-	-	35.057
(†) indicates the presence of a P-5a																		
Footnotes:																		

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Exhibit P-5, Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 4	P-1 Line Item Number / Title: 4644 / Common Aviation Command and Control System (CAC2S)	Item Number / Title [DODIC]: 1 / Common Aviation Command and Control System (CAC2S)
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
(1) The CAC2S (V)1 variant is fielded to Tactical Air Operations Centers (TAOC), Early Warning & Control (E/WC) detachments and Direct Air Support Centers (DASC) agencies. (2) The AN/TSQ-297(V)2 variant is equipped with a tent-based operations facility providing 176 operator workstations. The CAC2S (V)2 variant is fielded to each Marine Aircraft Wing's Tactical Air Command Center (TACC). (3) The AN/TSQ-297(V)3 variant is operationally the same as the (V)1 variant, but is not equipped with tactical vehicles and tents. The CAC2S (V)3 variant is fielded to the supporting establishment and Military Occupational Specialty producing schools. (4) The CS upgrade/refresh consists of 2 variants of tactical radios, voice over internet protocol (VoIP) networking/intercom components, and radio auxiliary support equipment. The CS upgrade replaces 2006 era, obsolete voice/data communications components with modernized equipment that is more reliable, readily supportable and cyber-secure, enabling integration with CAC2S networks and interoperability with joint forces. The AN/MRQ-13 CS refresh/upgrade components improve CS interoperability, reliability, and sustainability while enabling CAC2S to meet NSA crypto modernization mandates as the legacy/obsolete CS radios and networking components are replaced with modern, readily supportable communications equipment. FY20 funding will complete the procurement of all required AN/PRC 158 Radio Support Equipment and AN/PRC-158 Radios to upgrade all seventy-seven (77) AN/MRQ-13 CS units. The \$9.576M increase from FY 2020 to FY 2021 supports the procurement of voice communications components and voice over internet protocol (VoIP) networking/intercom components required to complete the refresh/upgrade of the seventy-seven (77) CS vehicles. (5) Global Positioning System - Miniature Precision Lightweight GPS Receiver (PLGR) Engine - Selective Availability Anti-spoofing Module (SAASM) (GPS - MPE-S). (6) MIDS radios provide the primary means to exchange Tactical Data Link (TDL-J) air battlespace information among joint and coalition aviation command and control agencies and aircraft. (7) A reduction of \$2.798M from FY 2020 to FY 2021 is due to the completion of fielding of all CAC2S Full Deployment Units (FDUs) in FY 2020. (8) A reduction of \$2.533M from FY 2020 to FY 2021 is due to the completion of NET in FY 2020 as result of the AN/TSQ-297 CAC2S FDU being fully fielded in FY 2021.		

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy								Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 4				P-1 Line Item Number / Title: 4644 / Common Aviation Command and Control System (CAC2S)				Item Number / Title [DODIC]: 1 / Common Aviation Command and Control System (CAC2S)				

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) Limited Deployment Unit (LDU)		2016 ⁽⁹⁾	General Dynamics / Scottsdale, AZ	C / FFP	MCSC, Quantico, VA	Jun 2016	Jun 2017	4	2,158K	Y		Feb 2012
1.1.2) LDU (Reserve)		2016	General Dynamics / Scottsdale, AZ	C / FFP	MCSC, Quantico, VA	Apr 2016	Apr 2017	1	2,158K	Y		Feb 2012
1.1.3) Full Deployment Unit (FDU) AN/TSQ-297(V)1 Variant		2017	General Dynamics / Scottsdale, AZ	C / FFP	MCSC, Quantico, VA	Aug 2017	Aug 2018	10	1,622K	Y		Oct 2016
1.1.3) Full Deployment Unit (FDU) AN/TSQ-297(V)1 Variant		2018	General Dynamics / Scottsdale, AZ	C / FFP	MCSC, Quantico, MCSC, Quantico, VA	May 2018	Feb 2019	21	1,640K	Y		Oct 2016
1.1.4) Full Deployment Unit (FDU) AN/TSQ-297(V)2 Variant		2017	General Dynamics / Scottsdale, AZ	C / FFP	Quantico, VA	Aug 2017	Aug 2018	3	2,725K	Y		Oct 2016
1.1.5) Full Deployment Unit (FDU) AN/TSQ-297(V)3 Variant		2017	General Dynamics / Scottsdale, AZ	C / FFP	Quantico, VA	Aug 2017	Aug 2018	7	1,530K	Y		Oct 2016

Footnotes:

⁽⁹⁾ Total System AAO = 50 as reflected on the P5. 4 PY refurbished assets not reflected on P5a.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 7: Repair and Test Equipment							P-1 Line Item Number / Title: 4181 / Repair and Test Equipment					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0206313M, 0206624M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity <i>(Units in Each)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	286.829	45.446	55.156	24.405	0.000	24.405	34.554	31.937	32.670	53.497	-	564.494
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	286.829	45.446	55.156	24.405	0.000	24.405	34.554	31.937	32.670	53.497	-	564.494
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	286.829	45.446	55.156	24.405	0.000	24.405	34.554	31.937	32.670	53.497	-	564.494
<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>	-	0.174	0.178	0.180	-	0.180	0.184	0.189	0.194	0.198	Continuing	Continuing
Flyaway Unit Cost <i>(\$ in Dollars)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Description: Repair and Test Equipment Budget Line Item provides repair and test equipment consisting of more than 200 different items required to support the operation and maintenance of USMC ground based weapon systems and major end items. Repair and test equipment includes items such as tool kits, shop sets, manual and automatic test equipment, as well as meteorology and calibration equipment. The following acquisition programs fall under the repair and test equipment budget line: General Purpose Tools and Test Systems (GPT&TS); Automatic Test Systems (ATS), Calibration and Maintenance Program (CAMP), and Marine Air-Ground Task Force (MAGTF) Logistics Support Systems (MLS2).												

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 7: Repair and Test Equipment					P-1 Line Item Number / Title: 4181 / Repair and Test Equipment					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A				Other Related Program Elements: 0206313M, 0206624M			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Repair and Test Equipment	P-5a, P-21			- / 286.829	- / 45.446	- / 55.156	- / 24.405	- / -	- / 24.405
P-40	Total Gross/Weapon System Cost				- / 286.829	- / 45.446	- / 55.156	- / 24.405	- / 0.000	- / 24.405
*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 2019: \$45.446M (ACTIVE:\$45.446M, RESERVE:\$0.000M)

General Purpose Tools and Test Systems (GPT&TS) \$13.329M: The GPT&TS budget procured a wide variety of portable tool kits, large tool shop sets (mounted on vehicles or trailers or contained within 20-ft shelters), handheld electronic test equipment, handheld mechanical test equipment, and large mechanical test equipment contained in shelters or buildings. All of these items are commercial off the shelf or modified commercial off the shelf type equipment that are required to support the field maintenance effort of USMC ground equipment and weapon systems located within USMC expeditionary battalions and squadrons. FY19 funding includes the procurement of a new technology of Additive Manufacturing (also known as 3D printing) to enhance our existing fabrication capability using fielded machine shops. FY19 funding procured portable electronic test sets such as Radio Test Sets, Microwave Radio and Radar Test Sets, Microwave Signal Generators, Data Network Testers. The Microwave Signal Generators and Data Network Testers were added to the FY19 effort due to urgent need to support readiness issues with microwave radios such as Very Small Aperture Terminal(VSAT). Microwave Radio Test Set unit price change on contract awarded September 2019 reflects increase in required capability (frequency range doubled, digital test types quadrupled, etc.) to keep pace with the latest generation of SATCOM systems this equipment supports. FY19 funding from Fluid Analyzers was redirected to critical priority Microwave Comm and Radar Test Set program (Cost Element 2.4). FY19 funding provided for test routines for large mechanical test stands and associated equipment necessary to test vehicle components. In addition, funding procured engineering, logistics, system software support, and cyber security efforts for the entire portfolio of GPT&TS items.

Automatic Test Systems (ATS) \$9.748M: Funding supported procurement of the Circuit Card Assembly (CCA) Test Station modernized replacement system as well as Engineer Change Proposal (ECP) kits to enhance capability and mitigate against obsolescence for the General Purpose Automatic Test System (GPATS), Technical Manual publication, and Application Program Sets (APS) production that enable ATS to test multiple Marine Corps ground systems, such as the VSAT APS. ATS consists of both hardware and software components that provide mobile and automatic testing on Line Replaceable Units (LRU) and CCA in order to improve weapon system readiness, provide an organic maintenance solution, and decrease life cycle costs.

Calibration and Maintenance Program (CAMP) \$11.916M: Funding procured two lightened Shop Equipment, Calibration (SEC), previously known as Expeditionary Calibration Facilities. These shops are designed for expeditionary deployments and use in austere environments to support MAGTF deployed operations and will provide warfighters with a lighter, smaller expeditionary calibration capability. Funding will also procure various calibration equipment. Various calibration equipment must be replaced/upgraded over time in order to support and calibrate all the different test equipment used by various maintenance personnel working on USMC ground military equipment.

MAGTF Logistics Support Systems (MLS2) \$10.453M: Funding procured Electronic Maintenance Support Systems (EMSS) to address AAO shortfalls. FY19 funding procured items such as Commercial Off-The-Shelf (COTS) equipment, operating software that comprises the EMSS and technical support. EMSS includes Built-In-Test/Built- In-Test Equipment (BIT/BITE) interfaces and Software Defined Test Instrument (SDTI) that enables capabilities such as storing and viewing Interactive Electronic Technical Manuals (IETMs), Computer Based Training (CBT), and other maintenance applications. EMSS also

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 7: Repair and Test Equipment		P-1 Line Item Number / Title: 4181 / Repair and Test Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0206624M
Line Item MDAP/MAIS Code: N/A		
has the capability to connect to the Marine Corps Enterprise Network (MCEN) and access sites like Global Combat Support System - Marine Corps (GCSS-MC) in order to facilitate maintenance and supply transactions, thereby improving readiness. EMSS connected to the MCEN were demonstrated to provide maintainers a time savings of upwards of 15% per task and 40 minutes per day based on their average workload. Electronic Maintenance Device (EMD) hardware was broken into two separate cost elements, "EMD Hardware" and "EMD Hardware CF20". This reflects two separate procurements off of two separate USMC contracts. The EMD acquisition strategy was updated for FY19 and FY20 procurements due to an Army contract protest. As a result of the current Army contract protest, "EMD Hardware" was procured off an existing in-house blanket purchase agreement (BPA) contract, and "EMD Hardware CF20" was procured off a new in-house BPA that awarded 4QFY19. The EMD acquisition strategy change allowed the USMC to field additional systems sooner in order to reduce AAO shortages and improve maintenance capabilities for ground weapon systems. FY19 EMSS Hardware CF20 unit cost and quantities have been updated to reflect contract award that occurred 4QFY19 which allowed the program to procure additional quantities. Operating software is no longer required due to a USMC enterprise transition from an end-device subscription model to an end-user subscription model. Funding re-directed to fund additional technical support requirements (See Cost Element 1.3 for details). FY 2020: \$55.156M (ACTIVE:\$55.156M, RESERVE:\$0M) General Purpose Tools and Test Systems (GPT&TS) \$23.753M: The GPT&TS budget procures a wide variety of portable tool kits, large tool shop sets (mounted on vehicles or trailers or contained within 20ft shelters), handheld electronic test equipment, handheld mechanical test equipment, and large mechanical test equipment contained in shelters or buildings. All of these items are commercial off the shelf or modified commercial off the shelf type equipment that are required to support the field maintenance effort of USMC ground equipment and weapon systems located within USMC expeditionary battalions and squadrons. FY20 funding continues the procurement of the new expeditionary Additive Manufacturing (3D printing) machine shops and starts the procurement of the new Tactical Fabrication Kits for use at the Battalion level. The unit cost change to the Expeditionary Fabrication capability reflects advances in 3D printer technologies that now allow us to provide increased support to Explosive Ordnance Disposal (EOD) operations, necessitating increased cyber security and other capabilities (mills & lathes), and 1st article testing in addition to production. The \$10.424M increase from FY19 to FY20 is primarily a result of new Additive Manufacturing (3D printing) and Fire Bottle Refill Shop capabilities. This funding also addresses the need to continue procurement efforts of additional portable electronic test sets such as Microwave Comm and Radar Test Sets, Microwave Signal Generators, Data Network Testers, and increased quantities for the Fire Bottle Refill Shop (contained in a trailer mounted 20-ft container). Funding also procures items such as Fluid Analyzers, engine and transmission dynamometers and fuel test stands, as well as engineering, logistics, system software support, and cyber security efforts for the entire portfolio of GPT&TS items. Increased support in FY20 aligns to the procurement and fielding plan for equipment such as X-FAB, TACFAB and multiple test sets. The change between the FY19 request and the FY20 request for the Fluid Analysis Test Set, Tier I (formerly known as Operator Fluid Analysis Test Set) reflects unit cost increase to support the capability to test for metal particles at the operational level. Unit cost change for Fluid Analysis Test Set, Tier II (formerly known as Technicians Fluid Analysis Test Set) due to new cyber security requirements dictating new instrument controller and software. Automatic Test Systems (ATS) \$9.046M: Funding supports procurement of the Circuit Card Assembly (CCA) Test Station modernized replacement system as well as Engineer Change Proposal (ECP) modernization kits to the ATS Family of Systems such as General Purpose Automatic Test System (GPATS), Ground Radio Maintenance Automatic Test System (GRMATS), and Application Program Sets (APS). These ECPs will enhance organic maintenance capabilities and mitigate against obsolescence. ATS consists of both hardware and software components that provides mobile and automatic testing on Principle End Items (PEI), Line Replaceable Units (LRU), and Shop Repairable Units (SRU) in order to improve weapon system readiness, provide an organic maintenance solution, and decrease life cycle costs of supported weapon systems. The \$0.702M decrease from FY19 to FY20 aligns to the procurement plan for Automatic Test Equipment. Calibration and Maintenance Program (CAMP) \$11.817M: Funding procures two lightened Shop Equipment, Calibration (SEC), previously known as Expeditionary Calibration Facilities. These shops are designed for expeditionary deployments and use in austere environments to support MAGTF deployed operations. These shops will provide warfighters with a lighter, smaller, and expeditionary calibration capability. Funding will also procure various calibration equipment. Various calibration equipment, controllers (work stations), and software must be replaced/upgraded over time in order to support and calibrate all the different test equipment used by various maintenance personnel working on USMC ground military equipment. MAGTF Logistics Support Systems (MLS2) \$10.540M: Funding procures Electronic Maintenance Support Systems (EMSS) to address AAO shortfalls. FY20 funding will procure items such as Commercial Off-The-Shelf (COTS) equipment, operating software that comprises the EMSS, and technical support. EMSS will emulate and/or interface with test equipment and enables capabilities such as storing and viewing Interactive Electronic Technical Manuals (IETMs), Computer Based Training (CBT), and other maintenance applications. EMSS also has the capability to connect to the Marine Corps Enterprise Network (MCEN) and access sites like Global Combat Support System - Marine Corps (GCSS-MC) in order to facilitate maintenance and supply transactions thereby improving readiness. EMSS connected to the MCEN was demonstrated to provide maintainers a time savings of upwards of 15% per task and 40 minutes per day based on their average workload. Electronic Maintenance Device (EMD) hardware was broken into two separate cost elements, "EMD Hardware" and "EMD Hardware CF20". This reflects two separate procurements off of two separate USMC contracts. The EMD acquisition strategy was updated for FY19 and FY20 procurements due to an Army contract protest. As a result of the current Army contract protest, "EMD Hardware" was procured off an existing in-house blanket purchase agreement (BPA) contract,		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 7: Repair and Test Equipment		P-1 Line Item Number / Title: 4181 / Repair and Test Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0206624M
Line Item MDAP/MAIS Code: N/A		
and "EMD Hardware CF20" was procured off a new in-house BPA that will be awarded 4QFY19. The EMD acquisition strategy change allowed the USMC to field additional systems sooner in order to reduce AAO shortages and improve maintenance capabilities for ground weapon systems. FY20 EMSS Hardware CF20 unit cost and quantities have been updated to reflect contract award that occurred 4QFY19. Operating software is no longer required due to a USMC enterprise transition from an end-device subscription model to an end-user subscription model. Funding re-directed to additional technical support requirements (See Cost Element 1.3 for details). The technical support increase from FY19 to FY20 funds additional requirements such as technical support for increased EMD fielded quantities, cyber security requirements for network connected systems, enhanced diagnostic software, and to merge EMD and Vehicle Automate Diagnostic System (VADS) capabilities which will decrease system lifecycle costs and logistics footprint. FY 2021 Baseline Appropriation Request: \$24.405M (ACTIVE:\$24.405M, RESERVE:\$0M) General Purpose Tools and Test Systems (GPT&TS) \$4.609M: The \$19.144M decrease from FY20 to FY21 reflects completed procurements for portable electronic test sets such as Microwave Comm and Radar Test Sets, Microwave Signal Generators, Data Network Testers, engine and transmission dynamometers, fuel test stands, and aligns to the procurement plan for Fluid Analysis Test Sets and Hydraulic Component Testers as well as aligns to the procurement plan for X-FAB. FY21 funding continues the procurement of X-FAB Additive Manufacturing Shop (also known as 3D printing), TAC-FAB 3D printer kits, fire bottle refill shop, various test program sets, and fluid analyzers. FY21 funding will also procure engineering, logistics, system software support, and cyber security efforts for the entire portfolio of GPT&TS items. The GPT&TS budget will procure a variety of portable tool kits, large tool shop sets (mounted on vehicles or trailers or contained within 20ft shelters), handheld electronic test equipment, handheld mechanical test equipment, and large mechanical test equipment contained in shelters or buildings. All of these items are commercial off the shelf or modified commercial off the shelf type equipment that are required to support the field maintenance effort of USMC ground equipment and weapon systems. Automatic Test Systems (ATS) \$4.602M: The \$4.444M decrease from FY20 to FY21 aligns to the procurement plan for the CCA Test Station and to the reduced requirement for Automated Test Systems engineering, software and logistics support in FY21. Funding will support procurement of automatic test equipment such as the Circuit Card Assembly (CCA) Test Station modernized replacement system and Ground-Radio Hand-Held Organizational Systems Tester (GHOST), a portable radio tester for organization maintenance to test existing and future ground tactical radio systems, as well as Engineer Change Proposal (ECP) modernization kits to the ATS Family of Systems such as General Purpose Automatic Test System (GPATS), and Application Program Sets (APS). These ECPs will enhance organic maintenance capabilities and mitigate against obsolescence. ATS consists of both hardware and software components that provides mobile and automatic testing on Principle End Items (PEI), Line Replaceable Units (LRU), and Shop Repairable Units (SRU) in order to improve weapon system readiness, provide an organic maintenance solution, and decrease life cycle costs of supported weapon systems. Calibration and Maintenance Program (CAMP) \$2.861M: The \$8.956M decrease from FY20 to FY21 is a result of the completed procurement of two Shop Equipment, Calibration (SEC) shelter systems. Funding will procure various calibration equipment. Calibration equipment (standards) must be replaced/upgraded over time in order to support and calibrate all the different test equipment used by various maintenance personnel working on USMC ground military equipment. MAGTF Logistics Support Systems (MLS2) \$12.333M: The \$1.793M increase from FY20 to FY21 enables additional AAO shortfall purchases as well as technical support to include EMD fielded quantities, cyber security requirements for network connected systems, enhanced diagnostic software, and to merge EMD and Vehicle Automate Diagnostic System (VADS) capabilities which will decrease system lifecycle costs and logistics footprint. Funding will continue to procure Electronic Maintenance Support Systems (EMSS) to address AAO shortfalls as well as procure items such as Commercial Off-The-Shelf (COTS) equipment, operating software that comprises the EMSS, and technical support. EMSS will emulate and/or interface with test equipment and enables capabilities such as storing and viewing Interactive Electronic Technical Manuals (IETMs), Computer Based Training (CBT), and other maintenance applications. EMSS also has the capability to connect to the Marine Corps Enterprise Network (MCEN) and access sites like Global Combat Support System - Marine Corps (GCSS-MC) in order to facilitate maintenance and supply transactions thereby improving readiness. Funding in this line item has been reprioritized while ensuring the Marine Corps continues to evolve toward a Force that is aligned with the National Defense Strategy.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy																Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 7								P-1 Line Item Number / Title: 4181 / Repair and Test Equipment								Aggregated Items Title: Repair and Test Equipment					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total			
			Unit Cost (\$)	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)	
1) MAGTF Logistics Support Systems (MLS2)																					
1.1) EMD Hardware ^(†)	A		3,635.76	1,046	3.803	3,635.35	626	2.276	-	-	-	-	-	-	-	-	-	-	-	-	
1.2) EMD Hardware CF20 ^{(1)(†)}	A		-	-	-	3,612.11	1,890	6.827	3,611.00	1,962	7.085	3,611.00	2,405	8.684	-	-	-	3,611.00	2,405	8.684	
1.3) Technical Support	A		-	-	10.631	-	-	1.350	-	-	3.455	-	-	3.649	-	-	-	-	-	3.649	
Subtotal: 1) MAGTF Logistics Support Systems (MLS2)			-	-	14.434	-	-	10.453	-	-	10.540	-	-	12.333	-	-	-	-	-	12.333	
2) General Purpose Tools and Test Systems (GPT&TS)																					
2.1) X-FAB Additive Manufacturing Shop (3D Printers) ^{(2)(†)}	A		-	-	-	2,700K	1	2.700	1,442K	6	8.650	1,350K	1	1.350	-	-	-	1,350K	1	1.350	
2.3) Radio Test Set (3 GHz-Handheld) ^(†)	A		-	-	-	14,550.00	100	1.455	-	-	-	-	-	-	-	-	-	-	-	-	
2.4) Microwave Comm and Radar Test Set (Handheld) ^{(3)(†)}	A		-	-	-	79,319.00	51	4.045	77,581.00	13	1.009	-	-	-	-	-	-	-	-	-	
2.5) Fire Bottle Refill Shop ^{(4)(†)}	A		-	-	-	-	-	-	425,000.00	3	1.275	425,000.00	1	0.425	-	-	-	425,000.00	1	0.425	
2.6) Fuel Test Stand, Test Program Sets	A		-	-	2.532	-	-	0.741	-	-	0.250	-	-	0.050	-	-	-	-	-	0.050	
2.7) Dynamometer Test Stand - Test Program Sets	A		-	-	-	-	-	0.564	-	-	0.423	-	-	0.160	-	-	-	-	-	0.160	
2.8) Fluid Analysis Test Set-Tier I (previously Oper Fluid Analy Test Set) ^{(5)(†)}	A		-	-	-	-	-	-	60,000.00	34	2.040	60,000.00	1	0.060	-	-	-	60,000.00	1	0.060	
2.9) Fluid Analysis Test Set-Tier II (previously Tech Fluid Analy Test Set) ^{(6)(†)}	A		-	-	-	-	-	-	128,000.00	12	1.536	128,000.00	2	0.256	-	-	-	128,000.00	2	0.256	
2.10) Microwave Signal Generator ^(†)	A		-	-	-	17,394.00	30	0.522	17,394.00	10	0.174	-	-	-	-	-	-	-	-	-	
2.11) Data Network Tester ^(†)	A		-	-	-	18,760.00	20	0.375	18,760.00	15	0.281	-	-	-	-	-	-	-	-	-	
2.12) Expeditionary Fuel Test Shop ^(†)	A		890,000.00	1	0.890	-	-	-	890,000.00	1	0.890	-	-	-	-	-	-	-	-	-	
2.13) Dynamometer Sets (Engine & Transmission) ^(†)	A		-	-	-	-	-	-	500,000.00	2	1.000	-	-	-	-	-	-	-	-	-	
2.15) TACFAB 3D Printer Kit (previously	A		-	-	-	-	-	-	102,180.00	25	2.555	102,180.00	3	0.307	-	-	-	102,180.00	3	0.307	

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy																Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 7									P-1 Line Item Number / Title: 4181 / Repair and Test Equipment							Aggregated Items Title: Repair and Test Equipment				
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
known as TacMan 3D Printer) ^{(7)(t)}																				
2.17) GSM TMDE Systems Fielding, Training & Calibration Support - FAST Team	A		-	-	1.276	-	-	0.366	-	-	0.350	-	-	0.370	-	-	-	-	-	0.370
2.26) GPT&TS Eng/ Soft/ Log Support	A		-	-	9.868	-	-	2.561	-	-	3.320	-	-	1.631	-	-	-	-	-	1.631
Subtotal: 2) General Purpose Tools and Test Systems (GPT&TS)			-	-	14.566	-	-	13.329	-	-	23.753	-	-	4.609	-	-	-	-	-	4.609
3) Automatic Test Systems																				
3.1) Application Program Sets/Test Program Sets	A		-	-	14.112	-	-	1.555	-	-	1.600	-	-	1.700	-	-	-	-	-	1.700
3.2) Automatic Test Equipment ⁽⁸⁾	A		-	-	35.411	-	-	4.188	-	-	6.110	-	-	1.784	-	-	-	-	-	1.784
3.3) ATS Engineering Support			-	-	5.661	-	-	1.575	-	-	0.523	-	-	0.451	-	-	-	-	-	0.451
3.4) ATS Software Support			-	-	3.836	-	-	1.558	-	-	0.517	-	-	0.449	-	-	-	-	-	0.449
3.5) ATS Logistic Support			-	-	1.173	-	-	0.872	-	-	0.296	-	-	0.218	-	-	-	-	-	0.218
Subtotal: 3) Automatic Test Systems			-	-	60.193	-	-	9.748	-	-	9.046	-	-	4.602	-	-	-	-	-	4.602
4) Calibration & Maintenance Program (CAMP)																				
4.1) Various Calibration Equipment ⁽⁹⁾	A		-	-	-	-	-	0.916	-	-	0.817	-	-	2.461	-	-	-	-	-	2.461
4.2) Shop Equipment, Calibration ^{(10)(t)}	A		-	-	-	5,500K	2	11.000	5,500K	2	11.000	-	-	-	-	-	-	-	-	-
4.3) CAMP Eng/ Soft/ Log Support	A		-	-	-	-	-	-	-	-	-	-	-	0.400	-	-	-	-	-	0.400
Subtotal: 4) Calibration & Maintenance Program (CAMP)			-	-	0.000	-	-	11.916	-	-	11.817	-	-	2.861	-	-	-	-	-	2.861
5) Prior Year Cum Funding																				
5.1) Prior Year Cum Funding	A		-	-	197.636	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 5) Prior Year Cum Funding			-	-	197.636	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	286.829	-	-	45.446	-	-	55.156	-	-	24.405	-	-	-	-	-	24.405
Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.																				
(t) indicates the presence of a P-5a																				
Footnotes:																				

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 7	P-1 Line Item Number / Title: 4181 / Repair and Test Equipment	Aggregated Items Title: Repair and Test Equipment
(1) The increase of \$1.599M due to an increase in quantities to be purchased in FY21. FY19 - FY21 unit price and quantities was updated based on the contract award; the unit cost reflects inflation based on FY19 contract award. A new cost element in the FY20 request was created to separately identify costs due to a new Blanket Purchase Agreement (BPA) contract award in FY19 and out. Quantities were originally planned to be procured on a new Army contract. Due to protest with Army contract, program awarded on a new in-house BPA contract 4QFY19. Reference cost element 1.1. (2) The decrease of \$7.3M is due to a reduced quantity buy in FY21. (3) The decrease of \$1.009M is due to a reduced quantity buy in FY21. (4) The decrease of \$0.850M from FY20 to FY21 is due to a reduced buy in FY21. There was a fact of life QTY decrease in FY19 from 1 unit to 0 units (identified in the FY19 and FY20 requests) due to vendor protests and resulting in a delay of the Army contract and sliding initial procurement to FY20. (5) The \$1.98M decrease from FY20 to FY21 is due to a reduced quantity buy in FY21. FY20 procurement of Fluid Analysis Test Set-Tier I includes first article and production quantities. Cost element title changed to Fluid Analysis Test Set-Tier I to more accurately reflect requirements documentation; previously known as Operators Fluid Analysis Test Set. (6) The decrease of \$1.28M from FY20 to FY21 is due to a reduced quantity buy in FY21. FY20 procurement includes first article and production quantities. Cost element title changed to Fluid Analysis Test Set-Tier II (previously Technician Fluid Analysis Test Set) to more accurately reflect requirements documentation, previously known as Technician's Fluid Analysis Test Set. (7) The \$2.248M reduction from FY20 to FY21 is due to a reduced printer buy in FY21. (8) The FY20 to FY21 \$4.326M decrease is the result of alignment to the procurement plan for the Circuit Card Assembly (CCA) Test Station. The FY19 to FY20 \$1.922M decrease is the result of a funding increase in FY19 to procure Circuit Card Assembly (CCA) Test Stations. (9) The increase of \$1.644M is due to an increase in CAL equipment purchases following the completion of SEC Shelter System purchases on FY20. (10) FY19 procured Shop Equipment, Calibration (SEC) shelter systems. Decrease of \$11.000M from FY20 to FY21 reflects completed procurement of SEC shelter systems.		

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 7				P-1 Line Item Number / Title: 4181 / Repair and Test Equipment					Aggregated Items: Repair and Test Equipment			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1) MAGTF Logistics Support Systems (MLS2)												
1.1) EMD Hardware ^(†)		2018	CDW Government LLC ⁽¹¹⁾ / Vernon Hills, IL	C / FFP	Quantico, VA	Jun 2018	Dec 2018	850	3,635.35	Y		
1.1) EMD Hardware ^(†)		2019	CDW Government LLC ⁽¹¹⁾ / Vernon Hills, IL	C / FFP	Quantico, VA	Oct 2018	Apr 2019	626	3,635.35	Y		
1.2) EMD Hardware CF20 ^{(1)(†)}		2019 ⁽¹²⁾	CDW Government LLC / Vernon Hills, IL	C / FFP	Quantico, VA	Jul 2019	Dec 2019	1,890	3,612.11	Y		May 2019
1.2) EMD Hardware CF20 ^{(1)(†)}		2020	CDW Government LLC / Vernon Hills, IL	C / FFP	Quantico, VA	Feb 2020	Jul 2020	1,962	3,611.00	Y		
1.2) EMD Hardware CF20 ^{(1)(†)}		2021	CDW Government LLC / Vernon Hills, IL	C / FFP	Quantico, VA	Feb 2021	Jul 2021	2,405	3,611.00	Y		
2) General Purpose Tools and Test Systems (GPT&TS)												
2.1) X-FAB Additive Manufacturing Shop (3D Printers) ^{(2)(†)}		2019	SAIC / Bedford, IN	C / FFP	Quantico, VA	Aug 2019	Aug 2020	1	2,700K	Y		Jan 2019
2.1) X-FAB Additive Manufacturing Shop (3D Printers) ^{(2)(†)}		2020	SAIC / Bedford, IN	C / FFP	Quantico, VA	Mar 2020	Dec 2020	6	1,442K	Y		
2.1) X-FAB Additive Manufacturing Shop (3D Printers) ^{(2)(†)}		2021	SAIC / Bedford, IN	C / FFP	Quantico, VA	Mar 2021	Dec 2021	1	1,350K	Y		
2.3) Radio Test Set (3 GHz-Handheld)		2019	Keysight / Santa Rosa, CA	C / FFP	Mechanicsburg, PA	Oct 2018	Oct 2018	100	14,550.00	N		
2.4) Microwave Comm and Radar Test Set (Handheld) ⁽³⁾		2019	Keysight / Santa Rosa, CA	C / FFP	Mechanicsburg, PA	Oct 2018	Jan 2019	51	79,319.00	N		
2.4) Microwave Comm and Radar Test Set (Handheld) ⁽³⁾		2020	Keysight / Santa Rosa, CA	C / FFP	Mechanicsburg, PA	Oct 2019	Jan 2020	13	77,581.00	N		
2.5) Fire Bottle Refill Shop ⁽⁴⁾		2020	JMTC / Rock Island IL	C / TBD	TACOM, Warren, MI	Sep 2020	Jun 2021	3	425,000.00	Y		
2.5) Fire Bottle Refill Shop ⁽⁴⁾		2021	JMTC / Rock Island IL	C / TBD	TACOM, Detroit, MI	Sep 2021	Jun 2022	1	425,000.00	Y		
2.8) Fluid Analysis Test Set-Tier I (previously Oper Fluid Analy Test Set) ⁽⁵⁾		2020	Spectro Scientific / Chelmsford, MA	C / FFP	Quantico, VA	Mar 2020	Mar 2021	34	60,000.00	Y		
2.8) Fluid Analysis Test Set-Tier I (previously Oper Fluid Analy Test Set) ⁽⁵⁾		2021	Spectro Scientific / Chelmsford, MA	C / FFP	Quantico, VA	Mar 2021	Mar 2022	1	60,000.00	Y		
2.9) Fluid Analysis Test Set-Tier II (previously Tech Fluid Analy Test Set) ⁽⁶⁾		2020	Spectro Scientific / Chelmsford, MA	C / FFP	Quantico, VA	Mar 2020	Mar 2021	12	128,000.00	Y		

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy								Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 7			P-1 Line Item Number / Title: 4181 / Repair and Test Equipment					Aggregated Items: Repair and Test Equipment				
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
2.9) Fluid Analysis Test Set-Tier II (previously Tech Fluid Analy Test Set) ⁽⁶⁾		2021	Spectro Scientific / Chelmsford, MA	C / TBD	Quantico, VA	Oct 2020	Oct 2021	2	128,000.00	Y		
2.10) Microwave Signal Generator		2019	Keysight / Santa Rosa, CA	C / FFP	Mechanicsburg, PA	Apr 2019	Aug 2019	30	17,394.00	Y		
2.10) Microwave Signal Generator		2020	Keysight / Santa Rosa, CA	C / FFP	Mechanicsburg, PA	Jan 2020	May 2020	10	17,394.00	Y		
2.11) Data Network Tester		2019	Viavi / Germantown, MD	C / FFP	Mechanicsburg, PA	Apr 2019	Aug 2019	20	18,760.00	Y		
2.11) Data Network Tester		2020	Viavi / Germantown, MD	C / FFP	Mechanicsburg, PA	Mar 2020	Jun 2020	15	18,760.00	Y		
2.12) Expeditionary Fuel Test Shop		2018	SAIC / Bedford, IN	C / FFP	NSWC, CRANE, IN	May 2018	May 2019	1	890,000.00	Y		
2.12) Expeditionary Fuel Test Shop		2020	SAIC / Bedford, IN	C / FFP	NSWC, CRANE, IN	May 2020	Aug 2020	1	890,000.00	Y		
2.13) Dynamometer Sets (Engine & Transmission)		2020	TBD / TBD	C / CPIF	Philadelphia, PA	Apr 2020	Jul 2020	2	500,000.00	Y		
2.15) TACFAB 3D Printer Kit (previously known as TacMan 3D Printer) ⁽⁷⁾		2020	TBD / TBD	C / TBD	TBD	Aug 2020	Feb 2021	25	102,180.00	Y		
4) Calibration & Maintenance Program (CAMP)												
4.2) Shop Equipment, Calibration (10)(t)		2019 ⁽¹³⁾	CERDEC / Aberdeen, MD	MIPR	Aberdeen, MD	Jan 2019	Sep 2021	2	5,500K	Y		
4.2) Shop Equipment, Calibration (10)(t)		2020 ⁽¹⁴⁾	CERDEC / Aberdeen, MD	MIPR	Aberdeen, MD	Jan 2020	Jan 2022	2	5,500K	Y		

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

Footnotes:

⁽¹¹⁾ MSR for multiple program offices procured off of the same contract.

⁽¹²⁾ Contract awarded JUL 2019. Contract award was delayed from FEB 2019 to JUL 2019 due to acquisition strategy change to mitigate risk. Program pulled back RFP and re-issued as a J&A sole source contract.

⁽¹³⁾ Delivery extended from JAN 2020 to SEP 2021 due to long lead items such as shelter systems and equipment racks as well as integration of COTS equipment.

⁽¹⁴⁾ Delivery extended from JUL 2020 to JAN 2022 due to long lead items such as shelter systems and equipment racks as well as integration of COTS equipment.

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020																					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 7										P-1 Line Item Number / Title: 4181 / Repair and Test Equipment										Aggregated Items: Repair and Test Equipment																					
Items <i>(Units in Each)</i>							Fiscal Year 2018										Fiscal Year 2019										B A L A N C E														
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018															Calendar Year 2019																			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y		J U N	J U L	A U G	S E P										
1) MAGTF Logistics Support Systems (MLS2)																																									
1.1) EMD Hardware																																									
Prior Years Deliveries: 196																																									
	9	2018	NAVY	850	0	850											A -	-	-	-	-	-	150	150	150	150	150	100					0								
	9	2019	NAVY	626	0	626											A -	-	-	-	-	-	-	-	-	150	150	150	150	26					0						
1.2) EMD Hardware CF20 ⁽¹⁾																																									
	10	2019	NAVY	1,890	0	1,890																										A -	-	-					1,890		
	10	2020	NAVY	1,962	0	1,962																														1,962					
	10	2021	NAVY	2,405	0	2,405																														2,405					
2) General Purpose Tools and Test Systems (GPT&TS)																																									
2.1) X-FAB Additive Manufacturing Shop (3D Printers) ⁽²⁾																																									
	11	2019	NAVY	1	0	1																										A -	-					1			
	11	2020	NAVY	6	0	6																														6					
	11	2021	NAVY	1	0	1																														1					
4) Calibration & Maintenance Program (CAMP)																																									
4.2) Shop Equipment, Calibration ⁽¹⁰⁾																																									
	12	2019	NAVY	2	0	2																A -	-	-	-	-	-	-	-	-	-	-	-	-					2		
	12	2020	NAVY	2	0	2																																			2
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P											

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Exhibit P-21, Production Schedule: PB 2021 Navy																								Date: February 2020											
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 7										P-1 Line Item Number / Title: 4181 / Repair and Test Equipment														Aggregated Items: Repair and Test Equipment											
Items (Units in Each)							Fiscal Year 2020														Fiscal Year 2021														B A L A N C E
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT				Calendar Year 2020											Calendar Year 2021														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
1) MAGTF Logistics Support Systems (MLS2)																																			
1.1) EMD Hardware																																			
Prior Years Deliveries: 196																																			
	9	2018	NAVY	850	850	0																									0				
	9	2019	NAVY	626	626	0																									0				
1.2) EMD Hardware CF20 ⁽¹⁾																																			
	10	2019	NAVY	1,890	0	1,890	-	-	250	250	250	250	250	250	250	140															0				
	10	2020	NAVY	1,962	0	1,962					A	-	-	-	-	250	250	250	250	250	250	250	212								0				
	10	2021	NAVY	2,405	0	2,405																A	-	-	-	-	-	250	250	250	1,655				
2) General Purpose Tools and Test Systems (GPT&TS)																																			
2.1) X-FAB Additive Manufacturing Shop (3D Printers) ⁽²⁾																																			
	11	2019	NAVY	1	0	1	-	-	-	-	-	-	-	-	-	-	1															0			
	11	2020	NAVY	6	0	6					A	-	-	-	-	-	-	-	-	-	6										0				
	11	2021	NAVY	1	0	1																A	-	-	-	-	-	-	-	-	1				
4) Calibration & Maintenance Program (CAMP)																																			
4.2) Shop Equipment, Calibration ⁽¹⁰⁾																																			
	12	2019	NAVY	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0					
	12	2020	NAVY	2	0	2					A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	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 2021 Navy																								Date: February 2020							
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 7												P-1 Line Item Number / Title: 4181 / Repair and Test Equipment												Aggregated Items: Repair and Test Equipment							
Items (Units in Each)							Fiscal Year 2022												Fiscal Year 2023												BALANCE
OCO#	MFR#	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022												Calendar Year 2023												
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1) MAGTF Logistics Support Systems (MLS2)																															
1.1) EMD Hardware																															
Prior Years Deliveries: 196																															
	9	2018	NAVY	850	850	0																		0							
	9	2019	NAVY	626	626	0																		0							
1.2) EMD Hardware CF20 ⁽¹⁾																															
	10	2019	NAVY	1,890	1,890	0																		0							
	10	2020	NAVY	1,962	1,962	0																		0							
	10	2021	NAVY	2,405	750	1,655	250	250	250	250	250	250	155											0							
2) General Purpose Tools and Test Systems (GPT&TS)																															
2.1) X-FAB Additive Manufacturing Shop (3D Printers) ⁽²⁾																															
	11	2019	NAVY	1	1	0																		0							
	11	2020	NAVY	6	6	0																		0							
	11	2021	NAVY	1	0	1	-	-	1															0							
4) Calibration & Maintenance Program (CAMP)																															
4.2) Shop Equipment, Calibration ⁽¹⁰⁾																															
	12	2019	NAVY	2	2	0																		0							
	12	2020	NAVY	2	0	2	-	-	-	2	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP									

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Exhibit P-21, Production Schedule: PB 2021 Navy							Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 7				P-1 Line Item Number / Title: 4181 / Repair and Test Equipment			Aggregated Items: Repair and Test Equipment

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	CDW Government LLC ⁽¹¹⁾ - Vernon Hills, IL	300	600	900	0	0	6	6	0	0	6	6
2	CDW Government LLC - Vernon Hills, IL	1,000	2,000	3,000	0	0	5	5	0	0	5	5
3	SAIC - Bedford, IN	1	5	8	0	0	12	12	0	0	9	9
4	CERDEC - Aberdeen, MD	1	2	3	0	4	12	16	0	0	6	6

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

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

Footnotes:

⁽¹¹⁾ MSR for multiple program offices procured off of the same contract.

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

Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 9: Other Support (Tel)	P-1 Line Item Number / Title: 4652 / Modification Kits

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	19.945	0.971	4.945	1.006	4.200	5.206	0.178	0.274	0.548	0.848	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	19.945	0.971	4.945	1.006	4.200	5.206	0.178	0.274	0.548	0.848	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	19.945	0.971	4.945	1.006	4.200	5.206	0.178	0.274	0.548	0.848	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Identity Dominance System-Marine Corps (IDS-MC) is a multi-modal (fingerprint, iris, and face) biometric collection system that provides the USMC a reliable and effective capability to collect, share, match, access, verify and store identity information. IDS-MC will enable the Marine to collect appropriate biometric, biographical and reference information on an individual and match this locally developed information with pre-existing information available to the expeditionary force. The system will display match results with linkage to the respective individual's biographical and reference information as well as help analyze the response, update records as appropriate, create reports and disseminate updated information. The primary mission of IDS-MC is to provide the Marine Corps with the means to identify persons encountered in the battle space. While IDS-MC is not an intelligence analysis system, it does provide identification information in support of military intelligence and law enforcement operations by providing positive identification of persons of interest. IDS-MC is an enabler in the areas of detainee management and questioning, base access, counterintelligence screening, border control, law enforcement, displaced persons' management and aiding in humanitarian assistance missions. IDS-MC supports the tactical application of identity dominance and fully supports a forward presence, crisis response and contingency response capability.

The Expeditionary Forensic Exploitation Capability (EFEC) is a multi-modal (fingerprint, DNA, document, cellular, media, chemical, and fire arm) forensic collection system that provides the United States Marine Corps (USMC) a reliable and effective capability to recognize, protect, collect, analyze, store and share forensic information. This organic Marine Corps forensic capability supports deployed Marine Forces with agile, ruggedized, and scalable expeditionary forensics that are compatible and fully integrated with joint, other service, and interagency laboratories, yet also tailored to the unique operating requirements of the maritime domain. Maritime applications include the ability to support Marine Expeditionary Units with an at sea forensic exploitation capability to conduct vessel boarding and ship search operations. EFEC supports the Information Environment through sensitive forensic testing and analysis that positively identifies personnel and trace chemicals/elements; forensically exploits document and media; and scientifically links identities and networks to places, events, and activities. EFEC increment 2 will provide a transformative capability that integrates Artificial Intelligence and Machine Learning to enable intelligence operations, force protection, intelligence, targeting, and law enforcement activities.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 9: Other Support (Tel)						P-1 Line Item Number / Title: 4652 / Modification Kits				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206313M				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Modification Kits				- / 19.945	- / 0.971	- / 4.945	- / 1.006	- / 4.200	- / 5.206
P-40	Total Gross/Weapon System Cost				- / 19.945	- / 0.971	- / 4.945	- / 1.006	- / 4.200	- / 5.206
*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: Prior to FY19, IDS-MC funding is included in BLI 6438, Physical Security Equipment. FY 2019: \$0.971M Identity Dominance System-MC (IDS-MC): \$0.971M to initiate procurement of the hardware and software for IDS-MC Increment 2 in accordance with a MS C/Full Rate Production procurement decision. Realignment of effort from BLI 6438 to 4652 in FY19 and beyond reflects USMC Program Management Office (PMO) reorganization to improve support of USMC Operating Forces (OPFOR). FY 2020: \$4.945M Identity Dominance System-MC (IDS-MC): \$4.945M will procure system Hardware and Software for IDS-MC Increment 2. IDS-MC Increment 2 is a multi-modal identity system that provides the Marine Air-Ground Task Force (MAGTF) the ability to collect, match, store, and share biometric data in support of operations. The IDS-MC program strategy is evolutionary, structured to deliver capabilities incrementally, recognizing the need for future capability improvements. FY 2021 Baseline Appropriation Request: \$1.006M Identity Dominance System-MC (IDS-MC): \$1.006M will complete procurement of system hardware and software for IDS-MC Increment 2. This will also finish a three-year procurement. IDS-MC Increment 2 is a multi-modal identity system that provides the Marine Air-Ground Task Force (MAGTF) the ability to collect, match, store, and share biometric data in support of operations. The decrease of \$3.939M from FY20 to FY21 reflects the completion of the IDS-MC Increment 2 procurement. OCO: FY21 Overseas Contingency Operations (OCO) Request: \$4.200M Expeditionary Forensic Exploitation Capability (EFEC): \$4.200M supports the incremental reset of legacy and obsolete EFEC equipment in direct support of Operation Freedom's Sentinel and Operation Inherent Resolve. Funding procures EFEC forensic equipment and associated software, COTS exploitation devices, chemical detection systems and peripherals that enable forensic exploitation.										

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Exhibit P-5, Cost Analysis: PB 2021 Navy													Date: February 2020								
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 9							P-1 Line Item Number / Title: 4652 / Modification Kits						Item Number / Title [DODIC]: 1 / Modification Kits								
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
Procurement Quantity <i>(Units in Each)</i>				-			-			-			-			-			-		
Gross/Weapon System Cost <i>(\$ in Millions)</i>				19.945			0.971			4.945			1.006			4.200			5.206		
Less PY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Net Procurement (P-1) <i>(\$ in Millions)</i>				19.945			0.971			4.945			1.006			4.200			5.206		
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Total Obligation Authority <i>(\$ in Millions)</i>				19.945			0.971			4.945			1.006			4.200			5.206		
(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 Dollars)</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 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 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)			
Flyaway Cost																					
Recurring Cost																					
1.1.1) Prior Year Cumulative Funding	-	-	19.945	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Subtotal: Recurring Cost	-	-	19.945	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Subtotal: Flyaway Cost	-	-	19.945	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Hardware Cost																					
Recurring Cost																					
2.1.1) IDS Marine Corps Increment 2 Hardware ⁽¹⁾	-	-	-	-	-	0.250	-	-	1.200	-	-	0.275	-	-	-	-	-	0.275			
2.1.2) EFEC Hardware	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	3.000	-	-	3.000			
Subtotal: Recurring Cost	-	-	-	-	-	0.250	-	-	1.200	-	-	0.275	-	-	3.000	-	-	3.275			
Subtotal: Hardware Cost	-	-	-	-	-	0.250	-	-	1.200	-	-	0.275	-	-	3.000	-	-	3.275			
Software Cost																					
Recurring Cost																					
3.1.1) IDS Marine Corps Software ⁽²⁾	-	-	-	-	-	0.721	-	-	3.745	-	-	0.731	-	-	-	-	-	0.731			
3.1.2) EFEC Software	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	1.200	-	-	1.200			
Subtotal: Recurring Cost	-	-	-	-	-	0.721	-	-	3.745	-	-	0.731	-	-	1.200	-	-	1.931			
Subtotal: Software Cost	-	-	-	-	-	0.721	-	-	3.745	-	-	0.731	-	-	1.200	-	-	1.931			
Gross/Weapon System Cost	-	-	19.945	-	-	0.971	-	-	4.945	-	-	1.006	-	-	4.200	-	-	5.206			

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Exhibit P-5, Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 9	P-1 Line Item Number / Title: 4652 / Modification Kits	Item Number / Title [DODIC]: 1 / Modification Kits
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
Remarks: [L2:SW]		
Footnotes: (1) IDS-MC: The decrease of \$0.925M from FY20 to FY21 reflects the completion of the IDS-MC Increment 2 procurement. (2) IDS-MC: The decrease of \$3.014M from FY20 to FY21 reflects the completion of the IDS-MC Increment 2 procurement.		

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

Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 14: Command and Control System (Non-Tel)	P-1 Line Item Number / Title: 4620 / Items under \$5 million (Comm & Elec)

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0502514M

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	113.117	67.314	80.349	69.725	0.000	69.725	65.753	66.690	79.028	80.248	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	113.117	67.314	80.349	69.725	0.000	69.725	65.753	66.690	79.028	80.248	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	113.117	67.314	80.349	69.725	0.000	69.725	65.753	66.690	79.028	80.248	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Funding supports the procurement of communication and electrical items such as cameras, reproduction equipment, laptops, software, satellite dishes, and items/upgrades with a unit cost under \$5M in support of the Marine Corps.

Combat Camera Systems (CCS) - Provides imagery acquisition and visual information production capabilities to the Communication Strategy and Operations (COMMSTRAT) Fleet Marine Force (FMF) units, supporting establishments and training commands. Equipment fielded is used to acquire still and video visual information, produce and disseminate communication products to support the MAGTF, Department of Defense (DoD), and Joint Forces. Procurements are centrally managed and are non-developmental, Commercial/Government Off-the-Shelf (COTS/GOTS) equipment. Combat Camera and Public Affairs Occupational Fields (OccField) transitioned into the COMMSTRAT OccField in 2018, with an increase to overall structure, personnel, equipment and a need for an increased capability to support the information environment being identified. In support of this Combat Camera System (CCS) and Public Affairs Systems (PAS) will transition to a single program of record by FY22 and will be referred to as Digital Media Systems (DMS). DMS will continue with already established sustainment efforts to support currently fielded equipment through its lifecycle as research, procurement, testing and integration of future equipment sets are being solidified. DMS will provide a capability to acquire and produce still/video visual information products, research and plan communication initiatives, produce and disseminate communication products, and assess the effects of communication initiatives within the information environment in various formats. As efforts continue components from CCS and PAS legacy systems will serve as a baseline for future equipment. A Requirement Memorandum was signed and received July 2019 in support of DMS

Public Affairs System (PAS) - Provides the capability to support research and plan communication initiatives, acquire still and video visual information, produce and disseminate communication products, and assess the effects of communication initiatives within the information environment. Communication Strategy and Operations (COMMSTRAT) Marines enable commanders at all levels across the range of military operations to engage domestic and foreign publics whose trust, confidence, and understanding are mission critical. The program uses a continued evolutionary approach to acquisitions while leveraging commercial industry-standard non-developmental items to provide the best value to Marine Corps efforts within the information environment. Combat Camera and Public Affairs Occupational Fields (OccField) transitioned into the COMMSTRAT OccField in 2018, with an increase to overall structure, personnel, equipment and a need for an increased capability to support the information environment being identified. In support of this Combat Camera System (CCS) and Public Affairs Systems (PAS) will transition to a single program of record by FY22 and will be referred to as Digital Media Systems (DMS). DMS will continue with already established sustainment efforts to support currently fielded equipment through its lifecycle as research, procurement, testing and integration of future equipment sets are being solidified. DMS will provide a capability to acquire and produce still/video visual information products, research and plan communication initiatives, produce and disseminate communication products, and assess the effects of communication initiatives within the information environment in various formats. A Requirement Memorandum was signed and received July 2019 in support of DMS. As efforts continue components from CCS and PAS legacy systems will serve as a baseline for future equipment.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 14: Command and Control System (Non-Tel)		P-1 Line Item Number / Title: 4620 / Items under \$5 million (Comm & Elec)
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0502514M
Line Item MDAP/MAIS Code: N/A		
Marine Civil Information Management System (MARCIMS) - MARCIMS is a system of systems comprised of people, process and technology that operates in the full Joint, Interagency, Intergovernmental, and Multinational (JIIM) environment. It is a force multiplier which allows the Commander to leverage the process of Planning, Collection, Consolidation, Analysis, Production, and sharing of civil information to support the visualization and understanding of the civil environment to the military Commander's decision making process. Program name has changed from Civil Affairs Capability Set and Civil Affairs Information Data Processing System (CIMDPS). Military Information Support Operations (MISO) Family of Systems (FOS), which consists of the Fly-Away Broadcast System (FABS) variants are heavy, medium and light, Next-Generation Loud Speaker (NGLS), Radio-In-A-Box (RIAB), and Marine Corps SOF Integration Node (MSIN), provides the Marine Air Ground Task Force (MAGTF) Commander the ability to plan, develop, deliver and assess messages and actions to influence select foreign groups and promote themes to change those groups' attitudes and reduce civilian interference, minimize collateral damage, and increase the population's support for MAGTF operations. The MISO was established in response to multiple Marine Requirements Oversight Council Memorandums, and the approval of a MISO Organizational and Operational (O&O) Concept, 16 June 2015. MISO capabilities are critical to the success of the MAGTF mission, enabling commanders to shape the information environment, counter enemy propaganda, misinformation, disinformation, and adversarial narratives. The Signature Management (SIGMAN) capability will support MAGTF Operations with a baseline capability to include blue-force electromagnetic signature monitoring, assessment and projection. SIGMAN will be utilized by the Marine Corps Information Operations Center (MCIOC) SIGMAN platoon to provide commanders the ability to understand their own forces electrometric signatures and the ability to disrupt or deceive adversary units. Prior to FY21, SIGMAN was funded within the Military Information Support Operations (MISO) Family of Systems (FOS) portfolio. Safety: Risk Management Information (RMI) initiative to deploy a Department of Navy (DON)-wide, web based solution facilitating unit-level Safety Program management and provides aggregate reporting, analysis, and tracking of all hazards and reportable mishaps. IAW 2011 Federal Cloud Computing Strategy and guidance by the DON Chief Information Officer, RMI will involve the fielding of an overarching, single site safety portal or architecture critical for complying with OSD safety reporting requirements and for allowing seamless on-demand access to the pool of existing safety and safety-related databases. MAGTF Logistics Support Systems (MLS2) - Transportation Systems Portfolio (TSP) are the current and future LOG IT capabilities used primarily to provide logistics support to the Marine Air Ground Task Force (MAGTF) from garrison, operating bases, the sea base, and during expeditionary operations ashore. TSP enables tactical and operational level Life Cycle Management (LCM) and Command and Control (C2). MLS2s provides the MAGTF the capability to capitalize on Naval Logistics Integration and interoperate with joint and coalition logistics partners and providers. MLS2 provides the Information Technology (IT) systems essential for transportation and distribution operations in accordance with US Transportation Command's (USTRANSCOM) Defense Transportation Regulation (DTR). The systems identified provide the data and interfaces required to provide end-to-end (E2E) integration of distribution support to expedite the flow of equipment and supplies for the Operating Forces. Includes: (1) synchronizing storage activities, distribution nodes, and transportation modes in the logistics chain, (2) integrating organic Service, DoD and commercial providers and transportation systems, (3) maximizing in-transit visibility capabilities to track, trace, and expedite equipment and supplies, and (4) placing advocates to support force deployment, sustainment, and retrograde operations. Enterprise Logistics Support Systems (ELS2) - Radio Frequency Identification (RFID) devices encompass a variety of read and write data storage technologies that are used to improve accuracy, timeliness, and handling. These technologies are key in and provide near-real time Total Asset Visibility data used to influence critical decisions by Operational Commanders. RFID enhances our force in readiness by coordinating, synchronizing and automatically transferring data by means of Active Radio Frequency Identification (aRFID), as well as the software required to create and manage the devices, collect the information and integrate that information with other logistics data. These devices can be interrogated using a variety of means, including fixed infrastructures and portable systems. The information obtained from those interrogations is provided electronically to various Automated Information Systems (AIS) in accordance with US Transportation Command's (USTRANSCOM) Defense Transportation Regulation (DTR). The RFID project provides procurement and life cycle management of the current RFID Infrastructures, and provides RFID Hardware and Software under the Joint Army Product Lead Automated Movement and Identification Solutions (PL AMIS) Procurement Office. Prior to FY18, RFID was funded within the MLS2 portfolio. Combat Optics - This program encompasses all optical systems providing handheld, helmet, and weapon-mounted optic systems such as various thermal, low light image intensifier (I2) - to include night vision goggles (NVGs), magnified optical, laser range-finding, illuminating, short wave infrared (SWIR), and pointer functionalities. Thermal imagers can be used not only for target detection and engagement with Marine Corps individual and crew-served weapons, they can be used for all-weather surveillance as well. Combat Optics allow the dismounted Marine the ability to acquire, locate, identify, and engage targets during daylight and limited visibility conditions, and perform navigation and manual tasks during limited visibility conditions utilizing ambient or covert illumination. The SBNVG is a capability that will be provided to each Marine Rifle Team and will enable the ability to detect, recognize, and engage targets during limited visibility, thereby increasing lethality and the probability of mission success particularly in extremely low light levels, weather, and obscurants. The Squad Combat Optic (SCO) is a variable-power rifle sight designed for use with all infantry service rifles. The SCO will replace the current Rifle Common Optic		

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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: 0206313M, 0502514M				
Line Item MDAP/MAIS Code: N/A										
(RCO) and provides combat Marines an enhanced targeting capability to identify and engage daylight and near low-light targets during close quarters combat out to the maximum effective range of the M27 Infantry Automatic Rifle. Both the SBNVG and SCO are critical for Marine survivability and lethality in ground combat element missions. The program coordinates with United States Uniformed Services on optic, thermal, and night vision technologies. Manpower Operations Systems (MOS) is a portfolio of enterprise IT systems and modules that support manpower business operations for the Total Force (active and reserve). The investment in the portfolio improves dataflow and increases reliability, functionality, and accuracy of data while reducing the manpower required to operate and maintain these systems/operations. Development is partially driven by regulatory and policy changes mandated by Congress, DOD, Department of the Navy (DON), and United States Marine Corps (USMC). These systems support all five tiers of Manpower: 1) Individual Marine, 2)Small Unit Leader; 3) Unit, 4) Installation Personnel Administration Center (IPAC)/Disbursing Echelon, and 5) Headquarters Marine Corps (HQMC) Manpower and Reserve Affairs (M&RA)/Defense Finance and Accounting Service. The MOS portfolio provides support in functional areas such as permanent change of station assignments, retention, mobilization, manpower planning, line of duty determination, personnel accountability, individual augmentation, personnel records management and maintenance, management of case incidents, civilian professional development planning, pay entitlement determinations, promotion and performance evaluations and self-service/visibility of personnel data. MOS programs interface with other systems to provide manpower data and web services functionality for pay and personnel transactions between systems. Systems in the portfolio include the Web-enabled Manpower Assignment Support System (WebMASS), Automated Performance Evaluation System (APES), Total Force Retention System (TFRS), Optical Digital Imaging - Records Management System (ODI-RMS), Marine Corps Force Augmentation System (MCFAPS), Secure Personnel Accountability (SPA) and the Requirements, Transition and Manpower Management System (RTAMMS). The current systems have become obsolete and are unable to maintain an acceptable Cyber Security posture. Modernization efforts will involve business process and application reengineering, with a focus on redefining the Human Resource Development Process (HRDP) to deliver a portfolio of streamlined capabilities on a modern and secure platform. Test, Evaluation,& Engineer Environment (TEEE)- Marine Corps Tactical Systems Support Activity (MCTSSA) provides the only Marine Corps operationally relevant, Marine Air-Ground Task Force (MAGTF) Command, Control, Communications, Computers, and Intelligence (C4I) architecture environment for enterprise-level testing, engineering, analysis, troubleshooting, and solutions. This environment, designated as a Special Purpose Processing Node (SPPN), provides Link-16 Tactical Data Link Networks for air-to-air, ship and shore targeting and messaging, validated at MCTSSA before Marine/Navy use in theater. Funding procures annual equipment required to recapitalize and modernize the MAGTF environment. Equipment includes, but is not limited to, Communications Backbone, Network Backbone, Tactical Cloud Integration Backbone, Test and Engineer Tool/Data Collection Hardware/Software, and Computers. Equipment supports testing for all phases in programs' acquisition lifecycle. The environment is essential to operating forces support for fielded C4I systems, as well as evaluating USMC and Joint C4I systems in a controlled, repeatable, and re-configurable manner that reduces program risk and identifies significant deficiencies prior to fielding to the operating forces. More than forty Marine Corps C4I programs and systems rely on MCTSSA support. Purchased equipment is sustained with Operations & Maintenance (O&M) funding. Item Unique Identification (IUID) - Provides the necessary hardware to exploit an IUID enabled ground fleet inventory of equipment and material. This capability will allow for the identification and tracking of tangible items by using the Unique Item Identifiers (UIIs) used globally as a common key. IUID will improve logistics functions for operational commanders, program managers, equipment accountability managers, maintainers and force planners, as well as, ensure accurate systems valuation to support a clean financial audit. MARINE CORPS INFORMATION OPERATIONS PROGRAM (MCIOP) provides MAGTF commanders and the Marine Corps a responsive and effective full-spectrum Information Operations (IO) planning and psychological operations delivery capability by means of deployable support teams and comprehensive general support IO reach-back capability in order to integrate IO across the range of military operations within the physical, informational and cognitive dimensions of the information environment in a Service, Joint or Coalition setting. Transitioned from BLIs 4631 and 4635 in FY19.										
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Navy	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	67.266	80.300	69.690	-	69.690	65.719	66.656	78.993	80.212
NR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.048	0.049	0.035	-	0.035	0.034	0.034	0.035	0.036
Total:	Quantity	-	-	-	-	-	-	-	-	-

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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: 0206313M, 0502514M			
Line Item MDAP/MAIS Code: N/A										
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Secondary Distribution	Total Obligation Authority	67.314	80.349	69.725	-	69.725	65.753	66.690	79.028	80.248

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Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Items under \$5 million (Comm & Elec)	P-5a, P-21			- / 113.117	- / 67.314	- / 80.349	- / 69.725	- / -	- / 69.725
P-40	Total Gross/Weapon System Cost				- / 113.117	- / 67.314	- / 80.349	- / 69.725	- / 0.000	- / 69.725
*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 2019: \$67.314M (\$67.266M Active; \$.048M Reserve)										
Combat Camera Systems (CCS) \$2.264M - In FY19 funding supported the procurement of Expeditionary Deployable Production Systems (EDPS) which equips Marines with a high-powered computing and processing capability to edit, store, retrieve, and transfer operational imagery in multiple formats. Increase of \$0.708M from FY18 to FY19 supported the procurement of Tactical Imagery Production Suite (TIPS) components and initial support. TIPS enables extensively trained COMCAM documentation and production teams with increased capability to acquire, process, develop, reproduce, archive, distribute in hardcopy or multiple electronic formats digital still and motion media products as primary suppliers of operational imagery reinforcing distributive operations. TIPS also provided support for initially fielded systems to support the five to seven year refresh lifecycle. Due to the OccField change, in FY23, the Combat Camera System (CCS) and Public Affairs Systems (PAS) Program of Record will modernize into Digital Media System (DMS). These increases and changes result in the demand for more equipment and capabilities to support both the legacy CCS and PAS programs as well as DMS.										
Public Affairs System (PAS) \$2.427M (\$2.379M Active; \$0.048M Reserves) - Funding provided in support of the AAO increase for Public Affairs Contend Creation Systems (PACCS) Next Generation of digital camera system in order to support equipment modernization and obsolescence life cycle. PACCS provides image and video acquisition and editing capabilities for active and reserve component commands. Funding procured 2 Public Affairs Live Media Engagement System (PALMES) and modernization of currently fielded PALMES. PALMES provides MAGTF and Supporting Establishment commanders the capability to transmit approved Public Affairs products, such as high resolution video and to conduct live television and media interviews via satellite. The Combat Camera and Public Affairs MOSes modernized into the Communication Strategy and Operations (COMMSTRAT) MOS. Due to this Occupational Field change, in FY23, the Combat Camera Systems and Public Affairs Systems Programs of Record will modernize into Digital Media Systems (DMS). Due to this change, the PACCS nomenclature will change to the Photo Editing System Light (PESL).										
Marine Civil Information Management System (MARCIMS) \$0.296M - Funding supported the procurement of mobile devices, mobile devices management licenses, and peripherals as part of the MARCIMS refresh cycle. MARCIMS mobile devices are refreshed every two years. This capability supports real-world operations and overseas contingencies requiring a civil military presence, such as humanitarian assistance and disaster relief operations.										
Military Information Support Operations (MISO) Family of Systems (FOS) \$2.976M - Procured the MISO equipment such as Next-Generation Loud Speaker (NGLS), Radio-In-A-Box (RIAB), and Marine Corps SOF Integration Node (MSIN) and initial support, which provides the MAGTF Commander the capability to conduct planned operations to convey selected information and indicators to foreign adversary, neutral and friendly target audiences to influence their emotions, motives, objective reasoning, providing an operational advantage. FY19 also funded Signature Management (SIGMAN) equipment to provide a capability to include Own-force signature monitoring and assessment, Electromagnetic signature masking and projection, and physical decoys.										
Combat Optics - \$57.739M - FY19 funding completed the procurement of the Sniper Range Finder (SRF), and continued the procurement of both the Squad Thermal System (STS) and the Squad Binocular Night Vision Goggle (SBNVG) capability. The SRF enables the scout sniper and infantry squad leader to determine range out to the maximum effective range of Marine Corps weapons. The STS provides an individual thermal imaging capability of the Marine Rifle Squad and the Marine Reconnaissance Team while engaging in offensive and defensive operations. The STS will be employed as a weapon mounted clip-on thermal sight that can be used in conjunction with the AN/PVQ-31 A/B RCO, and also serves as a lightweight, pocket-sized hand-held thermal imager. This will enable fire team leaders and reconnaissance team leaders to detect and recognize potential targets, danger areas, and items of interest. Marines will be able to employ the STS during most atmospheric and lighting conditions, including total darkness. The Squad Binocular Night Vision Goggle (SBNVG) is a helmet-mounted or handheld, battery-operated Night Vision Goggle (NVG) capability that combines the capabilities of Image-Intensification (I2) and Thermal										

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Line Item MDAP/MAIS Code: N/A		
Imaging. The SBNVG will be provided to each Marine Rifle Team and will enable the ability to detect, recognize, and engage targets during limited visibility, thereby increasing lethality and the probability of mission success (particularly in extremely low light levels, weather, and obscurants).		
Manpower Operations Systems (MOS) - \$0.246M FY19 funding supported procurement of IT hardware, software and fielding support for the systems in the MOS portfolio.		
TEST, EVALUATION, & ENGINEERING ENVIRONMENT - EQUIPMENT & TECHNICAL SERVICES (T&E) - \$0.748M purchases centrally managed/itemized equipment that supports modernization and expansion of the MAGTF Systems Integration Environment at MCTSSA. This includes, but is not limited to, Communications Backbone, Network Backbone, Tactical Cloud Integration Backbone, Test and Engineer Tool/Data Collection Hardware/Software, and Computers. Equipment supports testing for all phases in the acquisition lifecycle.		
MARINE CORPS INFORMATION OPERATIONS PROGRAM (MCIOF) - FY19 \$0.382M Funds supported a variety of efforts related to the Marine Corps Information Operations Center(MCIOF). Combined Unit Exercise (CUX) expansion: the CUX is currently being certified as the sole Joint Information Operations (JO) exercise in the Department of Defense. This funding was used to purchase additional non-Marine Corps Enterprise Network (MCEN) computer assets to be operated on a closed, exercise-only network. Voice Over Internet Protocol (VOIP) Transition: Servers and telephones; the MCIOF currently utilizes Secure Terminal Equipment (STE) telephones for non-secure telephone calls. The STE telephones were originally envisioned to provide an additional secure voice capability no longer meeting mission requirements. The transition to VOIP telephones will provide a more user-friendly telephone capability centrally configured by network administrators to maintain Operational Security. Lifecycle Open Source Intelligence System (OSIS) and Joint Worldwide Intelligence Communications System (JWICS) replacement systems: The MCIOF is responsible for purchasing our own computer assets and equipment for the OSIS and JWICS networks. This funding line was allocated towards replacement systems as existing systems reach the end of their service life.		
Enterprise Logistics Support Systems (ELS2) - FY19 \$0.236M funding supported the installs and continued purchase of Iridium Modems and Field Data Units for the transition of aRFID dial up to Marine Corps to PL AMIS Army. This effort provides in-transit visibility (ITV) for cargo shipments throughout the world. Additionally, this provides commanders with an overall strategic picture of the current status of their shipments.		
FY 2020: \$80.349M (\$80.300M Active; \$0.049 Reserve)		
Combat Camera Systems (CCS) - \$3.463M: In FY20 funding supports the procurement of TIPS refresh, and additional Expeditionary Deployable Production Systems (EDPS) components which equips Marines with a high-powered computing and processing capability to edit, store, retrieve, and transfer operational imagery in multiple formats. The Occupational Field modernization resulted in an increase to structure, personnel, and capability to support concepts of employment in the Information Environment. The Combat Camera and Public Affairs OccFields transitioned into Communication Strategy and Operations (COMMSTRAT) OccField in 2018. Due to this transition Combat Camera Systems and Public Affairs Systems Program of Record will transition into Digital Media System (DMS) by FY22. These increases and changes result in the demand for more equipment and capabilities to support both the legacy CCS and PAS programs as well as DMS.		
Public Affairs System (PAS) - \$0.691M (\$0.642M Active; \$0.049M Reserves): Funding provides for the continued procurement of Public Affairs Content Creation System (PACCS) Next Generation of digital camera system in order to support equipment modernization and obsolescence life cycle. PACCS Next Generation had a nomenclature change to Visual Information Acquisition System this system provides image and video acquisition and editing capabilities for active and reserve component commands. Funding procures one PALMES spare and continues modernization efforts of currently fielded PALMES. PALMES provides MAGTF and Supporting Establishment commanders the capability to transmit approved Public Affairs products, such as high-resolution video and to conduct live television and media interviews via satellite. The Combat Camera and Public Affairs OccFields transitioned into Communication Strategy and Operations (COMMSTRAT) OccField in 2018. Due to this transition change Combat Camera Systems and Public Affairs Systems Program of Record will transition into Digital Media System (DMS) by FY22.		
Military Information Support Operations (MISO) Family of Systems (FOS) - \$6.289M Increase of \$3.313M from FY19 to FY20 supports the procurement of long lead items for the Fly-Away Broadcast System (FABS) variants Heavy, medium, light under a phased AAO procurement approach and the continuing procurement of MISO equipment such as Next-Generation Loud Speaker (NGLS), Radio-In-A-Box (RIAB), and Marine Corps SOF Integration Node (MSIN) and initial support, which provides the MAGTF Commander the capability to conduct planned operations to convey selected information and indicators to foreign adversary, neutral and friendly target audiences to influence their emotions, motives, objective reasoning, providing an operational advantage. FY20 also funds procurement of Signature Management (SIGMAN) commercial off-the-shelf equipment to provide a capability to include Own-force signature monitoring and assessment, Electromagnetic signature masking and projection, and physical decoys.		

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Line Item MDAP/MAIS Code: N/A		
TEST, EVALUATION, & ENGINEERING ENVIRONMENT - EQUIPMENT & TECHNICAL SERVICES (T&E) - \$0.903M funding buys centrally managed/itemized equipment that supports modernization and expansion of the MAGTF Systems Integration Environment at MCTSSA. This includes, but is not limited to, Communications Backbone, Network Backbone, Tactical Cloud Integration Backbone, Test and Engineer Tool/Data Collection Hardware/Software, and Computers. Equipment supports testing for all phases in the acquisition lifecycle. The increase of \$0.155M from FY19 to FY20 allows MCTSSA to incorporate upgrades to critical lab network infrastructure which will replicate representative MAGTF architectures, implement a deployed cloud testing environment, modernize MCEN Planning Yard infrastructure, support a collaborative enterprise effort to test, and engineer the MCEN from a performance, security, and resiliency aspect. It also provides improvements to our Naval Integration infrastructure which will enhance our ability to provide enterprise-level tactical and garrison networking/software application support, as well as modernize the virtualization stacks of Consolidated Afloat Network and Enterprise Services (CANES), Integrated Shipboard Network System (ISNS), and Automated Digital Network System (ADNS). MARINE CORPS INFORMATION OPERATIONS PROGRAM (MCIOP) - FY20 \$0.371M funding refurbishes MCIOC's A/V system. Funding refreshes classified VTC capability to better support the growing operational requirements of deployed teams and updates the infrastructure to better support the Deputy Commandant for Information's requirement to coordinate operations in the Information Environment across the Marine Corps. Enterprise Logistics Support Systems (ELS2) - \$0.210M: FY20 funding supports the installs and continued purchase of Iridium Modems and Field Data Units for the transition of aRFID dial up to Marine Corps to PL AMIS Army. This effort provides in-transit visibility (ITV) for cargo shipments throughout the world. Additionally, this provides commanders with an overall strategic picture of the current status of their shipments. Combat Optics - \$68.422M: funding procures three major warfighting capabilities, the Squad BNVG (SBNVG), Squad Thermal System (STS), and Squad Common Optic (SCO). The SBNVG is a helmet-mounted or handheld, battery-operated Night Vision Goggle (NVG) that combines the capabilities of Image-Intensification (I2) and Thermal Imaging. The SBNVG is a capability that will be provided to each Marine Rifle Team and will enable the ability to detect, recognize, and engage targets during limited visibility, thereby increasing lethality and the probability of mission success particularly in extremely low light levels, weather, and obscurants. The increase of funding for SBNVG in FY20 provides this enhanced warfighting capability to additional infantry battalions in support of fielding priorities. FY20 funding procures the entire Squad Thermal System (STS) AAO. The STS provides an individual thermal imaging capability to the Marine Rifle Squad and the Marine Reconnaissance Team while engaging in offensive and defensive operations. The STS will be employed as a weapon mounted clip-on thermal sight that can be used in conjunction with the AN/PVQ-31 A/B and M7 Rifle Combat Optics (RCO), and also serves as a lightweight, pocket-sized hand-held thermal imager. FY20 funding supports initial procurement of the Squad Common Optic (SCO) which replaces the Rifle Combat Optic (RCO) with a variable-powered rifle sight designed for use with all 5.56mm service rifles. It will provide the Marine with an enhanced targeting capability to identify and engage daylight and near low-light targets during close quarters combat and throughout the maximum effective range of the weapon system. FY 2021 Base Appropriation Request: \$69.725M (\$69.690 Active; \$0.035 Reserve) The reduction of \$10.624M from FY20 to FY21 is primarily due to completion of procurements for the Combat Camera Systems TIPS refresh cycle, Rifle Combat Optics Modernization, and Squad Thermal systems achieving AAO requirements. Combat Optics - \$50.492M: a decrease of \$17.930M from FY20 to FY21 is due to STS completion of the AAO procurement in FY20. FY21 funding will support two major procurement efforts, \$34.183M for the continued procurement of the Squad Binocular Night Vision Goggle (SBNVG) and \$15.876M for the continued procurement of the Squad Common Optic (SCO). Combat Camera Systems (CCS) \$0.429M: a decrease of \$3.034M from FY20 to FY21 realigns funds to support higher priority Marine Corps efforts, shifting program focus to audiovisual communication requirements. \$0.429M will procure DMS equipment sets for the COMMSTRAT community to acquire and produce still/video visual information products, research and plan communication initiatives, produce and disseminate communication products, and assess the effects of communication initiatives within the information environment. Equipment sets will replace systems for the Expeditionary Combat Photography and Video systems which enable Marines with still and video imagery capability in day or low-light conditions, imagery processing and storage, and production and transfer capability in support of audiovisual communication requirements. The Combat Camera and Public Affairs OccFields transitioned into Communication Strategy and Operations (COMMSTRAT) OccField in 2018. Due to this transition change Combat Camera Systems and Public Affairs Systems Program of Record will transition into Digital Media System (DMS) by FY22.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 14: Command and Control System (Non-Tel)		P-1 Line Item Number / Title: 4620 / Items under \$5 million (Comm & Elec)
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0502514M
Line Item MDAP/MAIS Code: N/A		
Public Affairs System (PAS) - \$0.694M (\$0.659M Active: \$0.035M Reserve): an increase of \$0.003M from FY20 to FY21 is due to continued procurement of DMS equipment. Funds will be for the procurement of a hardware/software solution to support research and plan communication initiatives, assess the effects of communication initiatives within the information environment, and provide software to work with PALMES transmission capability to refresh the Public Affairs Laptop (PAL). The PAL is provided to research the information environment, conduct media and social media engagements, and review communications products. The Combat Camera and Public Affairs OccFields transitioned into Communication Strategy and Operations (COMMSTRAT) OccField in 2018. Due to this transition change Combat Camera Systems and Public Affairs Systems Program of Record will transition into Digital Media System (DMS) by FY22. Marine Civil Information Management System (MARCIMS)- \$0.302; Increase of \$0.302 from FY20 to FY21 supports the procurement of mobile devices, mobile devices management licenses, and peripherals as part of the MARCIMS refresh cycle of every-other-year. This capability supports real-world operations and overseas contingencies that require a civil military presence, such as humanitarian assistance and disaster relief operations. Military Information Support Operations (MISO) Family of Systems (FOS) - \$4.987M; Decrease of \$1.302 from FY20 to FY21 reflects the transition of Signature Management (SIGMAN) funding out of the MISO budget and into a separate funding profile. FY21 funds will support the continued AAO phased procurement of Fly-Away Broadcast System (FABS) variants heavy, medium, and light as well as MISO equipment such as Radio-In-A-Box (RIAB), and Marine Corps SOF Integration Node (MSIN). This will allow for influence to select foreign groups and promote themes to change those groups' attitudes and reduce civilian interference, minimize collateral damage, and increase the population's support for MAGTF operations. MARINE CORPS INFORMATION OPERATIONS PROGRAM (MCIOP) - FY21 \$0.378M; The increase of \$0.007M from FY20 to FY21 will be due to the support of real-time Information Operations (IO). Funding will support command post systems enhancements specific to the information environment. PAI enhancements include additional licenses for PAI analysis tools which will assist in operationalizing the MIGs and their ability to monitor, assess, and evaluate social networks. These enhancements will support the growing operational requirements of deployed teams and enable coordination of operations in the information environment; specific enhancements include command and control of the information environment. (C2IE), the Joint Information Operations Range (JIOR), and publically available information analysis. Signature Management (SIGMAN) - \$5.716M; The increase of \$1.916M from FY20 (\$3.800M under MISO) to FY21 will reflect the initial procurement of electromagnetic signature emitter devices and SIGMAN equipment toward the Approved Acquisition Objective (AAO) along with associated support. Funding will provide for the continued procurement of the commercial off-the-shelf equipment to provide the initial capability to include blue-force electromagnetic signature monitoring and assessment. SIGMAN will be utilized by the Marine Corps Information Operations Center (MCIOC) SIGMAN platoon to provide commanders with the ability to understand their own forces' electromagnetic signatures and the ability to disrupt or deceive adversary units. Prior to FY21, SIGMAN was funded within the Military Information Support Operations (MISO) Family of Systems (FOS) portfolio. Enterprise Logistics Support Systems (ELS2) - \$0.755M; The increase of \$0.545M from FY20 will support the installation and continued purchase of Iridium Modems and Field Data Units for the transition of aRFID dial up to Marine Corps to PL AMIS Army. Additionally, this increase in funding supports automation enhancements. This effort provides in-transit visibility (ITV) for cargo shipments throughout the world. Additionally, this system provides commanders with an overall strategic picture of the current status of their shipments. TEST, EVALUATION, & ENGINEERING ENVIRONMENT - EQUIPMENT & TECHNICAL SERVICES (T&E) - \$5.972M; The \$5.069M increase from FY20 to FY21 will provide the following: \$2.9M for recapitalization of current end-of-service/end-of-life equipment, \$2.4M of MCEN planning yard equipment to include Enterprise Level interoperability and rollout of virtualization architecture in the environment, which will also recapitalize existing test facility's use of "Infrastructure as a Service," and \$0.700M for required MAGTF Afloat and Naval equipment. More than (40) Marine Corps C4I programs and systems rely on Marine Corps Tactical Systems Support Activity (MCTSSA) support and their ability to conduct relevant and able testing, evaluation, and engineering solutions. MCTSSA provides the only Marine Corps organic, operationally relevant, MAGTF Command, Control, Communications, Computers, and Intelligence (C4I) architecture for enterprise-level testing, engineering, analysis, troubleshooting, and solutions.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy																Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 14						P-1 Line Item Number / Title: 4620 / Items under \$5 million (Comm & Elec)						Aggregated Items Title: Items under \$5 million (Comm & Elec)									
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total			
			Unit Cost (\$)	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)	
1) Prior Year Cumulative Funding																					
1.1) Prior Year Cumulative Funding		A		-	-	53.072	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Subtotal: 1) Prior Year Cumulative Funding			-	-	53.072	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2) Combat Camera Sytems ⁽¹⁾																					
2.1) Combat Camera System equipment		A		-	-	-	-	-	-	-	-	-	-	-	0.282	-	-	-	-	0.282	
2.2) Tactical Imagery Production System (TIPS) ⁽²⁾		A		-	-	13.845	-	-	1.751	-	-	2.944	-	-	-	-	-	-	-	-	
2.3) Expeditionary Deployable Production System (EDPS) ^{(3)(t)}		A		48,000.00	28	1.344	3,065.04	123	0.377	3,065.04	123	0.377	-	-	-	-	-	-	-	-	
2.4) Non-recurring Items		A		-	-	0.821	-	-	0.136	-	-	0.142	-	-	0.147	-	-	-	-	0.147	
Subtotal: 2) Combat Camera Sytems			-	-	16.010	-	-	2.264	-	-	3.463	-	-	0.429	-	-	-	-	-	0.429	
3) Public Affairs System																					
3.1) Public Affairs PALMES ⁽¹⁾		A		126,666.67	6	0.760	170,000.00	2	0.340	200,000.00	1	0.200	-	-	-	-	-	-	-	-	
3.2) Public Affairs System Equipment - Active ⁽⁴⁾		A		-	-	15.942	-	-	2.039	-	-	0.442	-	-	0.659	-	-	-	-	0.659	
3.3) Public Affairs System Equipment - Reserves		A		-	-	0.210	-	-	0.048	-	-	0.049	-	-	0.035	-	-	-	-	0.035	
Subtotal: 3) Public Affairs System			-	-	16.912	-	-	2.427	-	-	0.691	-	-	0.694	-	-	-	-	-	0.694	
4) Marine Civil Information Management System (MARCIMS)																					
4.1) Marine Civil Information Management System (MARCIMS) ⁽⁵⁾		A		-	-	2.825	-	-	0.296	-	-	-	-	-	0.302	-	-	-	-	0.302	
Subtotal: 4) Marine Civil Information Management System (MARCIMS)			-	-	2.825	-	-	0.296	-	-	-	-	-	0.302	-	-	-	-	-	0.302	
5) ENTERPRISE LOGISTICS SUPPORT SYSTEMS (ELS2)																					
5.1) RFID Legacy Migration ⁽⁶⁾		A		-	-	0.594	-	-	0.236	-	-	0.210	-	-	0.755	-	-	-	-	0.755	
Subtotal: 5) ENTERPRISE LOGISTICS SUPPORT SYSTEMS (ELS2)			-	-	0.594	-	-	0.236	-	-	0.210	-	-	0.755	-	-	-	-	-	0.755	
6) COMBAT OPTICS																					

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy																Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 14						P-1 Line Item Number / Title: 4620 / Items under \$5 million (Comm & Elec)						Aggregated Items Title: Items under \$5 million (Comm & Elec)								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
6.1) Rifle Combat Optics Modernization (7)(t)	A		1,229.95	187	0.230	1,250.00	21	0.026	1,300.00	231	0.300	-	-	-	-	-	-	-	-	-
6.2) Sniper Range Finder ^(t)	A		6,493.09	941	6.110	6,655.87	494	3.288	-	-	-	-	-	-	-	-	-	-	-	-
6.3) Squad Thermal System ^{(8)(t)}	A		9,239.07	389	3.594	9,492.61	1,407	13.356	8,328.92	2,268	18.890	-	-	-	-	-	-	-	-	-
6.4) Production Support	A		-	-	3.424	-	-	1.230	-	-	0.510	-	-	0.433	-	-	-	-	-	0.433
6.5) Squad Common Optic ^{(9)(t)}	A		-	-	-	-	-	-	2,200.11	8,850	19.471	2,266.11	7,006	15.876	-	-	-	2,266.11	7,006	15.876
6.6) SBNVG: BNVD, E-COTI ^(t)	A		17,265.82	474	8.184	17,984.85	650	11.690	-	-	-	-	-	-	-	-	-	-	-	-
6.7) SBNVG: ENVG-B ^(t)	A		-	-	-	22,312.82	195	4.351	-	-	-	-	-	-	-	-	-	-	-	-
6.8) SBNVG ^{(10)(t)}	A		-	-	-	13,970.00	1,700	23.749	13,970.00	2,086	29.141	13,970.00	2,439	34.073	-	-	-	13,970.00	2,439	34.073
6.9) SBNVG Hardware ⁽¹¹⁾	A		-	-	-	-	-	0.049	-	-	0.110	-	-	0.110	-	-	-	-	-	0.110
Subtotal: 6) COMBAT OPTICS			-	-	21.542	-	-	57.739	-	-	68.422	-	-	50.492	-	-	-	-	-	50.492
7) Manpower Operations Systems (MOS)																				
7.1) Servers	A		-	-	1.919	-	-	0.054	-	-	-	-	-	-	-	-	-	-	-	-
7.2) Software	A		-	-	0.243	-	-	0.192	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 7) Manpower Operations Systems (MOS)			-	-	2.162	-	-	0.246	-	-	-	-	-	-	-	-	-	-	-	-
8) Test, Evaluation & Engineer Environment																				
8.1) Test Engineering Labs Infrastructure ⁽¹²⁾	A		-	-	-	-	-	0.748	-	-	0.903	-	-	5.972	-	-	-	-	-	5.972
Subtotal: 8) Test, Evaluation & Engineer Environment			-	-	0.000	-	-	0.748	-	-	0.903	-	-	5.972	-	-	-	-	-	5.972
9) Military Information Support Operations (MISO) Family of Systems																				
9.1) Fly-Away Broadcast System (FABS) ⁽¹³⁾	A		-	-	-	-	-	-	-	-	1.919	-	-	4.124	-	-	-	-	-	4.124
9.2) Signature Management (SIGMAN) Equipment ⁽¹⁴⁾	A		-	-	-	-	-	1.000	-	-	3.800	-	-	-	-	-	-	-	-	-
9.3) MISO Equipment ⁽¹⁵⁾	A		-	-	-	-	-	1.976	-	-	0.570	-	-	0.863	-	-	-	-	-	0.863

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 14							P-1 Line Item Number / Title: 4620 / Items under \$5 million (Comm & Elec)							Aggregated Items Title: Items under \$5 million (Comm & Elec)						
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
Subtotal: 9) Military Information Support Operations (MISO) Family of Systems			-	-	0.000	-	-	2.976	-	-	6.289	-	-	4.987	-	-	-	-	-	4.987
10) Marine Corps Information Operations Program (MCIOF)																				
10.1) VARIOUS HARDWARE ⁽¹⁶⁾	A		-	-	-	-	-	0.382	-	-	0.371	-	-	0.378	-	-	-	-	-	0.378
Subtotal: 10) Marine Corps Information Operations Program (MCIOF)			-	-	0.000	-	-	0.382	-	-	0.371	-	-	0.378	-	-	-	-	-	0.378
11) Signature Management (SIGMAN) ⁽¹⁷⁾																				
11.1) SIGMAN: Equipment ⁽¹⁸⁾	A		-	-	-	-	-	-	-	-	-	-	-	5.466	-	-	-	-	-	5.466
11.2) SIGMAN: Support ⁽¹⁹⁾	A		-	-	-	-	-	-	-	-	-	-	-	0.250	-	-	-	-	-	0.250
Subtotal: 11) Signature Management (SIGMAN)			-	-	0.000	-	-	-	-	-	-	-	-	5.716	-	-	-	-	-	5.716
Total			-	-	113.117	-	-	67.314	-	-	80.349	-	-	69.725	-	-	-	-	-	69.725
Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.																				
(1) indicates the presence of a P-5a																				
Footnotes:																				
(1) CCS - Funding will procure DMS equipment sets for the COMMSTRAT community to acquire and produce still/video visual information products, research and plan communication initiatives, produce and disseminate communication products, and assess the effects of communication initiatives within the information environment in various formats. The overall decrease of \$3.034M reflects the realignment of funding to higher priority Marine Corps efforts and a shifting program focus to audiovisual communications requirements.																				
(2) CCS: Tactical Imagery Production System Version 3 (TIPS V3) is a system which enables extensively trained COMMSTRAT documentation and production teams with increased capability to acquire, process, develop, reproduce, archive, distribute in hardcopy or varying electronic formats of visual information products. TIPS V3 is the primary deployable asset that provides the still, motion, reproduction and temporary storage equipment set; initially fielded in 2014 with a proposed lifecycle of 7-10 years. These sets require earlier fielded assets to have components refreshed to ensure asset is serviceable until scheduled refresh of entire system is completed.																				
(3) CCS: Funding supports the procurement of EDPS components.																				
(4) The Combat Camera and Public Affairs OccFields transitioned into Communication Strategy and Operations (COMMSTRAT) OccField in 2018. Due to this transition change Combat Camera Systems and Public Affairs Systems Program of Record will transition into Digital Media System (DMS) by FY22. Due to this change, the PACCS refresh nomenclature will change to the Visual Information Acquisition System (VIAS). Funds will be for the procurement of a hardware/software solution to support research and plan communication initiatives, assess the effects of communication initiatives within the information environment and provide software to work with PALMES transmission capability to refresh the Public Affairs Laptop (PAL).																				
(5) MARCIMS - The increase of \$0.302 from FY20 to FY21 to support the procurement of mobile devices, mobile device management licenses, and peripherals as part of the MARCIMS refresh cycle of every-other-year. This capability supports real-world operations and overseas contingencies that require a civil military presence, such as humanitarian assistance and disaster relief operations.																				
(6) The increase of \$0.545M from FY20 to FY21 reflects the initial procurement of electromagnetic signature emitter devices and SIGMAN equipment toward the approved AAO along with associated support.																				
(7) Combat Optics: RCO modernization will conclude with the fielding of the SCO in FY21. The unit cost increase is based on the most recent pricing estimate from the source of supply for this equipment and the increase in quantity does not meet the next step ladder pricing increment.																				
(8) Combat Optics: Unit cost for STS in FY20 is based on cost estimate provided by Army's program office based on the step ladder pricing construct and the Army planned quantity. Program is procuring on Army contract.																				
(9) Combat Optics: Unit price on the SCO is projected to increase 3% per year.																				
(10) Combat Optics: Unit price based on firm fixed priced MCSC contract. The increase of \$4.932M represents the purchase of additional end items in FY21.																				

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 14	P-1 Line Item Number / Title: 4620 / Items under \$5 million (Comm & Elec)	Aggregated Items Title: Items under \$5 million (Comm & Elec)
⁽¹¹⁾ SBNVG Hardware costs in FY20-FY21 increase due to initial production and increases again in FY24 due to additional items needed prior to contract closeout. ⁽¹²⁾ The \$5.069M increase is due to the recapitalization of EOS/EOL equipment, hardware procurement to support a virtualization architecture, and additional MAGTF afloat and Naval equipment. ⁽¹³⁾ MISO: Fly-Away Broadcast System (FABS) \$4.124M Active- Increase of \$2.205M from FY20 to FY21 reflects resources required to support an AAO phased procurement of FABS variants heavy, medium and light to total AAO that expands over five years. FABS provides the ability to plan, develop, deliver and assess messages and actions to influence select foreign groups and promote themes to change those groups' attitudes and reduce civilian interference, minimize collateral damage, and increase the population's support for MAGTF operations. ⁽¹⁴⁾ SIGMAN equipment \$3.800M decrease from FY20 to FY21 for the continued procurement of SIGMAN components for signature monitoring and assessment, EM signature masking and projection, and physical decoys. The total \$3.800M transitioned to Cost Element 11.1 (See Footnote 13). ⁽¹⁵⁾ MISO: MISO Equipment increase of \$0.293 from FY20 to FY21 reflects the procurement of items such as Radio-In-A-Box (RIAB), and Marine Corps SOF Integration Node (MSIN), which provides the MAGTF Commander the ability to plan, develop, deliver and assess messages and actions to influence select foreign groups and promote themes to change those groups' attitudes and reduce civilian interference, minimize collateral damage, and increase the population's support for MAGTF operations. ⁽¹⁶⁾ MCIOF: The increase of \$0.007M from FY20 to FY21 reflects will support command post systems enhancements specific to the information environment. PAI enhancements include additional licenses for PAI analysis tools. ⁽¹⁷⁾ SIGMAN: In FY2021, Signature Management (SIGMAN) received its own cost element, previously funded in FY2020 under Military Information Support Operations (MISO) Family of Systems (FOS). ⁽¹⁸⁾ SIGMAN: Total Increase of \$5.466M from FY20 to FY21. In FY20 SIGMAN was under Cost Element 9.2 for \$3.800M. SIGMAN transitioned to Cost Element 11.1 in FY 21 and the total increase was \$1.666M (Difference between CE9.2 and 11.1) reflecting the procurement of electromagnetic signature emitter devices and SIGMAN equipment toward the Approved Acquisition Objective (AAO). ⁽¹⁹⁾ SIGMAN: Increase of \$0.250M from FY2020 (\$0M under MISO) to FY2021 reflects associated support for FY21 planned procurements.		

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 14			P-1 Line Item Number / Title: 4620 / Items under \$5 million (Comm & Elec)						Aggregated Items: Items under \$5 million (Comm & Elec)			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
2) Combat Camera Sytems												
2.3) Expeditionary Deployable Production System (EDPS) ⁽³⁾		2019	CCDC / APGEA, MD	MIPR	** NO PCO **	Oct 2018	Jan 2019	123	3,065.04	Y		
2.3) Expeditionary Deployable Production System (EDPS) ⁽³⁾		2020	CCDC / APGEA, MD	MIPR	** NO PCO **	Oct 2019	Jan 2020	123	3,065.04	Y		
3) Public Affairs System												
3.1) Public Affairs PALMES		2018	NIWC-PAC / San Diego, CA	WR	San Diego, CA	Dec 2017	Mar 2018	3	190,000.00	Y		
3.1) Public Affairs PALMES	✓	2018	NIWC-PAC / San Diego, CA	WR	San Diego, CA	Dec 2017	Mar 2018	1	190,000.00	Y		
3.1) Public Affairs PALMES		2019	NIWC-PAC / San Diego, CA	WR	San Diego, CA	Oct 2018	Jan 2019	2	170,000.00	N		
3.1) Public Affairs PALMES		2020	NIWC-PAC / San Diego, CA	WR	San Diego, CA	Oct 2019	Oct 2019	1	200,000.00	N		
6) COMBAT OPTICS												
6.1) Rifle Combat Optics Modernization ⁽⁷⁾		2017	Trijicon / Wixom, MI	C / FFP	Quantico, VA	Feb 2017	Jun 2017	187	1,229.95	Y		
6.1) Rifle Combat Optics Modernization ⁽⁷⁾		2019	DLA/Trijicon / Wixom, MI	MIPR	Philadelphia, PA	Feb 2019	Jun 2019	21	1,250.00	Y		
6.1) Rifle Combat Optics Modernization ⁽⁷⁾		2020	DLA/Trijicon / Wixom, MI	MIPR	Philadelphia, PA	Feb 2020	Jun 2020	231	1,300.00	Y		
6.2) Sniper Range Finder		2017	DLA/Optics 1 / Bedford, NH	MIPR	Philadelphia, PA	Jun 2017	Oct 2017	227	6,657.14	Y		
6.2) Sniper Range Finder		2018	DLA/Optics 1 / Bedford, NH	MIPR	Philadelphia, PA	Feb 2018	Jun 2018	714	6,441.18	Y		
6.2) Sniper Range Finder		2019	DLA/Optics 1 / Bedford, NH	MIPR	Philadelphia, PA	Nov 2018	Mar 2019	494	6,655.87	Y		
6.3) Squad Thermal System ⁽⁸⁾		2018	PM Soldier Sensors and Lasers ⁽²⁰⁾ / Ft. Belvoir	MIPR	Fort Belvoir, VA	Oct 2018	Apr 2020	389	9,238.51	Y		
6.3) Squad Thermal System ⁽⁸⁾		2019	PM Soldier Sensors and Lasers ⁽²⁰⁾ / Ft. Belvoir	MIPR	Fort Belvoir, VA	Jun 2019	Jul 2020	1,407	9,492.61	Y		
6.3) Squad Thermal System ⁽⁸⁾		2020	PM Soldier Sensors and Lasers ⁽²⁰⁾ / Ft. Belvoir	MIPR	Fort Belvoir, VA	Jun 2020	Jul 2021	2,268	8,328.92	Y		
6.5) Squad Common Optic ^{(9)(t)}		2020	TBD/TBD ⁽²¹⁾ / C/TBD	C / FFP	Quantico	Mar 2020	Sep 2020	8,850	2,200.11	Y		Nov 2019
6.5) Squad Common Optic ^{(9)(t)}		2021	TBD/TBD ⁽²¹⁾ / C/TBD	C / FFP	Quantico	Mar 2021	Sep 2021	7,006	2,266.11	Y		
6.6) SBNVG: BNVD, E-COTI		2018	ADS, Inc. / Virginia Beach, VA	MIPR	Philadelphia, PA	Jul 2018	Oct 2018	474	17,265.45	Y		
6.6) SBNVG: BNVD, E-COTI		2019	ADS, Inc. / Virginia Beach, VA	MIPR	Philadelphia, PA	Nov 2018	Feb 2019	650	17,984.85	Y		
6.7) SBNVG: ENVG-B		2019	PM Soldier Sensors and Lasers / Ft. Belvoir	MIPR	Ft. Belvoir	Dec 2018	Dec 2019	195	22,312.82	Y		
6.8) SBNVG ^{(10)(t)}		2019	Elbit Systems of America ⁽²²⁾ / Roanoke, VA	C / FFP	MCSC	Sep 2019	Oct 2019	1,700	13,970.00	Y		May 2019

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 14				P-1 Line Item Number / Title: 4620 / Items under \$5 million (Comm & Elec)					Aggregated Items: Items under \$5 million (Comm & Elec)			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
6.8) SBNVG ^{(10)(†)}		2020	Elbit Systems of America ⁽²²⁾ / Roanoke, VA	C / FFP	MCSC	Dec 2019	Aug 2020	2,086	13,970.00	Y		
6.8) SBNVG ^{(10)(†)}		2021	Elbit Systems of America ⁽²²⁾ / Roanoke, VA	C / FFP	MCSC	Dec 2020	Aug 2021	2,439	13,970.00	Y		

(†) indicates the presence of a P-21

Footnotes:
⁽²⁰⁾ Annual production rates for the Squad Thermal System are estimates of the manufacturing capacity for the entire inter-service contract, of which the Marine Corps is a small component.
⁽²¹⁾ Contract will be competitively awarded. Annual production rates for SCO production is based on RFI responses and market research
⁽²²⁾ SBNVG MCSC Contract: Production rates are based on full and open contract award.

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 14										P-1 Line Item Number / Title: 4620 / Items under \$5 million (Comm & Elec)										Aggregated Items: Items under \$5 million (Comm & Elec)														
Items <i>(Units in Each)</i>								Fiscal Year 2017												Fiscal Year 2018												B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017												Calendar Year 2018															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				
6) COMBAT OPTICS																																		
6.5) Squad Common Optic ⁽⁹⁾																																		
	13	2020	NAVY	8,850	0	8,850																												8,850
	13	2021	NAVY	7,006	0	7,006																												7,006
6.8) SBNVG ⁽¹⁰⁾																																		
	14	2019	NAVY	1,700	0	1,700																												1,700
	14	2020	NAVY	2,086	0	2,086																												2,086
	14	2021	NAVY	2,439	0	2,439																												2,439
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020													
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 14										P-1 Line Item Number / Title: 4620 / Items under \$5 million (Comm & Elec)										Aggregated Items: Items under \$5 million (Comm & Elec)													
Items <i>(Units in Each)</i>								Fiscal Year 2019												Fiscal Year 2020												B A L A N C E	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019												Calendar Year 2020														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			
6) COMBAT OPTICS																																	
6.5) Squad Common Optic ⁽⁹⁾																																	
	13	2020	NAVY	8,850	0	8,850													A - - - - - - - 500												8,350		
	13	2021	NAVY	7,006	0	7,006																									7,006		
6.8) SBNVG ⁽¹⁰⁾																																	
	14	2019	NAVY	1,700	0	1,700													A -	20	-	-	-	-	-	650	250	250	250	250	30		0
	14	2020	NAVY	2,086	0	2,086													A - - - - - - - 220												250	1,616	
	14	2021	NAVY	2,439	0	2,439																											2,439
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020													
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 14										P-1 Line Item Number / Title: 4620 / Items under \$5 million (Comm & Elec)										Aggregated Items: Items under \$5 million (Comm & Elec)													
Items <i>(Units in Each)</i>							Fiscal Year 2021										Fiscal Year 2022													BALANCE			
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021										Calendar Year 2022																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP		
6) COMBAT OPTICS																																	
6.5) Squad Common Optic ⁽⁹⁾																																	
	13	2020	NAVY	8,850	500	8,350	650	770	770	770	770	770	770	770	770	770	770															0	
	13	2021	NAVY	7,006	0	7,006						A -	-	-	-	-	-	584	584	584	584	584	584	584	584	584	584	584	582		0		
6.8) SBNVG ⁽¹⁰⁾																																	
	14	2019	NAVY	1,700	1,700	0																											0
	14	2020	NAVY	2,086	470	1,616	250	250	250	250	250	250	116																				0
	14	2021	NAVY	2,439	0	2,439				A -	-	-	-	-	-	-	204	204	204	204	204	204	204	204	204	204	204	204	195		0		
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2021 Navy							Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 14				P-1 Line Item Number / Title: 4620 / Items under \$5 million (Comm & Elec)			Aggregated Items: Items under \$5 million (Comm & Elec)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	TBD/TBD ⁽²¹⁾ - C/TBD	4,000	7,000	12,000	0	0	6	6	0	0	6	6
2	Elbit Systems of America ⁽²²⁾ - Roanoke, VA	240	3,000	6,900	0	0	1	1	0	0	8	8

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

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

Footnotes:

⁽²¹⁾ Contract will be competitively awarded. Annual production rates for SCO production is based on RFI responses and market research

⁽²²⁾ SBNVG MCSC Contract: Production rates are based on full and open contract award.

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

Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 14: Command and Control System (Non-Tel)	P-1 Line Item Number / Title: 4640 / Air Operations C2 Systems

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0206335M

Line Item MDAP/MAIS Code: N36

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	330.188	15.647	17.408	15.611	0.000	15.611	7.495	1.337	1.489	1.520	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	330.188	15.647	17.408	15.611	0.000	15.611	7.495	1.337	1.489	1.520	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	330.188	15.647	17.408	15.611	0.000	15.611	7.495	1.337	1.489	1.520	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Joint Cooperative Target Identification-Ground (JCTI-G): The JCTI-G program will address four of the 26 capability gaps identified in the validated Combat ID - Friendly Force Tracker (CID-FFT) Joint Capabilities Document (JCD). A Jun 2010 JFCOM-led Analysis of Alternatives (AoA) concluded, and the USMC concurred, that pursuit of a new material solution and introduction of a new system would not be cost effective. This conclusion was based upon both cost and ability to address the four defined capability gaps in Combat Identification specific to reducing fratricide of U.S. and coalition forces. The AoA evaluated the currently Fielded and Planned Capability Improvements (FPCI) resident within funded projects and existing programs of records across all Services and determined that the most affordable alternative would leverage the FPCI programs by allocating the CID-FFT requirements and funding capability improvements within these existing programs. The AoA further concluded that, in addition to significant cost avoidance, leveraging the FPCI to meet the CID-FFT requirements, as opposed to establishing a new program of record material solution, would have greater impact and achieve a higher percentage of CID-FFT JCD capability gap closure by 2016. In support of a Jan 2010 Memorandum of Understanding between the Vice Chief of Staff of the Army and Assistant Commandant of the Marine Corps (which documents the Army and Marine Corps agreement to support closure of the Fires on Dismounts fratricide mitigation gap), the USMC refocused the program in June 2011 to begin allocation of CID-FFT JCD requirements to the USMC FPCI programs to meet this valid Joint Capabilities Integration and Development System (JCIDS) requirement. Having no previous CID-FFT requirement, these FPCI programs have neither planned for nor been resourced to support the additional requirements of the CID-FFT JCD. As a result of these events, this effort will ensure requirements allocation, traceability, and validation within 24 USMC FPCI programs in accordance with the CID-FFT JCD and JCIDS processes and provide resource funding as well as augment the workforce to support the additional unanticipated requirements being levied on FPCI programs. Additionally, it will support aggregation of a time-phased schedule of USMC CID-FFT capabilities and future interoperability engineering/testing between FPCI systems and related modernization efforts necessary to minimize costs and measure attainment of CID-FFT JCD capability gap closure by 2016. The AoA recommendation, accepted by the Services and OSD, is to maintain and enhance the full range of FPCI programs to meet the requirements and mitigate CID-FFT capability gaps identified in the CID-FFT JCD. The intent is to reduce fratricide, uphold the DOD and USMC position on JCTI-G, remain consistent with the AoA recommendations, comply with the purpose of JCTI-G appropriations, and support capability gap closure in accordance with the AoA and OSD led OIPT findings.

Composite Tracking Network (CTN) - The Composite Tracking Network (CTN) system distributes composite tracking data to Command and Control (C2) and weapon systems participating in a Cooperative Engagement Capability (CEC) network. The system will significantly contribute to real-time situational awareness. The program received ACAT III designation in Nov 2001 and is an instantiation of the USN CEC Program. The program is USMC led with US Navy and US Army cooperation. AAO: 10 systems plus 4 spares. The 12 April 1995 Mission Need Statement (MNS) No. AAS 48 for the Common Aviation Command and Control System (CAC2S) established the Marine Corps' need to upgrade its existing air defense architecture with capabilities to support improved situational awareness (SA) and advanced engagement concepts. The Composite Tracking Network (CTN) program was initiated to address this capability gap. The CTN system (AN/MSQ-143A(V)1) is an integration effort consisting of an AN/USG-4B and other Marine-unique components. All Marine-unique components are Government Furnished Equipment (GFE) with the exception of the shelter and mast. The components include: Vehicle - M1152A-1 (GFE Marine Corps Systems Command (MCSC), Trailer - M102 LTT-MCC (GFE MCSC), 10 KW Generator - MEP 803 (GFE MCSC), Tactical Radio - AN/MRC103 (GFE MCSC), Global Positioning System - DAGR (GFE MCSC), Environmental Control Unit - BOO03 (GFE MCSC), Shelter - S788 (COTS NSWC Crane), and Antenna Mast - TEAMS EXL 195/26-5.4 (COTS Naval Surface Warfare Center Crane).

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 14: Command and Control System (Non-Tel)		P-1 Line Item Number / Title: 4640 / Air Operations C2 Systems
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0206335M
Line Item MDAP/MAIS Code: N36		
The CTN system interfaces with the AN/TPS-59 radar, the AN/TPS-80 Ground/Air Task Oriented Radar (G/ATOR), and the CAC2S to provide the Marine Air-Ground Task Force (MAGTF) and Joint Task Force Commanders a ground based sensor netting solution that correlates sensor measurement data (target velocity and position) from local and remote radars that interface in the CEC network. This data will effectively increase Situational Awareness by providing accurate, composite, and real-time surveillance tracks, reduce ground-to-air and air-to-air fratricide, enable air and surface Integrated fire control (IFC), and extend the air defensive capability of forces in the littorals. Procurement of Common Array Block - Expeditionary (CAB-E) to replace obsolete Compact Solid State Antenna (CSSA). Marine Air Command and Control (MACCS) - MACCS Family of Systems (FoS) is organized into tactical agencies and operational facilities, each having different functions, tasks, and equipment suites. These agencies are fielded and supported by squadrons within the Marine Air Control Group (MACG) in support of the Aviation Combat Element (ACE). The tactical agencies are: the Tactical Air Command Center (TACC), the Tactical Air Operations Center (TAOC), and the Direct Air Support Center (DASC). The core MACCS systems consist of: The AN/TYQ-23 Tactical Air Operations Module (TAOM); AN/TYQ-101 Communications Data Link System (CDLS); AN/MRQ-12(V)4 Communications Interface System (CIS); AN/TYQ-87(V)2 Sector Anti Air Warfare Facility; AN/UYQ-3B Direct Air Support Central/Airborne System (DASC/AS); and the AN/MSQ-124 Air Defense Communications Platform (ADCP). The MACCS FoS program office ensures that the TACC, TAOC, and DASC systems remain ready, relevant, and capable until Full Operational Capability (FOC) of Common Aviation Command and Control System (CAC2S). Remote Video Viewing Terminal (RVVT) - RVVT provides the MAGTF the ability to receive, transmit, view, and manipulate full motion video and the associated metadata. RVVT also supports the ability to establish mesh and other advanced communications networks. The program consists of Video Down-Link (VDL) products such as the VideoScout Mobile Configuration 2 (VS-MC/2), VideoScout Mobile Configuration 3 (VS-MC/3), and Man Portable Video Down-Link (MPVDL) that allow for the viewing and exploitation of Full Motion Video (FMV) from Intelligence, Surveillance, and Reconnaissance (ISR) assets. VDL systems are mission critical for the coordination of direct and indirect fires and the prevention of fratricide. These systems provide the warfighter with video and metadata from all USMC manned and unmanned aircraft such as the Raven B, Puma, Micro-UAS, Shadow, Predator, Fire Scout, and Litening Pod on P-3, AV8-B, and F/A-18. Data is displayed to Forward Observers (FO), Joint Fires Observers (JFO), Joint Terminal Attack Coordinators (JTAC), and Forward Air Controller (FAC). Theater Battle Management Core System (TBMCS) - Joint Force mandated Air War planning tool for the generation, dissemination, and execution of the Air Tasking Order (ATO). TBMCS is an Air Force led program, which provides the automated tools necessary to manage tactical air operations, execute area air defense and airspace management in the tactical area of operation, and coordinate operations with components of other military services. TBMCS is located at the Tactical Air Command Center (TACC), with remotes located throughout the Marine Air Ground Task Force (MAGTF). It is scalable, allowing for joint, coalition, and service specific operations. It was an Air Force-led evolutionary acquisition joint ACAT III program. The USAF now seeks a replacement for TBMCS by applying a Mid-tier acquisition approach (Section 804 of the FY 2016 NDAA). Its original solution, the Command and Control Air Operation System (C2AOS), has transitioned to the TBMCS Replacement. In order to prevent TBMCS legacy system hardware obsolescence and enable the ability to host the new TBMCS Replacement being delivered by the Air Force, the Marine Corps will align with the Air Force in its system development and procurement. This will keep Marine Aviation relevant and operational in a joint theater and maintain its ability to plan and manage Marine Air-Ground Task Force (MAGTF) Air Operations.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 14: Command and Control System (Non-Tel)						P-1 Line Item Number / Title: 4640 / Air Operations C2 Systems				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206313M, 0206335M				
Line Item MDAP/MAIS Code: N36										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Air Operations C2 Systems	P-5a			- / 330.188	- / 15.647	- / 17.408	- / 15.611	- / -	- / 15.611
P-40	Total Gross/Weapon System Cost				- / 330.188	- / 15.647	- / 17.408	- / 15.611	- / 0.000	- / 15.611
*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 2019 (\$15.647): Composite Tracking Network (CTN) \$4.455M - Funds supported the procurement of three (3) Common Array Block - Expeditionary (CAB-E) antennas to replace the obsolete Compact Solid State Antenna (CSSA). This procurement is delayed to FY 2020 due to Navy experiencing a one year slip in the delivery of CAB systems. Funding was reallocated to support ECPs that addressed the upgrade of vital CTN components. CTN supported the Technical Refresh of CTN TEMPEST Laptops and the signal data processor-Sierra (SDP-S). Marine Air Command and Control (MACCS) \$0.050M - Funds supported the physical transition of Multifunctional Information Distribution System (MIDS) systems to be integrated into the Common Aviation Command and Control System (CAC2S) Full Deployment Units (FDU). MIDS are Link 16 Low Volume Terminals (LVT), which are required to support command, control, communications, computing and intelligence (C4I) as a part of CAC2S Full Deployment Units (0206335M). Theater Battle Management Core System (TBMCS) \$1.477M - Funding continued efforts such as on-site fielding representatives to support updated software and hardware fielding and the incremental procurement of new hardware for TBMCS to maintain cyber security accreditation as well as associated New Equipment Training (NET) in support of Maintenance Release Version 7 (MR7V). Remote Video Viewing Terminal (RVVT) \$9.665M - Funds procured hardware and ancillary equipment for the integration of the Full Motion Video capability into a user supported viewing platform. FY 2020 (\$17.408M): Composite Tracking Network (CTN) \$10.070M - Funds are to support the procurement of five (5) Common Array Block - Expeditionary (CAB-E) antennas and associated Initial Issue Provisioning (IIP). The CAB-E is replacing CTN's current obsolete Compact Solid State Antenna (CSSA). CTN will support NET and fielding for the signal data processor-Sierra SDP-S upgrades. Marine Air Command and Control (MACCS) \$0.000M - Funding has been decreased from \$0.050 to \$0.000 due to the program sun setting and no longer being funded. Theater Battle Management Core System (TBMCS) \$1.464M - In FY 2020 TBMCS will continue to support the incremental procurement of new hardware for TBMCS to sustain its cyber security accreditation. Funds will also be utilized to provide on-site fielding representatives to support the program's fielding of its annual Maintenance Releases which includes upgraded hardware, updated software, and support for New Equipment Training (NET). Remote Video Viewing Terminal (RVVT) - \$5.874M - Funds are being used to procure hardware to conduct a refresh of the battery and power management components of the Full Motion Video (FMV) capability. Decrease of \$3.791M from FY 2019 to FY 2020 is due to the completion of procurement of battery cables. FY 2021 Base Appropriation (\$15.611M):										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 14: Command and Control System (Non-Tel)		P-1 Line Item Number / Title: 4640 / Air Operations C2 Systems
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0206335M
Line Item MDAP/MAIS Code: N36		
Composite Tracking Network (CTN) \$14.301M - Funds will support the procurement of six (6) Common Array Block - Expeditionary (CAB-E) antennas and associated Initial Issue Provisioning (IIP), NET, and fielding. The CAB-E will replace the aging Compact Solid State Antenna (CSSA). The increase of \$4.231 from FY 2020 to FY 2021 is due to additional quantity of (1) CAB-E antenna as well as full CAB-E IIP procurement in FY 2021, to support delivering systems. Theater Battle Management Core System (TBMCS) \$1.290M - Funding will continue efforts such as on-site fielding representatives to support updated software and hardware fielding and the incremental procurement of new hardware for TBMCS to maintain cyber security accreditation as well as associated NET in support of annual Maintenance Releases. The decrease of \$0.171M from FY 2020 to FY 2021 is due to a reduction of on-site fielding support in lieu of the development of a TBMCS Command & Control Replacement. Remote Video Viewing Terminal (RVVT) - \$0.020 - Funds will be used to continue procurement of FMV components for the battery and power management components of the FMV capability. Decrease of \$5.854M is due to the completion of the hardware refresh supporting Full Motion Video (FMV) integration with viewing platforms.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 14							P-1 Line Item Number / Title: 4640 / Air Operations C2 Systems							Aggregated Items Title: Air Operations C2 Systems						
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
1) Remote Video Viewing Terminal (RVVT)																				
1.1) PRIOR YEARS CUMULATIVE FUNDING (RVVT)	A		-	-	13.389	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.2) FMV Components	A		-	-	18.717	-	-	9.665	-	-	1.205	-	-	0.020	-	-	-	-	-	0.020
1.3) Hardware Refresh	A		-	-	-	-	-	-	-	-	4.669	-	-	-	-	-	-	-	-	-
Subtotal: 1) Remote Video Viewing Terminal (RVVT)			-	-	32.106	-	-	9.665	-	-	5.874	-	-	0.020	-	-	-	-	-	0.020
2) CTN																				
2.1) CTN CAB-E Antenna Procurement (1)(t)	A		-	-	-	-	-	-	1,527K	5	7.634	1,527K	6	9.161	-	-	-	1,527K	6	9.161
2.2) CAB-E Initial Issue Provisioning (IIP) (2)	A		-	-	-	-	-	-	-	-	0.508	-	-	3.146	-	-	-	-	-	3.146
2.3) Engineering change Proposals (ECPs) (3)			-	-	22.293	-	-	3.415	-	-	1.502	-	-	1.554	-	-	-	-	-	1.554
2.4) Fielding and NET training (4)	A		-	-	1.940	-	-	0.385	-	-	0.426	-	-	0.440	-	-	-	-	-	0.440
2.5) Compact Solid State Antenna (CSSA) Spares	A		-	-	0.287	-	-	0.655	-	-	-	-	-	-	-	-	-	-	-	-
2.6) PRIOR YEARS CUMULATIVE FUNDING (CTN)			-	-	32.665	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 2) CTN			-	-	57.185	-	-	4.455	-	-	10.070	-	-	14.301	-	-	-	-	-	14.301
3) Common Aviation Command and Control System (CAC2S)																				
3.1) PRIOR YEARS CUMULATIVE FUNDING (CAC2S)			-	-	63.214	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 3) Common Aviation Command and Control System (CAC2S)			-	-	63.214	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4) TBMCS																				
4.1) TBMCS HW Legacy Procurement/ Integration Support	A		-	-	26.813	-	-	0.102	-	-	0.117	-	-	0.116	-	-	-	-	-	0.116
4.2) New Equipment Training			-	-	28.341	-	-	0.760	-	-	0.725	-	-	0.723	-	-	-	-	-	0.723
4.3) OnSite Fielding Reps (5)			-	-	8.440	-	-	0.615	-	-	0.622	-	-	0.451	-	-	-	-	-	0.451

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 14								P-1 Line Item Number / Title: 4640 / Air Operations C2 Systems							Aggregated Items Title: Air Operations C2 Systems				

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
4.4) PRIOR YEARS CUMULATIVE FUNDING (TBMCS)			-	-	10.107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 4) TBMCS			-	-	73.701	-	-	1.477	-	-	1.464	-	-	1.290	-	-	-	-	-	1.290
5) Marine Air Command and Control System (MACCS) Service																				
5.1) ADCP/DASCAS/ MIDS	A		-	-	7.322	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.2) Program Travel - MIDS Block II Fielding	A		-	-	-	-	-	0.050	-	-	-	-	-	-	-	-	-	-	-	-
5.3) PRIOR YEARS CUMULATIVE FUNDING (MACCS)			-	-	96.660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 5) Marine Air Command and Control System (MACCS) Service			-	-	103.982	-	-	0.050	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	330.188	-	-	15.647	-	-	17.408	-	-	15.611	-	-	-	-	-	15.611

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

(†) indicates the presence of a P-5a

Footnotes:

- (1) FY 2019 Funds were to support the procurement of three (3) Common Array Block - Expeditionary (CAB-E) antennas to replace the obsolete Compact Solid State Antenna (CSSA). This procurement is delayed to FY 2020 due to Navy experiencing a one year slip in the delivery of CAB systems. Funding reallocated to support CTN tech refresh efforts and a priority DoD ATR. Planned procurement quantity of fourteen (14) (qty 10 plus 4 spares) remains unchanged. \$1.527 increase from FY 2020 to FY 2021 is to procure Common Array Block - Expeditionary antennas to replace its aging Compact Solid State Antenna (CSSA).
- (2) \$2.638 increase from FY 2020 to FY 2021 is to support an increase in scope for CAB-E Initial Issue Provisioning (IIP) to support the ramp up of CAB-E production and fielding in FY 2021. IIP is used to provision initial spares and repair parts for the new CAB-E production antennas, by identifying, selecting, and acquiring initial support items required for CAB-E.
- (3) \$0.052M increase from FY 2020 to FY 2021 is due to ECPs associated with the integration of the Common Array Block - Expeditionary (CAB-E) antenna into CTN.
- (4) NET and Fielding supports CTN ECPs to modernize and align with the Navy Cooperative Engagement Capability (CEC). In FY 2020 CTN will support NET and fielding for the signal data processor-Sierra SDP-S upgrades. \$0.14M Increase in fielding and New equipment Training (NET) cost from FY 2020 to FY 2021 is due to implementation of CAB-E and removal of CSSA.
- (5) Decrease of \$0.171M from FY 2020 to FY 2021 is due to a reduction of on-site fielding support.

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 14			P-1 Line Item Number / Title: 4640 / Air Operations C2 Systems						Aggregated Items: Air Operations C2 Systems			
Item Number / Title [DODIC]	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
2) CTN												
2.1) CTN CAB-E Antenna Procurement ⁽¹⁾		2020	Raytheon / St. Petersburg, FL	C / FFP	St. Petersburg, FL	Apr 2020	Apr 2021	5	1,527K	Y		Jan 2018
2.1) CTN CAB-E Antenna Procurement ⁽¹⁾		2021	Raytheon / St. Petersburg, FL	C / FFP	St. Petersburg, FL	Mar 2021	Mar 2022	6	1,527K	N	Aug 2021	

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 15: Radar + Equipment (Non-Tel)							P-1 Line Item Number / Title: 4650 / Radar Systems					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: 0204460M				Other Related Program Elements: 0204460M, 0206313M				
Line Item MDAP/MAIS Code: 386												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	621.932	6.694	0.329	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	621.932	6.694	0.329	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	621.932	6.694	0.329	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: Long Range Radar (AN/TPS-59) - The AN/TPS-59A(V)3 is a transportable, three dimensional, tactical radar system that provides the Marine Air Ground Task Force (MAGTF) with long-range surveillance. It is the MAGTF's only ground based long range sensor that provides the capability to detect and report Air Breathing Targets (ABT) and track Theater Ballistic Missiles (TBM). The AN/TPS-59A(V)3 Radar System is connected to the Common Aviation Command and Control Systems (CAC2S). It provides the air defense controllers data and may be used autonomously to conduct Ground Control Intercept, tactical en-route Air Traffic Control (ATC), or TBM alert operations via the Joint Integrated Air Missile Defense (IAMD) encrypted Link-16. The USMC extended the AN/TPS-59 service life through 2035; therefore, in order to maintain its operational relevance on the battlefield, a number of readiness, obsolescence and modernization efforts will be required.												
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025		
Navy	Quantity	-	-	-	-	-	-	-	-	-		
	Total Obligation Authority	2.312	0.329	-	-	-	-	-	-	-		
NR	Quantity	-	-	-	-	-	-	-	-	-		
	Total Obligation Authority	4.382	-	-	-	-	-	-	-	-		
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-		
	Total Obligation Authority	6.694	0.329	-	-	-	-	-	-	-		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 15: Radar + Equipment (Non-Tel)						P-1 Line Item Number / Title: 4650 / Radar Systems				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: 0204460M			Other Related Program Elements: 0204460M, 0206313M			
Line Item MDAP/MAIS Code: 386										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Radar Systems				- / 621.932	- / 6.694	- / 0.329	- / -	- / -	- / -
P-40	Total Gross/Weapon System Cost				- / 621.932	- / 6.694	- / 0.329	- / 0.000	- / 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. 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 2019: \$6.694M AN/TPS-59: \$6.694M (Active: \$2.312M, Reserve: \$4.382M) - FY19 funding completes procurement of Identification Friend or Foe (IFF) Antenna; supports procurement of Digital Receiver and Exciter (DREX) logistics and training products such as Engineering Design Model (EDM) technical manuals and product data, and Engineering Change Proposals (ECPs) such as Array Drive assembly and installation. FY 2020: \$0.329M AN/TPS-59: \$0.329M (Active: \$0.329M) - Decrease of \$6.365M from FY19 to FY20 reflects USMC decision to defer all modernization except the Identify Friend or Foe (IFF) Mode 5/S level 1 upgrade and upgrades specifically to prevent system obsolescence. \$0.329M will support procurement and integration of ECP upgrades with multiple components and various unit costs to mitigate obsolescence and end-of life/end-of-sale issues. FY2021 Base Appropriation Request: \$0.000M AN/TPS-59: \$0.000M - Decrease of \$0.329M from FY20 to FY21 is due to the Marine Corps concerted effort to modernize in accordance with the National Defense Strategy (NDS)/Defense Planning Guidance (DPG).										

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 15							P-1 Line Item Number / Title: 4650 / Radar Systems								Aggregated Items Title: Radar Systems					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	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) AN/TPS-59																				
1.1) AN/TPS-59 ECP Upgrades ⁽¹⁾			-	-	9.658	-	-	0.917	-	-	0.329	-	-	-	-	-	-	-	-	-
1.2) AN/TPS-59 DREX Logistics and Training Data	A		-	-	-	-	-	1.183	-	-	-	-	-	-	-	-	-	-	-	-
1.3) AN/TPS-59 IFF Antenna	A		-	-	-	-	-	0.212	-	-	-	-	-	-	-	-	-	-	-	-
1.4) AN/TPS-59 IFF Antenna (Reserves)	A		-	-	0.200	-	-	4.382	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 1) AN/TPS-59			-	-	9.858	-	-	6.694	-	-	0.329	-	-	-	-	-	-	-	-	-
2) Prior Years Cumulative Funding																				
2.1) Prior Years Cumulative Funding	A		-	-	612.074	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 2) Prior Years Cumulative Funding			-	-	612.074	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	621.932	-	-	6.694	-	-	0.329	-	-	-	-	-	-	-	-	-

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

Footnotes:

⁽¹⁾ AN/TPS-59 ECP upgrades are comprised of multiple components with various unit costs to mitigate obsolescence and end-of life/end-of-sale issues. Decrease of \$0.329M from FY20 to FY21 is due to the Marine Corps concerted effort to modernize in accordance with the National Defense Strategy (NDS)/Defense Planning Guidance (DPG).

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 15: Radar + Equipment (Non-Tel)							P-1 Line Item Number / Title: 4655 / Ground/Air Task Oriented Radar (G/ATOR)					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: 0204460M, 0506313M				Other Related Program Elements: 0206313M				
Line Item MDAP/MAIS Code: 386												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	11	6	8	8	-	8	8	-	-	-	-	41
Gross/Weapon System Cost (<i>\$ in Millions</i>)	471.224	220.416	273.022	284.283	0.000	284.283	297.664	21.328	19.348	19.752	22.874	1,629.911
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	471.224	220.416	273.022	284.283	0.000	284.283	297.664	21.328	19.348	19.752	22.874	1,629.911
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	471.224	220.416	273.022	284.283	0.000	284.283	297.664	21.328	19.348	19.752	22.874	1,629.911
<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>)	-	11.611	13.235	13.506	-	13.506	13.806	14.101	14.383	14.671	Continuing	Continuing
Flyaway Unit Cost (<i>\$ in Millions</i>)	39.389	32.287	30.778	30.554	-	30.554	32.446	-	-	-	-	35.268
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	42.839	36.736	34.128	35.535	-	35.535	37.208	-	-	-	-	39.754
Description: Ground/Air Task Oriented Radar (G/ATOR AN/TPS-80) - The Ground/Air Task Oriented Radar is a multi-role, ground-based, expeditionary radar that replaces five legacy radar systems for the Marine Air Ground Task Force. It satisfies the Marine Air Command and Control System (G/ATOR Block 1) and the Ground Counter Fire/Counter Battery (G/ATOR Block 2) capabilities. The G/ATOR replaces the AN/TPS-63 and complements the AN/TPS-59 long range radar and will provide mobile, multi-functional, three-dimensional surveillance of air breathing targets, detection of cruise missiles and Unmanned Aerial Systems (UAS), and the cueing of air defense weapons. The G/ATOR contributes to the extension of Sea Shield/Sea Strike through surveillance and detection of enemy air threats not seen by Navy sensors in the littorals by participating in a cooperative engagement network of sensors and shooters; G/ATOR enables Integrated Fire Control (IFC) and provides engage/fire on remote capability. G/ATOR surveillance coverage with IFC will provide unprecedented reach, volume, and precision in the execution of Operational Maneuver From The Sea allowing Naval forces to project and sustain power deep inland. Prior year funding and quantities for the G/ATOR program can be found in BLI 4650 - Radar Systems.												
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025		
Navy	Quantity	2	4	8	-	8	8	-	-	-	-	
	Total Obligation Authority	101.059	151.175	284.283	-	284.283	297.664	21.328	19.348	19.752		
NR	Quantity	4	4	-	-	-	-	-	-	-	-	
	Total Obligation Authority	119.357	121.847	-	-	-	-	-	-	-	-	
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-	-	
	Total Obligation Authority	220.416	273.022	284.283	-	284.283	297.664	21.328	19.348	19.752		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 15: Radar + Equipment (Non-Tel)						P-1 Line Item Number / Title: 4655 / Ground/Air Task Oriented Radar (G/ATOR)				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: 0204460M, 0506313M			Other Related Program Elements: 0206313M			
Line Item MDAP/MAIS Code: 386										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Ground/Air Task Oriented Radar (G/ATOR)	P-5a, P-21			11 / 471.224	6 / 220.416	8 / 273.022	8 / 284.283	- / 0.000	8 / 284.283
P-40	Total Gross/Weapon System Cost				11 / 471.224	6 / 220.416	8 / 273.022	8 / 284.283	- / 0.000	8 / 284.283
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
Justification: FY 2019 \$220.416M (\$94.506M Active; \$125.910M Reserves) AN/TPS-80 G/ATOR - FY19 funded the initial Full Rate Production (FRP) Lot of six (6) G/ATOR systems and provided logistic/program support associated with the procurement of systems, hardware, program management and logistics required for G/ATOR fielding related activities. The FY19 Active/Reserve breakdown cited here represents current funding levels post a realignment that is not yet reflected in the Secondary Distribution table on Pg 1. FY 2020 \$273.022M (\$151.175M Active; \$121.847M Reserves) AN/TPS-80 G/ATOR - FY20 funding procures eight (8) G/ATOR systems and provide logistic/program support associated with the procurement of systems, hardware, program management and logistics required for G/ATOR fielding related activities. The FY20 column of the FY21 submit has been updated based upon the award of G/ATOR's FRP Contract. The contract is Firm Fixed Price (FFP) with contractor Systems Engineering Program Management (SEPM) embedded in the cost of the contract. The systems unit price savings reduces the total cost of 8 systems. The cost savings has been applied towards a one-time Diminishing Manufacture Sources/Non-Recurring Engineering and Communication Equipment Group (CEG) Shelter Integration requirement covering known diminishing manufacturing sources/material shortages (DMS/MS) issues, the procurement of CEG shelters, the procurement of Power Equipment Group (PEG) Pallets, an increase to Logistics Support and Engineering Change Orders (ECO's) supporting Pallet Communications Support Processor (PCSP) and GB2 Hardware improvements with a focus on reducing Radar Emplacement/Displacement time. FY 2021 Base Appropriation Request \$284.283M (\$284.283M Active; \$0.0M Reserves) AN/TPS-80 G/ATOR - FY21 funding will procure eight (8) G/ATOR systems and provide logistic/program support associated with the procurement of systems, hardware, program management, and logistics required for G/ATOR fielding related activities. The increase in funding from FY20 to FY21 primarily reflects the procurement of Gallium Nitride (GaN) Retrofit Kits to modify three (3) Gallium Arnside (GaAS) LRIP Radars to the GaN configuration, the initiation of radar decoys procurement and the initiation of Depot stand-up activities, specifically, the procurement of the tooling for the G/ATOR Depot at Tobyhanna Army Depot.										

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Exhibit P-5, Cost Analysis: PB 2021 Navy												Date: February 2020						
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 15						P-1 Line Item Number / Title: 4655 / Ground/Air Task Oriented Radar (G/ATOR)						Item Number / Title [DODIC]: 1 / Ground/Air Task Oriented Radar (G/ATOR)						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total				
Procurement Quantity (Units in Each)				11		6		8		8		-		8				
Gross/Weapon System Cost (\$ in Millions)				471.224		220.416		273.022		284.283		0.000		284.283				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				471.224		220.416		273.022		284.283		0.000		284.283				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Total Obligation Authority (\$ in Millions)				471.224		220.416		273.022		284.283		0.000		284.283				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-		11.611		13.235		13.506		-		13.506				
Gross/Weapon System Unit Cost (\$ in Millions)				42.839		36.736		34.128		35.535		-		35.535				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Flyaway - G/ATOR - Active (PE 0204460M) & Reserve (PE 0506313M) Cost																		
Recurring Cost																		
1.1.1) G/ATOR System (Active) ⁽¹⁾ (1)	32.485	11	357.336	31.477	2	62.954	28.160	4	112.640	28.429	8	227.432	-	-	-	28.429	8	227.432
1.1.2) G/ATOR System (Reserve) ⁽¹⁾ (2)	-	-	-	31.477	4	125.908	28.160	4	112.640	-	-	-	-	-	-	-	-	-
1.1.3) Systems Engineering/Program Management (SEPM) (Active) ⁽³⁾	-	-	54.805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	412.141	-	-	188.862	-	-	225.280	-	-	227.432	-	-	-	-	-	227.432
Non Recurring Cost																		
1.2.1) Engineering Change Orders (ECO) (Active) ⁽⁴⁾	-	-	20.659	-	-	4.858	-	-	4.664	-	-	7.803	-	-	-	-	-	7.803
1.2.2) Engineering Change Orders (ECO) (Reserve) ⁽⁵⁾	-	-	-	-	-	0.002	-	-	2.860	-	-	-	-	-	-	-	-	-
1.2.4) DMS/NRE & CEG Shelter Integration (Active) ⁽⁶⁾	-	-	-	-	-	-	-	-	6.347	-	-	-	-	-	-	-	-	-
1.2.5) DMS/NRE & CEG Shelter	-	-	-	-	-	-	-	-	6.347	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2021 Navy											Date: February 2020							
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 15						P-1 Line Item Number / Title: 4655 / Ground/Air Task Oriented Radar (G/ATOR)						Item Number / Title [DODIC]: 1 / Ground/Air Task Oriented Radar (G/ATOR)						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Integration (Reserve) (7)																		
1.2.6) Depot Tooling/ Facilitization (Active) (8)	-	-	0.482	-	-	-	-	-	0.725	-	-	9.197	-	-	-	-	-	9.197
Subtotal: Non Recurring Cost	-	-	21.141	-	-	4.860	-	-	20.943	-	-	17.000	-	-	-	-	-	17.000
Subtotal: Flyaway - G/ATOR - Active (PE 0204460M) & Reserve (PE 0506313M) Cost	-	-	433.282	-	-	193.722	-	-	246.223	-	-	244.432	-	-	-	-	-	244.432
Hardware - G/ATOR - Active (PE 0204460M) Cost																		
Recurring Cost																		
2.1.1) Communications Equipment Group (CEG) Shelters (9)	-	-	11.570	-	-	3.852	-	-	9.995	-	-	8.150	-	-	-	-	-	8.150
2.1.2) GaN Retrofit Kits (10)	-	-	-	-	-	-	-	-	-	-	-	17.000	-	-	-	-	-	17.000
2.1.3) Power Equipmnet Group (PEG) Pallets (11)	-	-	-	-	-	3.836	-	-	3.455	-	-	3.200	-	-	-	-	-	3.200
2.1.4) Radar Decoys (12)	-	-	-	-	-	-	-	-	-	-	-	2.210	-	-	-	-	-	2.210
Subtotal: Recurring Cost	-	-	11.570	-	-	7.688	-	-	13.450	-	-	30.560	-	-	-	-	-	30.560
Subtotal: Hardware - G/ATOR - Active (PE 0204460M) Cost	-	-	11.570	-	-	7.688	-	-	13.450	-	-	30.560	-	-	-	-	-	30.560
Support - G/ATOR - Support Active (PE 0204460M) Cost																		
3.1) Program Management Support (13)	-	-	10.682	-	-	5.056	-	-	5.551	-	-	5.363	-	-	-	-	-	5.363
3.2) Logistics Support (Shelters)	-	-	1.963	-	-	0.508	-	-	0.534	-	-	0.545	-	-	-	-	-	0.545
3.3) Logistics Support (CLS/CLS) (14)	-	-	13.727	-	-	13.442	-	-	7.264	-	-	3.383	-	-	-	-	-	3.383
Subtotal: Support - G/ ATOR - Support Active (PE 0204460M) Cost	-	-	26.372	-	-	19.006	-	-	13.349	-	-	9.291	-	-	-	-	-	9.291

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Exhibit P-5, Cost Analysis: PB 2021 Navy										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 15					P-1 Line Item Number / Title: 4655 / Ground/Air Task Oriented Radar (G/ATOR)					Item Number / Title [DODIC]: 1 / Ground/Air Task Oriented Radar (G/ATOR)			

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

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	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	42.839	11	471.224	36.736	6	220.416	34.128	8	273.022	35.535	8	284.283	-	-	0.000	35.535	8	284.283

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

Footnotes:

- (1) System Unit Cost for FY19 changed from \$29.839M to \$31.477M based on G/ATOR FRP Contract Award. System Unit Cost for FY20 changed from \$29.835M to \$28.160M based on G/ATOR FRP Contract Award. System Unit Cost increase \$0.269M (\$28.160M to \$28.429M) from FY20 to FY21 is due to inflation.
- (2) System Unit Cost for FY19 changed from \$29.839M to \$31.477M based on G/ATOR FRP Contract Award. System Unit Cost for FY20 changed from \$28.835M to \$28.160M based on G/ATOR FRP Contract Award. System Unit Cost increase \$0.269M from FY20 to FY21 due to inflation.
- (3) Systems Engineering Program Management (SEPM) cost element ended with the GaN LRIP Lot 3 Contract Option in FY18, as it was not negotiated as a separate CLIN within the Firm Fixed Price (FFP), Full Rate Production (FRP) Contract awarded 7 June 2019. SEPM is part of the System Unit Cost.
- (4) ECO funding addresses corrective actions from DT1E/IOT&E testing, as well as user community feedback to improve Human Systems Integration (HSI). ECO funding also reduces the number of material/electronic obsolescence issues and ultimately improves future Marine Forces readiness. FY19/20 ECOs include the Radome and Antenna Support Electronics Covers, GB2 IFF Removal/Manual Alignment, Pallet Communications Support Processor (PCSP) and GB2 Hardware improvements with a focus on reducing Radar Emplacement/Displacement time. The FY20 Active ECOs increase \$0.734M from the FY20 request to the FY21 request to accelerate the Warfighter's desired improvements in Radar Emplacement/Displacement time. FY21 ECOs will continue Pallet Communications Support Processor (PCSP) and GB2 Hardware improvements efforts focusing on reducing Radar Emplacement/Displacement time.
- (5) ECO funding addresses corrective actions from DT1E/IOT&E testing, as well as user community feedback to improve Human Systems Integration (HSI). ECO funding also reduces the number of material/electronic obsolescence issues and ultimately improves future Marine Forces readiness. FY19/20 ECOs include the Radome and Antenna Support Electronics Covers, GB2 IFF Removal/Manual Alignment, Pallet Communications Support Processor (PCSP) and GB2 Hardware improvements with a focus on reducing Radar Emplacement/Displacement time. The FY20 Reserve ECOs increase \$0.352M from the FY20 request to the FY21 request to accelerate the Warfighter's desired improvements in Radar Emplacement/Displacement time.
- (6) DMS/NRE & CEG Shelter Integration (Active) is a one-time purchase in FY20 covering all known diminishing manufacturing sources/material shortages (DMS/MS) issues. This is an update from the FY20 request.
- (7) DMS/NRE & CEG Shelter Integration is a one-time purchase in FY20 covering all known diminishing manufacturing sources/material shortages (DMS/MS) issues. This is an update from the FY20 request.
- (8) Funding supports Depot Facilitization (tooling) for Line Replaceable Unit (LRU) Repair and Inspect and Repair Only As Necessary (IROAN) activities at Tobyhanna Army Depot. FY21 begins the IROAN portion of the Depot Facilitization effort.
- (9) This requirement is derived from Change 4 of G/ATOR Block 2 Capabilities Development Document. The CEG Shelter is comprised of an S-788 Shelter on an up-armored HMMWV, providing the G/ATOR system with operator interfaces and communications processing. The CEG Shelter is an integral component of the G/ATOR System and supports external Command and Control voice and digital communications to CAC2S, CTN, and AFATDS. The FY20 \$3.794M increase from the FY20 request to the FY21 request reflects the purchase, assembly and integration of GFE components for ten (10) vice eight (8) CEG Shelters in order to meet the needs of the GB2 user community. These CEG Shelters will include a significant design change to improve Environmental, Electromagnetic and Noise mitigation. FY21 decreases \$1.845M from FY20 in the FY21 submit as it produces a total of eight (8) CEG Shelters.
- (10) GaN Retrofit Kits support the modification of six (6) total GaAS LRIP Systems to the GaN configuration with completion expected in FY23. The first three (3) Mod kits, \$17M, will be installed in FY22 (LRIP Tech Refresh) and the second three (3) Mod kits, \$17M, will be installed in FY23 (LRIP Tech Refresh). FY21 is the appropriate time to begin procurement of the first three GaN Retrofit Kits as the initial LRIP system will have over 6 years in service meeting Depot IROAN criteria.

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Exhibit P-5, Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 15	P-1 Line Item Number / Title: 4655 / Ground/Air Task Oriented Radar (G/ATOR)	Item Number / Title [DODIC]: 1 / Ground/Air Task Oriented Radar (G/ATOR)
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
(11) This is a new item for Full Rate Production that was not in the FY20 request. Power Equipment Group (PEG) Pallets are primarily composed of Government Furnished Equipment thus they are now being assembled and integrated by Tobyhanna Army Depot vice the Prime Contractor. (12) Radar Decoys are hardware that ensures our forces possess the capabilities required to mitigate threats thus increasing the survivability of the radar system against anti-radiation missiles in a Peer, Near-Peer Competitive environment. (13) With G/ATOR being post FRP, program management support completely migrated from RDT&E to PMC funding in FY19. (14) G/ATOR's product support strategy employs a combination of Contractor Logistics Support (CLS) and Interim Contactor Logistics Support (ICLS) while the program begins to migrate towards an organic maintenance strategy during the Full Rate Production phase supporting all G/ATOR's. Contractor Logistics Support/Interim Contactor Logistics Support (CLS/ICLS) will continue to partially support fifteen (15) fielded G/ATOR LRIP systems and 2 FRP Systems in FY21 to include their maintenance and repair prior to fielding. Additionally, funding will be used to capture necessary usage data in preparation for organic logistics support, complete provisioning requirements, update the Interactive Electronic Training Manual (ITEM) for new software builds and to prepare and conduct several New Equipment Training (NET) events in FY21. These additional CLS efforts will continue through the Production and Deployment phase of the G/ATOR System. FY20 column \$3.372M increase from the FY20 request to the FY21 request reflects the negotiated/planned Logistics costs for Fielded Systems Repair and Maintenance, CLS for Pre-Fielded Systems, New Equipment Training and Prime Contractor Logistic Planning support.		

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy								Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 15			P-1 Line Item Number / Title: 4655 / Ground/Air Task Oriented Radar (G/ATOR)					Item Number / Title [DODIC]: 1 / Ground/Air Task Oriented Radar (G/ATOR)				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ M)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) G/ATOR System (Active) ^(†)		2015 ⁽¹⁵⁾	Northrop Grumman. / Linthicum, MD	SS / FPIF	Quantico, VA	Mar 2015	Oct 2017	2	32.511	Y		May 2013
1.1.1) G/ATOR System (Active) ^(†)		2016 ⁽¹⁶⁾	Northrop Grumman.. / Linthicum, MD	SS / FPIF	Quantico, VA	Aug 2016	Jul 2018	3	33.764	Y		Oct 2015
1.1.1) G/ATOR System (Active) ^(†)		2017 ⁽¹⁷⁾	Northrop Grumman.. / Linthicum, MD	SS / FPIF	Quantico, VA	Mar 2017	Aug 2019	3	31.837	Y		Oct 2015
1.1.1) G/ATOR System (Active) ^(†)		2018 ⁽¹⁸⁾	Northrup Grumman..... / Linthicum, MD	SS / FPIF	Quantico, VA	Mar 2018	Sep 2020	3	31.837	Y		Oct 2015
1.1.1) G/ATOR System (Active) ^(†)		2019 ⁽¹⁹⁾	Northrop Gumman / Linthicum, MD	SS / FFP	Quantico, VA	Jun 2019	Oct 2021	2	31.477	Y		Sep 2017
1.1.1) G/ATOR System (Active) ^(†)		2020 ⁽²⁰⁾	Northrop Grumman..... / Linthicum, MD	SS / FFP	Quantico, VA	Dec 2019	Oct 2022	4	28.160	Y		Sep 2017
1.1.1) G/ATOR System (Active) ^(†)		2021 ⁽²¹⁾	Northrop Grumman.... / Linthicum, MD	SS / FFP	Quantico, VA	Feb 2021	Oct 2023	8	28.429	Y		Sep 2017
1.1.2) G/ATOR System (Reserve) ^(†)		2019 ⁽²²⁾	Northrop Grumman / Linthicum, MD	SS / FFP	Quantico, VA	Jun 2019	Feb 2022	4	31.477	Y		Sep 2017
1.1.2) G/ATOR System (Reserve) ^(†)		2020 ⁽²³⁾	Northrop Grumman / Linthicum, MD	SS / FFP	Quantico, VA	Dec 2019	Jan 2023	4	28.160	Y		Sep 2017

^(†) indicates the presence of a P-21

Footnotes:

⁽¹⁵⁾ Date of FY15 First Delivery is based on the actual fielding date.

⁽¹⁶⁾ Date of FY16 First Delivery is based on the actual fielding date.

⁽¹⁷⁾ Date of FY17 First Delivery is based on the actual fielding date.

⁽¹⁸⁾ Date of FY18 First Delivery is based on the current fielding date.

⁽¹⁹⁾ Date of FY19 First Delivery is based on the G/ATOR FRP contract awarded 7 June 2019.

⁽²⁰⁾ Date of FY20 First Delivery is based on a modification to the G/ATOR FRP contract on 6 December 2019 with 2 systems awarded while under the Continuing Resolution. Remaining 2 systems will be awarded NLT 3 Apr 2020. This is an update since the FY20 submit.

⁽²¹⁾ Date of FY21 First Delivery is based on the G/ATOR FRP contract option to be exercised 18 February 2021.

⁽²²⁾ Date of FY19 First Reserve System Delivery is based on the G/ATOR FRP contract awarded 7 June 2019.

⁽²³⁾ Date of FY20 First Delivery is based on a modification to the G/ATOR FRP contract on 6 December 2019. This is an update since the FY20 submit.

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020											
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 15										P-1 Line Item Number / Title: 4655 / Ground/Air Task Oriented Radar (G/ATOR)										Item Number / Title [DODIC]: 1 / Ground/Air Task Oriented Radar (G/ATOR)											
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2015										Fiscal Year 2016														BALANCE
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2014	BAL DUE AS OF 1 OCT	Calendar Year 2015										Calendar Year 2016														
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1.1.1) G/ATOR System (Active) ⁽¹⁾																															
	1	2015	NAVY	2	0	2							A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
	2	2016	NAVY	3	0	3																							A -	-	3
	2	2017	NAVY	3	0	3																									3
	6	2018	NAVY	3	0	3																									3
	3	2019	NAVY	2	0	2																									2
	5	2020	NAVY	4	0	4																									4
	4	2021	NAVY	8	0	8																									8
1.1.2) G/ATOR System (Reserve) ⁽²⁾																															
	7	2019	NAVY	4	0	4																									4
	7	2020	NAVY	4	0	4																									4
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020																
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 15										P-1 Line Item Number / Title: 4655 / Ground/Air Task Oriented Radar (G/ATOR)										Item Number / Title [DODIC]: 1 / Ground/Air Task Oriented Radar (G/ATOR)																
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2017													Fiscal Year 2018													BALANCE			
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017													Calendar Year 2018																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						
1.1.1) G/ATOR System (Active) ⁽¹⁾																																				
	1	2015	NAVY	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1											0			
	2	2016	NAVY	3	0	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1				
	2	2017	NAVY	3	0	3						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3					
	6	2018	NAVY	3	0	3																A	-	-	-	-	-	-	-	-	-	-	-	-	-	3
	3	2019	NAVY	2	0	2																											2			
	5	2020	NAVY	4	0	4																											4			
	4	2021	NAVY	8	0	8																											8			
1.1.2) G/ATOR System (Reserve) ⁽²⁾																																				
	7	2019	NAVY	4	0	4																											4			
	7	2020	NAVY	4	0	4	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	4					

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Exhibit P-21, Production Schedule: PB 2021 Navy																			Date: February 2020																				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 15							P-1 Line Item Number / Title: 4655 / Ground/Air Task Oriented Radar (G/ATOR)														Item Number / Title [DODIC]: 1 / Ground/Air Task Oriented Radar (G/ATOR)																		
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2019														Fiscal Year 2020														BALANCE				
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019														Calendar Year 2020																		
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP									
1.1.1) G/ATOR System (Active) ⁽¹⁾																																							
	1	2015	NAVY	2	2	0																											0						
	2	2016	NAVY	3	2	1	-	-	-	-	-	-	-	-	-	1																		0					
	2	2017	NAVY	3	0	3	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	1											0						
	6	2018	NAVY	3	0	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2								
	3	2019	NAVY	2	0	2											A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2						
	5	2020	NAVY	4	0	4																			A	-	-	-	-	-	-	-	-	-	-	-	-	-	4
	4	2021	NAVY	8	0	8																											8						
1.1.2) G/ATOR System (Reserve) ⁽²⁾																																							
	7	2019	NAVY	4	0	4											A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4					
	7	2020	NAVY	4	0	4																			A	-	-	-	-	-	-	-	-	-	-	-	-	-	4
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP									

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 15										P-1 Line Item Number / Title: 4655 / Ground/Air Task Oriented Radar (G/ATOR)										Item Number / Title [DODIC]: 1 / Ground/Air Task Oriented Radar (G/ATOR)														
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2021										Fiscal Year 2022													BALANCE				
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021													Calendar Year 2022														
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP			
1.1.1) G/ATOR System (Active) ⁽¹⁾																																		
	1	2015	NAVY	2	2	0																											0	
	2	2016	NAVY	3	3	0																											0	
	2	2017	NAVY	3	3	0																											0	
	6	2018	NAVY	3	1	2																											-	1
	3	2019	NAVY	2	0	2	-	-	-	-	-	-	-	-	-	-	-	1	-	1														0
	5	2020	NAVY	4	0	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4			
	4	2021	NAVY	8	0	8					A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8			
1.1.2) G/ATOR System (Reserve) ⁽²⁾																																		
	7	2019	NAVY	4	0	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	1	-	1			0			
	7	2020	NAVY	4	0	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4			
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020															
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 15							P-1 Line Item Number / Title: 4655 / Ground/Air Task Oriented Radar (G/ATOR)													Item Number / Title [DODIC]: 1 / Ground/Air Task Oriented Radar (G/ATOR)															
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2023													Fiscal Year 2024													BALANCE		
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2022	BAL DUE AS OF 1 OCT	Calendar Year 2023													Calendar Year 2024															
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					
1.1.1) G/ATOR System (Active) ⁽¹⁾																																			
	1	2015	NAVY	2	2	0																												0	
	2	2016	NAVY	3	3	0																												0	
	2	2017	NAVY	3	3	0																												0	
	6	2018	NAVY	3	3	0																												0	
	3	2019	NAVY	2	2	0																												0	
	5	2020	NAVY	4	0	4	1	1	-	-	-	-	-	-	-	1	1																		0
	4	2021	NAVY	8	0	8	-	-	-	-	-	-	-	-	-	-	-																		1
1.1.2) G/ATOR System (Reserve) ⁽²⁾																																			
	7	2019	NAVY	4	4	0																												0	
	7	2020	NAVY	4	0	4																												-	-
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					

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Exhibit P-21, Production Schedule: PB 2021 Navy				Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 15			P-1 Line Item Number / Title: 4655 / Ground/Air Task Oriented Radar (G/ATOR)			Item Number / Title [DODIC]: 1 / Ground/Air Task Oriented Radar (G/ATOR)	

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Northrop Grumman. - Linthicum, MD	2	2	2	0	5	31	36	0	5	26	31
2	Northrop Grumman... - Linthicum, MD	2	3	3	0	10	23	33	0	5	29	34
3	Northrop Gumman - Linthicum, MD	2	8	9	0	9	28	37	0	9	28	37
4	Northrop Grumman..... - Linthicum, MD	2	8	9	0	9	28	37	0	9	32	41
5	Northrop Grumman..... - Linthicum, MD	2	8	9	0	2	34	36	0	0	0	0
6	Northrup Grumman..... - Linthicum, MD	2	8	9	0	5	30	35	0	0	0	0
7	Northrop Grumman - Linthicum, MD	2	8	9	0	9	32	41	0	3	37	40

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

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

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)							P-1 Line Item Number / Title: 4616 / GCSS-MC					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	2.861	0.000	4.484	1.587	0.000	1.587	1.237	1.264	1.289	1.315	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	2.861	0.000	4.484	1.587	0.000	1.587	1.237	1.264	1.289	1.315	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	2.861	0.000	4.484	1.587	0.000	1.587	1.237	1.264	1.289	1.315	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: Global Combat Support System - Marine Corps/Logistics Chain Management (GCSS-MC/LCM) Family of Systems (FoS) serves as the primary technology enabler for the Marine Corps Logistics Modernization strategy. GCSS-MC/LCM provides the backbone for all logistics information required by Marine Forces and the Supporting Establishment. The core for GCSS-MC/LCM Increment 1 is a modern, commercial-off-the-shelf enterprise resource planning software (Oracle e-Business Suite). The Increment 1 design focused on enabling the warfighter to operate while deployed with reach back to Garrison from the battlefield. Increment 1 replaced 5 legacy supply and maintenance information technology systems and currently supports ~22,000 users world-wide. The focus of future functions will be enhancing capabilities in the areas of warehousing, distribution, logistics planning, decision support, depot maintenance, and integration with emerging technologies to improve asset visibility.												

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)						P-1 Line Item Number / Title: 4616 / GCSS-MC				
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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Global Combat Support System Marine Corps (GCSS-MC)				- / 2.861	- / 0.000	- / 4.484	- / 1.587	- / 0.000	- / 1.587
P-40	Total Gross/Weapon System Cost				- / 2.861	- / 0.000	- / 4.484	- / 1.587	- / 0.000	- / 1.587
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										

Justification:

FY 2020: \$4.484M Funding continues to support the ongoing need for technology refresh of hardware and software in support of the sustainment of GCSS-MC/LCM Increment 1. The funding increase from FY2019 to FY2020 of \$4.484M is in support of expanding the fielding of Warehousing Automated Information Technology hardware beyond the major logistics hubs, Supply Management Units (SMU), Repairable Issue Points (RIP), and Initial Issue Points (IIP) to the 140 operating force units' warehouses and storage sites across all three Marine Expeditionary Forces (MEF). This expansion to using units is a significant increase to the quantities in service. It will also support improvements to inventory management and asset visibility for USMC ground forces. Specifically, efficiency will be realized and come in the form of data accuracy through bar code availability instead of manual data input and in the ability to conduct annual rapid inventory management of install base items throughout the MEFs.

FY2021 Base Appropriation Request: \$1.587M Funding will continue to support the ongoing need for technology refresh of hardware and software for the major logistics hubs in support of the sustainment of GCSS-MC/LCM Increment 1. Funding decrease from FY2020 to FY2021 of \$2.897M is due to the completion of the initial procurement of Warehouse Automated Information Technology Hardware beyond the major logistics hubs.

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Exhibit P-5, Cost Analysis: PB 2021 Navy												Date: February 2020						
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16						P-1 Line Item Number / Title: 4616 / GCSS-MC						Item Number / Title [DODIC]: 1 / Global Combat Support System Marine Corps (GCSS-MC)						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				2.861		0.000		4.484		1.587		0.000		1.587				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				2.861		0.000		4.484		1.587		0.000		1.587				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				2.861		0.000		4.484		1.587		0.000		1.587				
(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 Dollars)</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 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 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 - GCSS-MC/LCM Hardware Cost																		
Recurring Cost																		
1.1.1) Tech Refresh ⁽¹⁾	-	-	1.221	-	-	-	-	-	3.584	-	-	0.595	-	-	-	-	-	0.595
Subtotal: Recurring Cost	-	-	1.221	-	-	-	-	-	3.584	-	-	0.595	-	-	-	-	-	0.595
Subtotal: Hardware - GCSS-MC/LCM Hardware Cost	-	-	1.221	-	-	-	-	-	3.584	-	-	0.595	-	-	-	-	-	0.595
Software - GCSS-MC/LCM Software Cost																		
Recurring Cost																		
2.1.1) Tech Refresh ⁽²⁾	-	-	1.270	-	-	-	-	-	0.500	-	-	0.850	-	-	-	-	-	0.850
Subtotal: Recurring Cost	-	-	1.270	-	-	-	-	-	0.500	-	-	0.850	-	-	-	-	-	0.850
Subtotal: Software - GCSS-MC/LCM Software Cost	-	-	1.270	-	-	-	-	-	0.500	-	-	0.850	-	-	-	-	-	0.850
Support - GCSS-MC/LCM HW/SW Engineering Cost																		
3.1) Tech Refresh	-	-	0.370	-	-	-	-	-	0.400	-	-	0.142	-	-	-	-	-	0.142
Subtotal: Support - GCSS-MC/LCM HW/SW Engineering Cost	-	-	0.370	-	-	-	-	-	0.400	-	-	0.142	-	-	-	-	-	0.142
Gross/Weapon System Cost	-	-	2.861	-	-	0.000	-	-	4.484	-	-	1.587	-	-	0.000	-	-	1.587
Footnotes:																		

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Exhibit P-5, Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16	P-1 Line Item Number / Title: 4616 / GCSS-MC	Item Number / Title [DODIC]: 1 / Global Combat Support System Marine Corps (GCSS-MC)
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
(1) Funding increase from FY2019 to FY2020 of \$3.297M expands the fielding of Warehousing Automated Information Technology hardware beyond major logistics sites to the operating force's warehouses and storage sites. Funding decrease from FY2020 to FY2021 of \$2.989M supports the completion of the initial procurement of Warehouse Automated Information Technology beyond the major logistics hubs. (2) Funding increase from FY2020 to FY2021 of \$0.350M supports the Automated Data Entry Software procurement.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)							P-1 Line Item Number / Title: 4733 / Fire Support System					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0206623M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	372.001	62.548	35.488	24.934	0.000	24.934	67.906	75.636	86.937	88.509	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	372.001	62.548	35.488	24.934	0.000	24.934	67.906	75.636	86.937	88.509	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	372.001	62.548	35.488	24.934	0.000	24.934	67.906	75.636	86.937	88.509	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: Fire Support System (FSS) provides the United States Marine Corps (USMC) critical operational and logistics capabilities in artillery weapons, fire direction, loitering munitions, and targeting systems. FSS provides the systems needed to create a fully networked sensor to shooter kill chain for the USMC Ground Combat Element. Key systems included are: Fire Support Mods (FSM): FSM supports a set of Joint Service and Marine Corps unique efforts to address critical operational capabilities in artillery weapons, fire direction control systems, loitering munitions, and targeting / Intelligence Surveillance and Reconnaissance (ISR) systems. Key programs include: Improved Position and Azimuth Determining Systems (IPADS), Joint Terminal Attack Controller Laser Target Designator (JTAC LTD), Organic Precision Fires (OPF), Global Positioning System Survey Replacement (GPSSR), Marine Artillery Survey Set (MASS), the Modeled Meteorological Information Manager (MMIM), Lethal Miniature Aerial Missile System (LMAMS). Common Laser Range Finder (CLRF): The CLRF Integrated Capability (CLRF IC) integrates laser targeting capabilities to provide lightweight man portable targeting systems consistent with Strategy & Vision 2025 and the Commandant's Planning Guidance. The CLRF IC strategy includes replacement of the AN/PEQ-13, the AN/PEQ-17, and the AN/PEQ-25 into a single hand held targeting system, the Next Generation Hand Held Targeting System (NGHTS). This strategy will result in two affordable systems, a target locating system for the Joint fires observer, and a laser designator for the JTAC that will support operational targeting requirements well into the 2030 timeframe as well as provide significant reductions in weight and power requirements. Family of Target Acquisition Systems (FTAS) - The FTAS provides the MAGTF the capability to locate, identify, and attack enemy indirect fire weapons systems and observe and direct friendly artillery fire. The FTAS consists of the AN/TPQ-46 Firefinder Radar, the AN/TPQ-49 Lightweight Counter Mortar Radar, AN/TPQ-54 Lightweight Counter Mortar Radar, Ground Counter Fire Sensor (GCFS), and the AN/TSQ-267 Target Acquisition System. The FTAS is critical in the execution of counterfire and the integration of target acquisition information enabling attack by MAGTF assets. The FTAS also provides artillery firing units the ability to conduct artillery registration and other friendly fire missions. The FTAS encompasses the equipment required to support target acquisition within the target acquisition platoon and is resident in the headquarters battery of each artillery regiment. The program will initiate development of replacement sensor systems and continue to address system issues that arise due to Diminishing Manufacturing Sources and Material Shortage (DMSMS) items within the FTAS. Target Hand-Off System (THS): The THS addresses a Marine Corps operational requirement for a lightweight, handheld, and digital target acquisition engagement coordination system. The THS is interoperable with all video downlink, Fire Support platforms, and Target Locating Devices designed for the Forward Air Controllers (FACs), Forward Observers (FOs), Fire Support Teams (FSTs), Firepower Control Teams (FCTs), Tactical Air Control Parties (TACPs), and Reconnaissance Teams. The THS provides the ability to integrate video and sensor information to quickly acquire and digitally prosecute targets in day, night, and near-all-weather visibility conditions in order to conduct precise and rapid indirect surface fire support, Naval Surface Fire Support (NSFS), and Close Air Support (CAS).												

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)		P-1 Line Item Number / Title: 4733 / Fire Support System
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206623M
Line Item MDAP/MAIS Code: N/A		

AFATDS FoS consists of three programs: AFATDS, Back Up Computer (BUCS) and Mobile Tactical Shelter (MTS). The AFATDS automates the fire planning, tactical/technical fire direction, and fire support coordination required to facilitate sea control/denial and support maneuver from the sea and subsequent operations ashore. AFATDS integrates all supporting arms assets with the Marine Air-Ground Task Force, such as mortars, cannon artillery, rockets and missiles, close air support, and naval surface fires support systems. BUCS is a handheld computer system designed to provide a backup to the AFATDS in computing ballistic firing solutions, as well as provide survey and meteorological functions in support of the fires mission. The MTS is an artillery C2 platform dedicated to housing AFATDS and other fire support systems. It is a lightweight multipurpose shelter mounted on a lightweight utility vehicle. MTS enhances the capabilities and survivability of the fire support element by enabling rapid emplacement and displacement, and supports communications on the move. The MTS supports operations in all environmental conditions, day or night, while protecting the AFATDS and BUCS.

Lethal Miniature Aerial Missile System (LMAMS): LMAMS is a loitering, precision-guided missile that is man-portable, single-use, and organic at the small unit level. LMAMS provides precise lethal fires beyond reach of organic direct-fire weapon systems and performs target attack against personnel in the open or in defilade as well as soft-skinned vehicles during offensive, defensive, stability, and civil support operations. LMAMS provides precision lethality, while minimizing collateral damage in complex and cluttered operational areas.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Navy	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	61.196	34.494	23.918	-	23.918	66.879	74.590	85.869	87.420
NR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	1.352	0.994	1.016	-	1.016	1.027	1.046	1.068	1.089
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	62.548	35.488	24.934	-	24.934	67.906	75.636	86.937	88.509

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)						P-1 Line Item Number / Title: 4733 / Fire Support System				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A			Other Related Program Elements: 0206623M			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Fire Support System	P-5a, P-21			- / 372.001	- / 62.548	- / 35.488	- / 24.934	- / -	- / 24.934
P-40	Total Gross/Weapon System Cost				- / 372.001	- / 62.548	- / 35.488	- / 24.934	- / 0.000	- / 24.934
*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 2019: \$62.548M FSM - \$3.898M Funding provided support for modernization and upgrades to currently fielded systems. These systems are fielded to both the active (\$2.839M) and reserve (\$1.059M) components. FTAS - \$2.867M Funding procured ECP Modification Kits and will continued to address DMSMS issues within the FTAS. These kits are fielded to both the active (\$2.574M) and reserve (\$0.293M) components. AFATDS - \$12.521M Funds continued to procure a modernized, common shelter that will fulfill the requirements of the Mobile Tactical Shelter (MTS) and the Target Processing Set (TPS). THS - \$23.893M Procures VHF (very high frequency) radios required to support digital transmission of targeting and fires data. Funds also procure THS end user devices to support a scheduled hardware refresh. CLRF - \$13.786M Funding will procure and field CLRF Integrated Capability (IC), full rate production systems to replace the current capability with enhanced targeting abilities and reduced system weight. Engineering Change Proposals (ECPs) will be conducted to increase operational availability and increase system longevity. FY 2020: \$35.488M FSM - \$4.299M Funding continues to provide support for modernization and upgrades to currently fielded systems to include procuring IPADS replacements on a cycle. These systems are fielded to both the active (\$3.603M) and reserve (\$0.696M) components. The increase of \$0.401M from FY19 to FY20 will support the procurement of additional IPADS replacement systems. FTAS - \$2.943M (Active \$2.645M/Reserve \$.298M) Funding procures ECP Modification Kits and will continue to address diminishing manufacturing sources and material shortages issues within the FTAS. These kits are fielded to both the active (\$2.645M) and reserve (\$0.298M) components. Increase of \$0.076M from FY19 funding is due to an increase in the number of kits procured during FY20. AFATDS - \$12.852M Funds continue to procure a modernized, common shelter that will fulfill the requirements of the Mobile Tactical Shelter (MTS) and the Target Processing Set (TPS). The funding increase from FY19 to FY20 of \$2.6M for the MTS shelters is to procure an additional 23 shelters. Funding decrease from FY19 to FY20 of \$2.38M for Hardware Refresh is due to the procurement of new tablet devices which have a lower unit cost than the laptops procured in FY19. Overall increase in AFATDS from FY19 to FY20 is \$0.331M. THS - \$2.439M Funds will be used to complete refresh of the necessary cabling to support fielding of new VHF radios. A decrease of \$21.454M from FY19 to FY20 is due to the completion of the VHF radio procurement required to support the digital transmission of fires data. CLRF - \$12.955M Funds will be used to implement ECPs on post Full Rate Production (FRP) CLRF systems to implement capability enhancements and a life cycle extension plan that will extend the service life of the system an additional ten years. The ECP will include a refresh of obsolete components, replace the digital magnetic compass and Input/Output card which will improve usability, and allow digital image										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)		P-1 Line Item Number / Title: 4733 / Fire Support System
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206623M
Line Item MDAP/MAIS Code: N/A		
export. A decrease of \$0.831M from FY19 to FY20 is due to the completion of the procurement of CLRF IC systems. The ECP in FY19 and FY20 accomplishes updates to the digital magnetic compass and short wave infrared duty cycle as well as image export. It will be implemented into production in FY19 starting at system number 700 and will be retrofitted into the first 700 systems in FY20. LMAMS - \$0.0M A decrease of \$5.583M from FY19 to FY20 is due to the completion of the procurement of 100 Lethal Miniature Aerial Missile System (LMAMS) All-up-Rounds (AUR) in FY19. FY 2021 Base Appropriation Request: \$24.934M (\$23.918M Active; \$1.016M Reserve) FSM - \$4.424M Funding will provide support for modernization and upgrades to currently fielded systems. This includes procuring IPADS replacements on a cycle. These systems are fielded to both the active (\$3.711M) and reserve (\$0.713M) components. The increase of \$0.125M from FY20 to FY21 will support the procurement of additional IPADS replacement systems. FTAS - \$3.002M Funding will procure ECP Modification Kits and continue to address diminishing manufacturing sources and material shortage issues within the FTAS. These kits are fielded to both the active (\$2.699M) and reserve (\$0.303M) components. Increase of \$0.059M from FY20 to FY21 is due to increased costs of ECP Modification Kits. AFATDS - \$14.067M Funds will continue to procure a modernized, common shelter fulfilling the requirements of the hardware refresh including the Mobile Tactical Shelter (MTS) and the Target Processing Set (TPS). The funding increase from FY20 to FY21 of \$1.215M procures additional MTS shelters and hardware to support AFATDS user interface for cyber security Trusted Platform Module (TPM) 2.0. THS - \$2.487M Funds will be used to complete procurement of modem cables required to support elimination of the TacLink modem which reduces the weight and cabling of the system. The increase of \$0.048M from FY20 to FY21 will support the completion of the cable procurement in FY 21. CLRF - \$0.954M Funding will be used to complete the fielding process of CLRF IC. The decrease of \$12.001M from FY20 to FY21 is due to the completion of the procurement of the CLRF IC in FY 20. OCO: FY 2019 Overseas Contingency Operations (OCO): \$5.583M LMAMS - \$5.583M Funding procures 100 LMAMS AURs.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy																Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16									P-1 Line Item Number / Title: 4733 / Fire Support System							Aggregated Items Title: Fire Support System					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total			
			Unit Cost (\$)	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)	
1) CLRF																					
1.1) CLRF - FRP Units Active ⁽¹⁾	A		37,550.79	699	26.248	37,500.00	196	7.350	-	-	-	-	-	-	-	-	-	-	-	-	
1.2) CLRF - Active Procurement Support	A		-	-	10.738	-	-	0.147	-	-	1.593	-	-	0.954	-	-	-	-	-	0.954	
1.3) CLRF Active LRIP	A		48,557.69	104	5.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.4) CLRF - Reserve LRIP	A		48,543.48	46	2.233	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.5) CLRF - ECPs ⁽¹⁾	A		-	-	-	-	-	6.289	-	-	11.362	-	-	-	-	-	-	-	-	-	
Subtotal: 1) CLRF			-	-	44.269	-	-	13.786	-	-	12.955	-	-	0.954	-	-	-	-	-	0.954	
2) FSM																					
2.1) FSM - Active	A		-	-	65.212	-	-	2.839	-	-	3.603	-	-	3.711	-	-	-	-	-	3.711	
2.2) FSM - Reserve	A		-	-	4.807	-	-	1.059	-	-	0.696	-	-	0.713	-	-	-	-	-	0.713	
Subtotal: 2) FSM			-	-	70.019	-	-	3.898	-	-	4.299	-	-	4.424	-	-	-	-	-	4.424	
3) Prior Year Cumulative Funding																					
3.1) Prior Year Cum Funding	A		-	-	257.713	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Subtotal: 3) Prior Year Cumulative Funding			-	-	257.713	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4) FTAS																					
4.1) FTAS Upgrades and Installation ⁽²⁾	A		-	-	-	-	-	2.574	-	-	2.645	-	-	2.699	-	-	-	-	-	2.699	
4.2) FTAS Upgrades and Installation (Reserve)	A		-	-	-	-	-	0.293	-	-	0.298	-	-	0.303	-	-	-	-	-	0.303	
Subtotal: 4) FTAS			-	-	0.000	-	-	2.867	-	-	2.943	-	-	3.002	-	-	-	-	-	3.002	
5) AFATDS FoS																					
5.1) Fielding Support	A		-	-	-	-	-	0.880	-	-	0.890	-	-	0.916	-	-	-	-	-	0.916	
5.2) Mobile Tactical Shelter Modernization ⁽³⁾	A		-	-	-	-	-	2.938	-	-	5.540	-	-	6.002	-	-	-	-	-	6.002	
5.3) Hardware Refresh ⁽⁴⁾	A		-	-	-	-	-	6.203	-	-	3.822	-	-	4.449	-	-	-	-	-	4.449	
5.4) Ancillary Hardware Components ⁽⁵⁾	A		-	-	-	-	-	2.500	-	-	2.600	-	-	2.700	-	-	-	-	-	2.700	
Subtotal: 5) AFATDS FoS			-	-	0.000	-	-	12.521	-	-	12.852	-	-	14.067	-	-	-	-	-	14.067	
6) THS																					
6.1) Hardware/ Software Integration	A		-	-	-	-	-	1.400	-	-	0.244	-	-	0.249	-	-	-	-	-	0.249	

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16								P-1 Line Item Number / Title: 4733 / Fire Support System							Aggregated Items Title: Fire Support System				

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
6.2) Hardware Refresh	A		-	-	-	-	-	3.639	-	-	2.195	-	-	2.238	-	-	-	-	-	2.238
6.3) Hardware Procurement ^(†)	A		-	-	-	42,850.00	440	18.854	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 6) THS			-	-	0.000	-	-	23.893	-	-	2.439	-	-	2.487	-	-	-	-	-	2.487
7) LMAMS																				
7.1) Hardware Procurement ^(†)	A		-	-	-	55,830.00	100	5.583	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 7) LMAMS			-	-	0.000	-	-	5.583	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	372.001	-	-	62.548	-	-	35.488	-	-	24.934	-	-	-	-	-	24.934

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

(†) indicates the presence of a P-5a

Footnotes:

- (1) CLRF: The ECP in FY19 and FY20 accomplishes updates to the digital magnetic compass and short wave infrared duty cycle as well as image export. It will be implemented into production in FY19 starting at system number 700 and will be retrofitted into the first 700 systems in FY20. The decrease of \$11.362M from FY20 to FY21 is due to the completion of the procurement of the CLRF IC.
- (2) FY21 Lightweight Counter Mortar Radar (LCMR) Tech Refresh will be an estimated 15 systems.
- (3) FY21 increase procures additional MTS shelters.
- (4) FY21 the hardware refresh is to support the AFATDS new user interface.
- (5) This ancillary hardware components are to support the Mobile Tactical Shelter cables, raceways, and other infrastructure enhancements.

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16				P-1 Line Item Number / Title: 4733 / Fire Support System					Aggregated Items: Fire Support System			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1) CLRF												
1.1) CLRF - FRP Units Active ^(†)		2018	Kollsman, Inc. / Manchester, NH	C / FFP	Quantico, VA	Feb 2018	Jul 2018	420	37,500.00	Y		Jul 2014
1.1) CLRF - FRP Units Active ^(†)		2019	Kollsman, Inc. / Manchester, NH	C / FFP	Quantico, VA	Mar 2019	Aug 2019	196	37,500.00	N		Jul 2014
6) THS												
6.3) Hardware Procurement		2019	Harris Corp @Rochester, NY / rochester, NY	C / FFP	San Diego, CA	Dec 2018	Jun 2019	440	42,850.00	Y		Oct 2017
7) LMAMS												
7.1) Hardware Procurement ^(†)	✓	2019	AeroVironment Inc.@Simi Valley, CA / Simi, CA	C / TBD	Simi Valley, CA	Nov 2018	Aug 2019	100	55,830.00	Y		

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2021 Navy																							Date: February 2020																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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	15	2018	NAVY		420	0	420					A -	-	-	-	-	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020												
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16										P-1 Line Item Number / Title: 4733 / Fire Support System										Aggregated Items: Fire Support System												
Items <i>(Units in Each)</i>							Fiscal Year 2020										Fiscal Year 2021										BALANCE					
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020										Calendar Year 2021															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y		J U N	J U L	A U G	S E P	
1) CLRF																																
1.1) CLRF - FRP Units Active																																
Prior Years Deliveries: 279																																
	15	2018	NAVY	420	420	0																										0
	15	2019	NAVY	196	70	126	35	35	35	21																					0	
7) LMAMS																																
7.1) Hardware Procurement																																
✓	16	2019	NAVY	100	100	0	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	0	

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Exhibit P-21, Production Schedule: PB 2021 Navy								Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16					P-1 Line Item Number / Title: 4733 / Fire Support System				Aggregated Items: Fire Support System		

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Kollsman, Inc. - Manchester, NH	80	300	500	2	2	9	11	2	2	5	7
2	AeroVironment Inc.@Simi Valley, CA - Simi, CA			TBD	0	0	9	9	0	0	0	0

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

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

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

Appropriation / Budget Activity / Budget Sub Activity:

1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)

P-1 Line Item Number / Title:

4747 / Intelligence Support Equipment

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

Program Elements for Code B Items: N/A

Other Related Program Elements: 0206625M, 0305208M

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity <i>(Units in Each)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	603.008	72.968	56.896	50.728	10.124	60.852	42.242	55.025	64.755	65.063	Continuing	Continuing
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	603.008	72.968	56.896	50.728	10.124	60.852	42.242	55.025	64.755	65.063	Continuing	Continuing
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	603.008	72.968	56.896	50.728	10.124	60.852	42.242	55.025	64.755	65.063	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares <i>(\$ in Millions)</i>	-	0.421	-	-	-	-	-	-	-	-	-	0.421
Flyaway Unit Cost <i>(\$ in Dollars)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>	-	-	-	-	-	-	-	-	-	-	-	-

Description:

This budget line item includes Military Intelligence Program (MIP) funds for Marine Corps Intelligence capabilities necessary to support the employment of intelligence, reconnaissance, surveillance (ISR), and target acquisition resources integral to delivering decision advantage at the speed of operational relevance outlined in the 2018 National Defense Strategy. Marine Corps intelligence capabilities are divided into three functional areas organized along intelligence processes: Sensing (Persistent ISR), Analysis (Distributed Common Ground/Surface System Marine Corps (DCGS-MC)), and Dissemination (Intelligence Dissemination and Utilization (IDU)). This project funds the Sensing and Dissemination portfolios while the Analysis portfolio is budgeted under the DCGS-MC PE/BLI.

PERSISTENT INTELLIGENCE, SURVEILLANCE AND RECONNAISSANCE (PISR) GROUND SYSTEMS: PISR is a comprehensive strategy that synchronizes organic and external ISR assets in support of Marine Air-Ground Task Force (MAGTF) operations. This capability involves sensing the operational environment through a variety of systems, from satellites overhead to reconnaissance Marines on the ground. PISR incorporates terrestrial sensing capability from the following ground collection systems.

Terrestrial Collection provides a tactical ground sensor Family of Systems (FoS) that are organic to the MAGTF and facilitate near-real time PISR sensing to MAGTF decision makers and users. Sensors are networked to the maximum extent possible to enable the sharing of standard data and information to support all six Marine Corps warfighting functions (C2, Intelligence, Operations, Protection, Fires, and Maneuver) with both targeting and battlespace awareness. An array of sensor delivery methods, and a variety of sensor characteristics enable the MAGTF to sense air (low altitude), land (surface, underground), sea (surface and subsurface), environmental effects (weather), and man-made objects (e.g. inside buildings) to determine threat location, disposition, movement and direction. The Terrestrial Collection portfolio includes, but not limited to, Ground Based Operational Surveillance System (GBOSS), MAGTF Secondary Imagery Dissemination System (MSIDS), and Tactical Remote Sensor System (TRSS). GBOSS is an expeditionary, ground-based, self-contained, multi-spectral sensor-oriented, persistent surveillance system used to observe, collect, detect, identify, classify, track, and report on contacts, objects of interest, and assessed threats twenty-four hours a day utilizing a fused video and sensor data display. MSIDS provides organic tactical digital imagery collection, transmission and receiving capability to the MAGTF Commander. TRSS provides all-weather direction, location determination, targeting, and tactical indications and warning of enemy activity in the MAGTF Commander's Area of Interest.

Counter Intelligence and Human Intelligence (CI/HUMINT) Equipment Program (CIHEP) provides each Marine CI/HUMINT Company within the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE) with an integrated, standardized, and interoperable suite of information and communication systems. The CIHEP program provides specialized equipment that is lightweight, modular, and tailorable, in deployable packages to conduct full spectrum, tactical CI and HUMINT activities, to include Technical Surveillance Countermeasures (TSCM) operations. TSCM operations use techniques to detect, neutralize, and exploit hostile technical surveillance technologies and hazards that permit the unauthorized access to or removal of information. CI/HUMINT elements are generally task-organized in support of a MAGTF or other supported commanders, providing them the capability to rapidly collect, process, and disseminate counterintelligence and human intelligence information in support of military planning and operations. CIHEP is comprised of ten modules of commercial and government off the-shelf equipment. Different components are selected for refresh each year in order to maintain current capabilities and

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)		P-1 Line Item Number / Title: 4747 / Intelligence Support Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206625M, 0305208M
Line Item MDAP/MAIS Code: N/A		
ensure interoperability and standardization with related systems. This results in an equipment suite that enhances the operating force's CI/HUMINT capabilities, while maintaining interoperability within the USMC and joint CI/HUMINT communities. The modularity of the CIHEP program allows Marines to perform a variety of missions in support of commanders, while carrying only those items necessary to accomplish the mission. CIHEP provides state- of-the-art mission critical information protection capabilities, as well as the ability to detect, identify, and locate specific technical threats. Tactical Signal Intelligence (SIGINT) Collection System (TSCS) provides rapidly deployable capability that is the only tactical signals collection capability in the MAGTF in both man packable and vehicular configurations, and provides collections capabilities needed to develop intelligence. The TSCS Family of Systems (FoS) incorporates the Radio Reconnaissance Equipment Program (RREP) and Team Portable Collection Systems - Multi-Platform Capable (TPCS-MPC) programs into a single program, providing a modular and scalable suite of equipment that exploits information from more technically advanced target sets. The TSCS FoS has an incremental acquisition strategy, providing technical refresh for legacy TPCS-MPC and RREP systems as the systems become obsolete and/or require technology insertions to maintain pace with our adversaries. The prioritization of capabilities included in each increment is based on obsolescence and required capability upgrades against advanced target sets. Fluctuations within the funding profile is due to different components being refreshed each year. Communication Emitter Sensing and Attacking System (CESAS) is the sole USMC high power, man-packable, team portable and ground mobile electronic warfare (EW) asset. CESAS supports the MAGTF commander in the execution of his EW operations and information operations, by detecting, denying, and disrupting hostile communication emitters across a broad range of communication frequencies. CESAS covers the high frequency (HF), very high frequency (VHF), and ultra high frequency (UHF) frequency ranges against enemy emitters using modern modulation schemes. CESAS allows flexible employment to conduct EW while on the move or in a stationary position, thus optimizing the commander's ability to employ this asset for the greatest success of the mission. CESAS uses an incremental acquisition strategy, providing technical refresh for legacy systems as the systems become obsolete and/or require technology insertions to maintain pace with our adversaries. PROCESSING, EXPLOITATION, ANALYSIS AND PRODUCTION SYSTEMS: Processing, exploitation, analysis, and production actions of the Intelligence process enables Marines to understand the all-source information/data revealed by PISR. The Distributed Common Ground System - Marine Corps (DCGS-MC) Enterprise (BLI 4767) will serve as the Marine Corps ISR Enterprise (MCISRE) backbone, migrating select capabilities into a single, integrated, net-centric baseline via clearly defined capability drops. The Intelligence Analysis System (IAS) FoS (All-Source) and the Technical Control Analysis Center (TCAC) FoS (Signal Intelligence (SIGINT)) transition to Project 2268 DCGS-MC beginning FY20. INTELLIGENCE DISSEMINATION AND UTILIZATION (IDU) SYSTEMS: The IDU capability set performs the dissemination and integration functions of the Intelligence process. Dissemination connects the Intelligence product to the Commander who "operationalizes" these products through informed decisions. The Intelligence Broadcast Receiver (IBR) acquisition program is a family of terminals that conform to the Department of Defense (DoD) Integrated Broadcast Service (IBS) objectives of interoperability and commonality to receive and process near-real time multi-intelligence data. The IBR family of terminals provide MAGTF Commanders with the only direct access to IBS data via UHF satellite communications (SATCOM) broadcast channels. The IBR program is an evolving, multi-service architecture designed to keep pace with Commanders' targeting and information requirements and conforms to the DoD IBS objectives of interoperability and commonality, which is currently accomplished using the universal serial bus (USB) Embedded National Tactical Receiver (ENTR). The ENTR Version 4 (V4) will supplement and replace the USB ENTR which is no longer in production and obsolete due to the National Security Agency (NSA) cryptographic modernization mandate starting in 2024. The ENTR V4 provides a 50% weight reduction and doubles the life expectancy of the battery compared to the USB ENTR. Additionally, the IBR program is researching technology to meet the existing transceiver requirement identified in the Joint Tactical Terminal Joint Operational Requirements Document (JORD). The IBR family of terminals receive Blue Force Tracker data, which is a key element in developing and maintaining situational awareness as it relates to the common threat/common operating picture. The IBR provides near-real time (NRT) strategic, theater, and tactical sensor-to-shooter connectivity as well as NRT Theater Missile Defense indications and warnings. Additionally, the IBR provides connectivity to IBS Common Interactive Broadcast and IBS Alternative Path. Joint Worldwide Intelligence Communications System (JWICS) is the Top Secret Sensitive/ Compartmented Information (TS/SCI) portion of the Defense Information System Network and Intelligence Community (IC) Information Technology (IT) Enterprises. JWICS uses advanced networking technologies that permit point-to-point or multi-point information exchange involving voice, text, graphics, data, and video teleconferencing. It provides an SCI platform for data exchange of timely, current, and actionable intelligence from other services and agencies in support of Marine Air-Ground Task Force (MAGTF) units deployed around the world. Connectivity through both JWICS and NSANet significantly enhance the detail, timeliness, and quality of intelligence support that intelligence organizations provide to Marine operating forces.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)					P-1 Line Item Number / Title: 4747 / Intelligence Support Equipment					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A				Other Related Program Elements: 0206625M, 0305208M			
Line Item MDAP/MAIS Code: N/A										
Sensitive Compartmented Information Communications (SCI COMMS) is a Super-High Frequency multi-band satellite communications Family of Systems (FoS), that provides a tactical capability at the Top Secret (TS)/SCI and Secret Collateral levels to USMC intelligence units. The SCI COMMS FoS is the only deployable communications system that is dedicated for TS/SCI data and voice communications that can receive, transmit, and disseminate bulk data and imagery products to and from national tactical intelligence sources. The FoS consists of palletized, team level, and man-packable systems - High Bandwidth Special Intelligence-Palletized Terminal (HBSI-PT), and Sensitive Compartmented Intelligence Kit (SCIK) - which provide USMC tactical commanders with high-capacity, near-real-time access to intelligence from national agencies, joint, coalition, service activities, intelligence producers, and other tactical units via connectivity to Joint Worldwide Intelligence Communications System, National Security Agency (NSA) Network, coalition networks, and Secret Internet Protocol Router Network.										
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Navy	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	72.439	56.896	50.728	10.124	60.852	42.242	55.025	64.755	65.063
NR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.529	-	-	-	-	-	-	-	-
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	72.968	56.896	50.728	10.124	60.852	42.242	55.025	64.755	65.063

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Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)					P-1 Line Item Number / Title: 4747 / Intelligence Support Equipment					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A				Other Related Program Elements: 0206625M, 0305208M			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Intelligence Support Equipment	P-5a, P-21			- / 603.008	- / 72.968	- / 56.896	- / 50.728	- / 10.124	- / 60.852
P-40	Total Gross/Weapon System Cost				- / 603.008	- / 72.968	- / 56.896	- / 50.728	- / 10.124	- / 60.852
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. 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 2019: \$72.968M (\$72.439M Active; \$0.529M Reserve)

CESAS: \$5.556M initiates procurement of 19 CESAS II man-packable and 19 core systems. These procurements will provide required man-packable ground mobile electronic attack capability to meet planned production schedule. Decrease of \$3.667M from FY18 to FY19 aligns to procurement plan for CESAS II.

CIHEP: \$6.066M procured Data Processing Module software to interface with the new Mobile user Objective System waveform which increased the capability to transmit intelligence data over tactical radios and continued to procure components for the Technical Surveillance Countermeasures (TSCM) which modernized current capability and provided two new systems. Increase of \$2.541M from FY18 to FY19 reflected procurement of components for TSCM.

IAS: \$9.570M (\$9.041M Active; \$.529M Reserves) supports the procurement of hardware associated with the Tier I server refresh, Tier II common components and Tier III technical fielding support. Increase of \$1.174M from FY18 to FY19 supports the Tier I server procurement.

IBR: \$3.472M procures ENTR V4 systems, components and support. These systems, supporting eight (8) battalions, will be fielded to the company-level, and provide the capability of strategic, theater and tactical sensor-to-shooter intelligence data to the tactical edge of the battlefield. Decrease of \$2.568M from FY18 to FY19 reflects funding aligned with procurement plan and support schedule.

JWICS: \$6.312M procures garrison and tactical equipment and integration costs for SCI Enterprise Office (SEO) and the Marine Corps Intelligence, Surveillance and Reconnaissance Enterprise (MCISRE) Fixed Site located at the Marine Corps Intelligence Activity (MCIA). Funding will procure garrison hardware such as desktops, laptops, servers, routers, switches, maintenance of equipment, technical refreshes of hardware, Electronic Key Management System (EKMS) for SEO services and Storage Area Network (SAN/NAS). Reduction to the JWICS program constricts access to National intelligence data, services and assets in support of current and future operations of the Marine Corps Leaders. Reduction puts the primary conduit for national-to-tactical SCI integration, network operations, specialized capabilities, remote production, exploitation, and dissemination across all intelligence domains at risk.

SCI COMMS: \$7.325M procured additional HBSI-PT systems and ancillary components; and fielding and initial support. Funding also procured modification kits and upgrades such as modems for SCIK and updated test measurement and diagnostic equipment.

TCAC: \$6.749M procures Remote Analysis Workstations (RAWS) Hardware Refresh and supports fielding activities related to the delivery of the TWS and TCAC-G and software baseline for TCAC FoS.

TSCS: \$21.476M initiates procurement of TSCS FoS Increment I, which consists of core receivers and completes procurement of Tactical Servers. The program conducted an acquisition strategy change due to fidelity of costs models. The original strategy to procure one (1) Core Receiver variant was changed to procure four (4) different Core Receivers due to technology maturation not being conducive to capture all necessary signals of interest. The TSCS Core Receivers are the foundation of the TSCS FoS, replacing the TPCS receivers, and are capable of operating stand-alone (without a case or Platform Integration Kit). Tactical Servers will fulfill an AAO increase. Fluctuations in cost from year to year is caused by different components availability being prioritized based on obsolescence, operational user input and required capability upgrades against advanced target sets.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)		P-1 Line Item Number / Title: 4747 / Intelligence Support Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206625M, 0305208M
Line Item MDAP/MAIS Code: N/A		
Terrestrial Collection: \$6.442M supported the procurement of Advanced Network upgrade kits for fielded G-BOSS systems to increase network and computing performance for systems currently fielded in support of combat operations directly resulting in increased ability to conduct force protection and intelligence collections functions. Additionally, funds provided for the procurement of the Hand-Held Programmer-Monitors (HHPM) and Signature Data Recorder (SDR) components. The HHPM provides a portable, programmable, dual-band, sensor emplacement tool for programming sensor equipment, monitoring sensor activity, recording sensor positions, and testing RF communications paths between remote device sites. The SDR components provides connection with the Common Sensor Radio component and the SDR to meet to modern Security Standards. Funds also supported the procurement of MSIDS imagery transmission components providing the MAGTF commander the ability to transmit video and still imagery from eyes-on-target ashore in remote/austere locations from MSIDS outstation terminal to the Command Operations Center (COC) to support intelligence imagery gathering requirements. In FY19, GBOSS, MSIDS, and TRSS transitioned to Terrestrial Collection. FY 2020: \$56.896M (\$56.896M Active; \$0.000M Reserve) CESAS: \$5.187M initiates procurement of CESAS II FoS Team-Portable Kits and procures additional Core Systems. The Constructive Electromagnetic Operational Environment System (CEMOES) procurement originally planned in FY20 being curtailed by the Marine Corps to revalidate the requirement. The Joint Light Tactical Vehicle (JLTV) Platform Integration Kit (PIK) procurement previously planned in FY20 is deferred due to cross team coordination. Decrease of \$0.369M from FY19 to FY20 aligns to procurement plan for CESAS II. CIHEP: \$12.974M continues procurement and fielding of essential equipment for Technical Surveillance Countermeasures (TSCM) suites providing four additional systems and spares. Will also complete procurement of an in-production Engineer Change Proposal (ECP) to upgrade the configuration of the Broadband Global Area Network (BGAN) Antenna for Commercial Satellite Communications Set (CSCS) to significantly increase the usability and decrease the operational set up time. Procures external hard drives to meet storage requirements for fielded systems. The Marine Corps postponed the procurement of the Data Processing Module (DPM) suites. Current existing requirements were determined to be insufficient to meet the emerging operational needs. As a result, the Marine Corps developed updated requirements to meet current and future operational needs in a peer/near peer environment. In light of these new requirements, the CIHEP is changing to meet the newly documented requirement. Increase of \$6.908M from FY19 to FY20 reflects technical refresh and the procurement of mission critical TSCM suites and spares. IAS: Beginning FY20, IAS transitions to BLI 4767, Distributed Common Ground/Surface System-Marine Corps (DCGS-MC) in the support of the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE) Plan. IBR: \$3.014M continues procurement of Embedded National Tactical Receiver (ENTR) Version 4 systems, components, and support. These systems, supporting eight (8) battalions, will be fielded to the company-level, and provide the capability of strategic, theater and tactical sensor-to-shooter intelligence data to the tactical edge of the battlefield. Decrease of \$0.458M from FY19 to FY20 is in alignment with procurement plan for various host systems. JWICS: \$6.861M procures garrison and tactical equipment and integration costs for SCI Enterprise Office (SEO) and the Marine Corps Intelligence, Surveillance and Reconnaissance Enterprise (MCISRE) Fixed Site located at the Intelligence Enterprise Management Office (IEMO). Funding will procure garrison hardware such as desktops, thin clients, laptops, hyper-converged servers, routers, switches, maintenance of equipment, and technical refreshes of hardware, Electronic Key Management System (EKMS) for SEO services and Storage Area Network (SAN/NAS) to include the Tactical JWICS planned fielding of High Bandwidth Special Intelligence-Palletized Terminal (HBSI-PT) sites and Sensitive Compartmented Information Communications Kit (SCIK)s. Reduction to the JWICS program constricts access to National intelligence data, services and assets in support of current and future operations of the Marine Corps Leaders. Reduction puts the primary conduit for national-to-tactical SCI integration, network operations, specialized capabilities, remote production, exploitation, and dissemination across all intelligence domains at risk. Increase of \$0.549M from FY19 to FY20 reflects Tactical JWICS meeting planned fielding requirements. TCAC: Beginning FY20, TCAC transitions to BLI 4767, Distributed Common Ground/Surface System-Marine Corps (DCGS-MC) in the support of the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE) Plan. TSCS: \$17.104M continues procurement of TSCS FoS Increment I, which consists of core receivers. The original strategy to procure one (1) Core Receiver variant was changed to procure four (4) different Core Receivers due to technology maturation not being conducive to capture all necessary signals of interest. The TSCS Core Receivers are the foundation of the TSCS FoS, replacing existing TPCS receivers, and		

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Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)		P-1 Line Item Number / Title: 4747 / Intelligence Support Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206625M, 0305208M
Line Item MDAP/MAIS Code: N/A		
are capable of operating stand-alone (without a case or Platform Integration Kit). Fluctuations in cost from year to year is caused by different components availability being prioritized based on obsolescence, operational user input and required capability upgrades against advanced target sets. Decrease of \$4.372M from FY19 to FY20 aligns with the procurement plan for core receivers. Terrestrial Collection: \$6.642M completes the procurement of Advanced Network upgrade kits for fielded G-BOSS systems to increase network and computing performance for systems currently fielded in support of combat operations directly resulting in increased ability to conduct force protection and intelligence collections functions. Funds also provide for the continued procurement of TRSS Common Sensor Radio (CSR) and hardware components toward a full networking capability to form wireless networks. Increase of \$0.200M from FY19 to FY20 reflects procurement plan of components within Terrestrial Collection. SCI COMMS: \$5.114M procures items such as, (3) HBSI-PT systems to support Authorized Acquisition Objective (AAO) increase, and modems for HBSI-PT and SCIK systems to modernize the Family of Systems with new Enterprise SATCOM Gateway Modem (ESGM) technologies, which will be the future infrastructure standard, and program support. FY 2021 Base Appropriation Request: \$50.728M (\$50.728M Active; \$0.000M Reserve) CESAS: \$10.217M will continue procurement of the CESAS II FoS Core Systems, Man-Packable Kits, and Team Portable Kits. Increase of \$5.030M from FY20 to FY21 aligns to the additional procurement of multiple ground electronic attack systems. CIHEP: \$4.823M will complete the procurement and fielding of components for the Technical Surveillance Countermeasures (TSCM) suites. Funding will also procure surveillance systems for a refreshed capability. This includes updated technology to replace the current night vision device as well as it contributes to multi-modal communications to facilitate real-time distribution of source data and counterintelligence operations support. The surveillance systems include a counterintelligence event kit that provides a hasty surveillance capability for special events to track persons of interest. Decrease of \$8.151M from FY20 to FY21 is in alignment with procurement schedule of technical surveillance countermeasure components for CIHEP. IBR: \$1.494M will continue procurement of Embedded National Tactical Receiver (ENTR) Version 4 systems, components, and associated support. These systems, supporting eight (8) battalions, will be fielded to the company-level, and provide the capability of strategic, theater, and tactical sensor-to-shooter intelligence data to the tactical edge of the battlefield. Decrease of \$1.520M from FY20 to FY21 is most directly related to the procurement of 49 fewer IBR ENTR v4s. TSCS: \$16.310M will complete procurement of TSCS FoS Increment I, which consists of core receivers. In addition, will initiate procurement of TSCS FoS Increment II which consists of the Mini PIK, LAV-EW PIK, TSCS Modular (Mods) Case, and SAS-260 antenna. The original Increment 2 components also included the MV-22 Aviation Platform Kits and Advanced Signal Processor (ASP) but they are delayed due to technology maturation. The TSCS Mods Case, replacing the TPCS Mods Case, will be fielded with blank sleeves, facilitating the insertion of the core receivers and tactical servers fielded in Increment I. Decrease of \$0.794 from FY20 to FY21 reflects completion of Increment I core receiver procurements. Terrestrial Collection: \$2.448M will continue to provide for the procurement of TRSS Common Sensor Radio Components toward a full networking capability to form wireless networks to meet modern security standards. Decrease of \$4.191M from FY20 to FY21 reflects completion of Advanced Network upgrade kits for fielded G-BOSS systems. Decrease also reflects procurements of TRSS Hardware Components (Common Sensor Radio Components) in accordance with the TRSS procurement plan. SCI COMMS: \$8.634M will procure Man-packable systems and spares, including fielding and initial support. Funding also supports upgrades such as procurement of SCIK modems. Increase of \$3.520M from FY20 to FY21 will procure (26) Man-packable systems, which will provide Marines with lightweight, packable Top Secret (TS)/Secure Compartmented Information (SCI) data transport. JWICS: \$6.802M will procure, field, and sustain servers, storage and network equipment based on operational needs throughout the Marine Corps Intelligence, Surveillance and Reconnaissance Enterprise (MCISRE) Fixed Site located at the Intelligence Enterprise Management Office (IEMO) for garrison and tactical requirements. Funding will provide technological refresh of SCI systems necessary to support the tactical SCI local area network and support reach-back interoperability. Funding will provide contractor engineering and integration support for hardware/software refresh of SCI systems. OCO:		

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Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)		P-1 Line Item Number / Title: 4747 / Intelligence Support Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206625M, 0305208M
Line Item MDAP/MAIS Code: N/A		
FY 2021 Overseas Contingency Operations (OCO) Request: (\$10.124M)		
CIHEP: \$10.124M will procure surveillance systems which include updated technology to replace the current night vision device, providing multi-modal communications to facilitate real-time distribution of source data and counter intelligence operations in direct support of Operation Inherent Resolve, Operation Freedom's Sentinel, Horn of Africa and other expeditionary operations conducted by U.S. Marine Corps Forces Central Command and other Operational Forces. These systems enable Marines to support Intelligence operations, Force Protection, Military Source Operations, Counter Intelligence Investigations, Material Protection, Supply Chain Risk Management, Operational Security, and Force-On-Force threat analysis.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16									P-1 Line Item Number / Title: 4747 / Intelligence Support Equipment						Aggregated Items Title: Intelligence Support Equipment					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
1) Intelligence Analysis System (IAS) (122398) - Hardware																				
1.1) Command System, Tactical Tier I (MEF IAS)	A		-	-	-	-	-	4.748	-	-	-	-	-	-	-	-	-	-	-	-
1.2) Command System, Tactical Tier II	A		-	-	-	-	-	2.398	-	-	-	-	-	-	-	-	-	-	-	-
1.3) Command System, Tactical Tier II (Reserve)	A		-	-	-	-	-	0.400	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 1) Intelligence Analysis System (IAS) (122398) - Hardware			-	-	0.000	-	-	7.546	-	-	-	-	-	-	-	-	-	-	-	-
2) Intelligence Analysis System (IAS) (122398) - Support																				
2.1) Fielding Support			-	-	8.657	-	-	0.563	-	-	-	-	-	-	-	-	-	-	-	-
2.2) Program Technical Support			-	-	25.114	-	-	1.327	-	-	-	-	-	-	-	-	-	-	-	-
2.3) Program Technical Support (Reserves)	A		-	-	1.040	-	-	0.134	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 2) Intelligence Analysis System (IAS) (122398) - Support			-	-	34.811	-	-	2.024	-	-	-	-	-	-	-	-	-	-	-	-
3) Intelligence Broadcast Receiver (IBR) (122700) - Hardware																				
3.1) IBR ENTR Version 4 ^{(1)(t)}	A		38,000.00	110	4.180	31,620.00	52	1.644	32,252.00	69	2.225	33,219.00	20	0.664	-	-	-	33,219.00	20	0.664
3.2) IBR ENTR Version 4 Components and Accessories	A		-	-	1.245	-	-	0.888	-	-	0.269	-	-	0.124	-	-	-	-	-	0.124
Subtotal: 3) Intelligence Broadcast Receiver (IBR) (122700) - Hardware			-	-	5.425	-	-	2.532	-	-	2.494	-	-	0.788	-	-	-	-	-	0.788
4) Intelligence Broadcast Receiver (IBR) (122700) - Software																				
4.1) Software	A		-	-	0.040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 4) Intelligence Broadcast Receiver (IBR) (122700) - Software			-	-	0.040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5) Intelligence Broadcast Receiver (IBR) (122700) - Support																				
5.1) Program Support IBR			-	-	5.271	-	-	0.940	-	-	0.520	-	-	0.706	-	-	-	-	-	0.706
Subtotal: 5) Intelligence Broadcast Receiver (IBR) (122700) - Support			-	-	5.271	-	-	0.940	-	-	0.520	-	-	0.706	-	-	-	-	-	0.706
6) Technical Control and Analysis Center (TCAC) (120698) - Hardware																				
6.1) RAWS Hardware Refresh	A		-	-	4.084	-	-	4.672	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16								P-1 Line Item Number / Title: 4747 / Intelligence Support Equipment							Aggregated Items Title: Intelligence Support Equipment					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
Subtotal: 6) Technical Control and Analysis Center (TCAC) (120698) - Hardware			-	-	4.084	-	-	4.672	-	-	-	-	-	-	-	-	-	-	-	-
7) Technical Control and Analysis Center (TCAC) (120698) - Support																				
7.1) Contractor Engineering, Tech and Mgmt Support			-	-	22.419	-	-	1.000	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 7) Technical Control and Analysis Center (TCAC) (120698) - Support			-	-	22.419	-	-	1.000	-	-	-	-	-	-	-	-	-	-	-	-
8) Technical Control and Analysis Center (TCAC) (120698) - Software																				
8.1) RAWS, CDS, TWS SW Fielding		A	-	-	5.442	-	-	1.077	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 8) Technical Control and Analysis Center (TCAC) (120698) - Software			-	-	5.442	-	-	1.077	-	-	-	-	-	-	-	-	-	-	-	-
9) Sensitive Compartmented Information Communications (SCI COMMS) (120398) - Hardware																				
9.1) HBSI-PT (2)(t)		A	344,692.31	52	17.924	347,154.00	9	3.124	347,154.00	3	1.041	-	-	-	-	-	-	-	-	-
9.2) Modification Kits & Upgrades (3)		A	-	-	0.251	-	-	0.914	-	-	3.695	-	-	1.091	-	-	-	-	-	1.091
9.3) Man-Packable Systems (4)(t)		A	-	-	-	-	-	-	-	-	-	200,000.00	26	5.200	-	-	-	200,000.00	26	5.200
9.4) HBSI-PT Ancillary Components		A	-	-	-	-	-	1.705	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 9) Sensitive Compartmented Information Communications (SCI COMMS) (120398) - Hardware			-	-	18.175	-	-	5.743	-	-	4.736	-	-	6.291	-	-	-	-	-	6.291
10) SCI COMMS (120398) - Support																				
10.1) Fielding and Initial Support (5)			-	-	3.071	-	-	1.582	-	-	0.378	-	-	2.343	-	-	-	-	-	2.343
Subtotal: 10) SCI COMMS (120398) - Support			-	-	3.071	-	-	1.582	-	-	0.378	-	-	2.343	-	-	-	-	-	2.343
11) Communication Emitter Sensing and Attacking System (CESAS) (360204) - Hardware																				
11.1) Ground Electronic Attack System - Man-Packable (6)(t)		A	-	-	-	62,000.00	19	1.178	-	-	-	62,000.00	18	1.116	-	-	-	62,000.00	18	1.116
11.2) Ground Electronic Attack System - Core Systems (7)(t)		A	-	-	-	224,000.00	19	4.256	224,000.00	8	1.792	224,000.00	35	7.840	-	-	-	224,000.00	35	7.840
11.3) Ground Electronic Attack		A	-	-	-	-	-	-	150,000.00	22	3.300	150,000.00	8	1.200	-	-	-	150,000.00	8	1.200

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16							P-1 Line Item Number / Title: 4747 / Intelligence Support Equipment							Aggregated Items Title: Intelligence Support Equipment						
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
System - Team-Portable Kits ^{(8)(t)}																				
Subtotal: 11) Communication Emitter Sensing and Attacking System (CESAS) (360204) - Hardware			-	-	0.000	-	-	5.434	-	-	5.092	-	-	10.156	-	-	-	-	-	10.156
12) Communication Emitter Sensing and Attacking System (CESAS) (360204) - Support																				
12.1) Fielding, Initial & Production Support			-	-	2.582	-	-	0.122	-	-	0.095	-	-	0.061	-	-	-	-	-	0.061
Subtotal: 12) Communication Emitter Sensing and Attacking System (CESAS) (360204) - Support			-	-	2.582	-	-	0.122	-	-	0.095	-	-	0.061	-	-	-	-	-	0.061
13) Counter Intelligence and Human Intelligence (CI/HUMINT) Equip. Program (CIHEP) (122698) - H																				
13.1) CIHEP Technical Surveillance Countermeasures (TSCM) Components ⁽⁹⁾	A		-	-	4.895	-	-	5.069	-	-	12.044	-	-	3.120	-	-	-	-	-	3.120
13.3) CIHEP Commercial Handheld Satellite Comm Set (CHSCS) Refresh	A		-	-	-	-	-	0.788	-	-	-	-	-	-	-	-	-	-	-	-
13.4) CIHEP Data Processing Module (DPM) Components	A		-	-	2.279	-	-	-	-	-	0.160	-	-	-	-	-	-	-	-	-
13.5) CIHEP Surveillance Kits ⁽¹⁰⁾	A		-	-	-	-	-	-	-	-	-	-	-	1.407	-	-	10.124	-	-	11.531
13.6) CIHEP Counterintel (CI) Event Kit	A		-	-	-	-	-	-	-	-	-	-	-	0.296	-	-	-	-	-	0.296
13.10) CIHEP Commercial Satellite Comm Set (CSCS) ⁽¹¹⁾	A		-	-	-	-	-	-	-	-	0.770	-	-	-	-	-	-	-	-	-
Subtotal: 13) Counter Intelligence and Human Intelligence (CI/HUMINT) Equip. Program (CIHEP) (122698) - H			-	-	7.174	-	-	5.857	-	-	12.974	-	-	4.823	-	-	10.124	-	-	14.947
14) Counter Intelligence and Human Intelligence (CI/HUMINT) Equip. Program (CIHEP) (122698)- S																				
14.1) Software	A		-	-	0.378	-	-	0.209	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 14) Counter Intelligence and Human Intelligence (CI/HUMINT) Equip. Program (CIHEP) (122698)- S			-	-	0.378	-	-	0.209	-	-	-	-	-	-	-	-	-	-	-	-
15) JWICS (120206) - Hardware																				
15.1) Servers, Storage and Network equipment	A		1,960K	6	11.757	-	-	4.085	-	-	4.138	-	-	3.550	-	-	-	-	-	3.550

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy																Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16								P-1 Line Item Number / Title: 4747 / Intelligence Support Equipment								Aggregated Items Title: Intelligence Support Equipment				
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
15.2) JPED - Servers, Storage and Network Equipment	A		-	-	14.300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 15) JWICS (120206) - Hardware			-	-	26.057	-	-	4.085	-	-	4.138	-	-	3.550	-	-	-	-	-	3.550
16) JWICS (120206) - Software																				
16.1) JPED - Software	A		-	-	3.790	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.2) Software	A		-	-	16.993	-	-	-	-	-	0.132	-	-	0.103	-	-	-	-	-	0.103
Subtotal: 16) JWICS (120206) - Software			-	-	20.783	-	-	-	-	-	0.132	-	-	0.103	-	-	-	-	-	0.103
17) JWICS (120206) - Support																				
17.1) Hardware & Software Integration			-	-	12.054	-	-	2.227	-	-	2.591	-	-	3.149	-	-	-	-	-	3.149
17.2) JPED - Hardware & Software Integration			-	-	1.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 17) JWICS (120206) - Support			-	-	13.054	-	-	2.227	-	-	2.591	-	-	3.149	-	-	-	-	-	3.149
18) Tactical SIGINT Collection System (TSCS) (120514) - Hardware																				
18.1) TSCS Increment 1 (see footnote) ⁽¹²⁾	A		-	-	-	-	-	21.047	-	-	16.859	-	-	14.251	-	-	-	-	-	14.251
18.2) TSCS Increment 2 (see footnote) ⁽¹³⁾	A		-	-	-	-	-	-	-	-	-	-	-	1.823	-	-	-	-	-	1.823
Subtotal: 18) Tactical SIGINT Collection System (TSCS) (120514) - Hardware			-	-	0.000	-	-	21.047	-	-	16.859	-	-	16.074	-	-	-	-	-	16.074
19) Tactical SIGINT Collection System (TSCS) (120514) - Support																				
19.1) Program Support			-	-	0.513	-	-	0.103	-	-	-	-	-	-	-	-	-	-	-	-
19.2) Fielding and Initial Support			-	-	1.286	-	-	0.326	-	-	0.245	-	-	0.236	-	-	-	-	-	0.236
Subtotal: 19) Tactical SIGINT Collection System (TSCS) (120514) - Support			-	-	1.799	-	-	0.429	-	-	0.245	-	-	0.236	-	-	-	-	-	0.236
20) Terrestrial Collection (121019) - Hardware ⁽¹⁴⁾																				
20.1) GBOSS Advanced Network Components ⁽¹⁵⁾	A		-	-	-	-	-	3.962	-	-	2.100	-	-	-	-	-	-	-	-	-
20.2) MSIDS Imagery Transmission Components ⁽¹⁶⁾	A		-	-	-	-	-	1.267	-	-	0.100	-	-	-	-	-	-	-	-	-

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy														Date: February 2020						
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16						P-1 Line Item Number / Title: 4747 / Intelligence Support Equipment						Aggregated Items Title: Intelligence Support Equipment								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
20.3) TRSS Hardware Components (Various) (17)	A		-	-	-	-	-	1.213	-	-	4.442	-	-	2.448	-	-	-	-	-	2.448
Subtotal: 20) Terrestrial Collection (121019) - Hardware			-	-	0.000	-	-	6.442	-	-	6.642	-	-	2.448	-	-	-	-	-	2.448
21) Prior Years Cumulative Funding																				
21.1) Prior Years Cumulative Funding	A		-	-	432.443	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 21) Prior Years Cumulative Funding			-	-	432.443	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	603.008	-	-	72.968	-	-	56.896	-	-	50.728	-	-	10.124	-	-	60.852
Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.																				
(†) indicates the presence of a P-5a																				
Footnotes:																				
(1) IBR: Decrease of \$1.561M from FY20 to FY21 is in alignment with procurement plan for various host systems.																				
(2) SCI COMMS HBSI-PT: Decrease of \$1.041M from FY20 to FY21 reflects completion of Authorized Acquisition Objective (AAO) procurement.																				
(3) SCI COMMS Modification Kits & Upgrades: Decrease of \$2.604M from FY20 to FY21 reflects completion of 80% of SCIK modem procurement. FY21 funds will procure remaining 20% of SCIK modems.																				
(4) SCI COMMS Man-Packable Systems: Increase of \$5.200M from FY20 to FY21 will procure (26) Man-packable systems, which provide Marines with lightweight, packable Top Secret (TS)/Secure Compartmented Information (SCI) data transport.																				
(5) SCI COMMS Fielding & Initial Support: Increase of \$1.965M from FY20 to FY21 supports fielding efforts for the Man-packable systems, to include documentation, training, and integration efforts.																				
(6) CESAS: Update to the FY19 unit cost reflects the unit cost of an individual Man-Packable. The previous budget request FY19 unit cost previously included the combined cost of the Man-Packable and Core System. The Core System was added as a separate cost element to the P40a to provide better fidelity of the costs of different CESAS II FoS Increment II system components. Increase of \$1.116 from FY20 to FY21 aligns to procurement plan for CESAS II.																				
(7) CESAS: New cost element. The Core System cost was previously included in the Man-packable cost element in FY19. The Core System was added as a separate cost element to provide better fidelity of the costs of different CESAS II FoS Increment II system components. Increase of \$6.048M from FY20 to FY21 aligns to procurement plan for CESAS II.																				
(8) CESAS: New Cost Element. Increase of \$2.100M supports procurement of Team-Portable Kits. The Team-Portable kit will provide transportability and capabilities such as high frequency jamming and multichannel tasking.																				
(9) CIHEP: Decrease of \$8.924M from FY20 to FY21 completes the procurement of TSCM suites.																				
(10) CIHEP: FY21 Base procures Surveillance Training Kits. FY21 OCO procures Surveillance Kits in Theater.																				
(11) CIHEP: Decrease of \$0.770M from FY20 to FY21 reflects the completion of Commercial Satellite Comm Set (CSCS) component procurement.																				
(12) TSCS: In FY19 TSCS FoS initiated procurement of Increment I which includes core receivers and tactical servers. The original strategy to procure one (1) core receiver variant was changed to procure four (4) different core receivers due to technology maturation not being conducive to capture all necessary signals of interest. Decrease of \$2.608M from FY20 to FY21 reflects completions of Increment 1 core receiver procurements.																				
(13) TSCS: Increase of \$1.823 from FY20 to FY21 reflects the initiation of the procurement of Increment 2 which includes TSCS Modular Cases, LAV-EW PIK, Mini PIK, and SAS-260 antenna refresh.																				
(14) Terrestrial Collection: In FY19, GBOSS, MSIDS, and TRSS transition to Terrestrial Collection.																				
(15) Terrestrial Collection: Decrease reflects completion of Advanced Network upgrade kits procurement for fielded G-BOSS systems.																				
(16) Terrestrial Collection: Decrease reflects completion of MSIDS Imagery Transmission Components procurement for fielded MSIDS systems.																				
(17) Terrestrial Collection: \$1.994M decrease reflects procurements of TRSS Hardware Components (Common Sensor Radio Components) in accordance with the TRSS procurement plan.																				

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16				P-1 Line Item Number / Title: 4747 / Intelligence Support Equipment					Aggregated Items: Intelligence Support Equipment			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
3) Intelligence Broadcast Receiver (IBR) (122700) - Hardware												
3.1) IBR ENTR Version 4 ⁽¹⁾		2018	Army Special Projects Office / Alexandria, VA	MIPR	Alexandria	Dec 2017	Mar 2019	100	38,000.00	Y		Oct 2017
3.1) IBR ENTR Version 4 ⁽¹⁾		2019	Army Special Projects Office / Alexandria, VA	MIPR	Alexandria	Dec 2018	Mar 2020	52	31,620.00	Y		Oct 2018
3.1) IBR ENTR Version 4 ⁽¹⁾		2020	Army Special Projects Office / Alexandria, VA	MIPR	Alexandria	Dec 2019	Mar 2021	69	32,252.00	Y		Oct 2019
3.1) IBR ENTR Version 4 ⁽¹⁾		2021	Army Special Projects Office / Alexandria, VA	MIPR	Alexandria	Dec 2020	Mar 2022	20	33,219.00	Y		Oct 2020
9) Sensitive Compartmented Information Communications (SCI COMMS) (120398) - Hardware												
9.1) HBSI-PT ⁽²⁾	✓	2017	GATR Technologies / Huntsville, AL	C / FFP	CECOM, Aberdeen, MD	Sep 2017	Mar 2018	2	347,154.00	Y		
9.1) HBSI-PT ⁽²⁾		2019	GATR Technologies / Huntsville, AL	C / FFP	CECOM, Aberdeen, MD	Sep 2019	Mar 2020	9	347,154.00	Y		
9.1) HBSI-PT ⁽²⁾		2020	GATR Technologies / Huntsville, AL	C / FFP	CECOM, Aberdeen, MD	Jun 2020	Dec 2020	3	347,154.00	Y		
9.3) Man-Packable Systems ⁽⁴⁾		2021	TBD / TBD	C / TBD	TBD	Mar 2021	Sep 2021	26	200,000.00	Y		Jun 2020
11) Communication Emitter Sensing and Attacking System (CESAS) (360204) - Hardware												
11.1) Ground Electronic Attack System - Man-Packable ^{(6)(t)}		2019	SPAWAR Charleston / Charleston, SC	C / FFP	Charleston, SC	Sep 2019	Mar 2020	19	62,000.00	Y		Feb 2019
11.1) Ground Electronic Attack System - Man-Packable ^{(6)(t)}		2021	SPAWAR Charleston / Charleston, SC	C / TBD	Charleston SC	Feb 2021	Aug 2021	18	62,000.00	Y		Aug 2020
11.2) Ground Electronic Attack System - Core Systems ^{(7)(t)}		2019	Advanced Computer Concepts / McLean, VA	C / FFP	SPAWAR, Charleston SC	Sep 2019	Jun 2020	19	224,000.00	Y		Jun 2019
11.2) Ground Electronic Attack System - Core Systems ^{(7)(t)}		2020	Advanced Computer Concepts / McLean, VA	C / FFP	SPAWAR, Charleston SC	Sep 2020	Jun 2021	8	224,000.00	N	Sep 2020	Jun 2020
11.2) Ground Electronic Attack System - Core Systems ^{(7)(t)}		2021	Advanced Computer Concepts / McLean, VA	C / FFP	SPAWAR, Charleston SC	Sep 2021	Jun 2022	35	224,000.00	N	Sep 2021	Jun 2021
11.3) Ground Electronic Attack System - Team-Portable Kits ⁽⁸⁾		2020	TBD / TBD	C / FFP	SPAWAR, Charleston SC	Sep 2020	Jun 2021	22	150,000.00	N	Sep 2020	Mar 2020
11.3) Ground Electronic Attack System - Team-Portable Kits ⁽⁸⁾		2021	TBD / TBD	C / FFP	SPAWAR, Charleston SC	May 2021	Feb 2022	8	150,000.00	N	May 2021	Dec 2020
^(t) indicates the presence of a P-21												

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Exhibit P-21, Production Schedule: PB 2021 Navy																							Date: February 2020												
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16										P-1 Line Item Number / Title: 4747 / Intelligence Support Equipment													Aggregated Items: Intelligence Support Equipment												
Items <i>(Units in Each)</i>							Fiscal Year 2017												Fiscal Year 2018												BALANCE				
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017												Calendar Year 2018																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					
11) Communication Emitter Sensing and Attacking System (CESAS) (360204) - Hardware																																			
11.1) Ground Electronic Attack System - Man-Packable ⁽⁶⁾																																			
	17	2019	NAVY		19	0	19																												19
	17	2021	NAVY		18	0	18																												18
11.2) Ground Electronic Attack System - Core Systems ⁽⁷⁾																																			
	18	2019	NAVY		19	0	19																												19
	18	2020	NAVY		8	0	8																												8
	18	2021	NAVY		35	0	35	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020																
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16										P-1 Line Item Number / Title: 4747 / Intelligence Support Equipment										Aggregated Items: Intelligence Support Equipment																
Items <i>(Units in Each)</i>							Fiscal Year 2019													Fiscal Year 2020													BALANCE			
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT				Calendar Year 2019										Calendar Year 2020																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						
11) Communication Emitter Sensing and Attacking System (CESAS) (360204) - Hardware																																				
11.1) Ground Electronic Attack System - Man-Packable ⁽⁶⁾																																				
	17	2019	NAVY		19	0	19											A -	-	-	-	-	-	9	10											0
	17	2021	NAVY		18	0	18																												18	
11.2) Ground Electronic Attack System - Core Systems ⁽⁷⁾																																				
	18	2019	NAVY		19	0	19											A -	-	-	-	-	-	-	-	-	-	-	10	9					0	
	18	2020	NAVY		8	0	8																											A -	8	
	18	2021	NAVY		35	0	35																												35	
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16										P-1 Line Item Number / Title: 4747 / Intelligence Support Equipment										Aggregated Items: Intelligence Support Equipment														
Items <i>(Units in Each)</i>							Fiscal Year 2021										Fiscal Year 2022													BALANCE				
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021										Calendar Year 2022																	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP			
11) Communication Emitter Sensing and Attacking System (CESAS) (360204) - Hardware																																		
11.1) Ground Electronic Attack System - Man-Packable ⁽⁶⁾																																		
	17	2019	NAVY	19	19	0																											0	
	17	2021	NAVY	18	0	18					A -	-	-	-	-	-	-	8	10															0
11.2) Ground Electronic Attack System - Core Systems ⁽⁷⁾																																		
	18	2019	NAVY	19	19	0																											0	
	18	2020	NAVY	8	0	8	-	-	-	-	-	-	-	-	8																		0	
	18	2021	NAVY	35	0	35											A -	-	-	-	-	-	-	-	-	-	-	10	10	10	5	0		
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				

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Exhibit P-21, Production Schedule: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16					P-1 Line Item Number / Title: 4747 / Intelligence Support Equipment				Aggregated Items: Intelligence Support Equipment			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	SPAWAR Charleston - Charleston, SC			19	0	0	6	6	0	0	6	6
2	Advanced Computer Concepts - McLean, VA			TBD	0	0	9	9	0	0	9	9

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

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

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

Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)	P-1 Line Item Number / Title: 4757 / Unmanned Air Systems

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

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	126.247	3.848	28.036	24.853	0.000	24.853	24.625	14.451	25.421	25.242	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	126.247	3.848	28.036	24.853	0.000	24.853	24.625	14.451	25.421	25.242	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	126.247	3.848	28.036	24.853	0.000	24.853	24.625	14.451	25.421	25.242	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Family of Small Unmanned Aircraft Systems (FoSUAS) [Formerly Small Unit Remote Scouting System (SURSS)] - The FoSUAS program procures unmanned aircraft systems (UAS) to provide battalion/company/detachment level units with scalable airborne Intelligence, Surveillance and Reconnaissance (ISR) capabilities to aid in detecting, identifying, engaging, and/or avoiding enemy units. Currently procured RQ-12 Wasp, RQ-11 Raven, RQ-20 Puma and various Nano/Vertical Takeoff & Landing (VTOL) UASs meet validated operational requirements delineated in the Operational Requirements Document (ORD) and UUNS 16014UA. Puma and the VTOL UAS continue to be planned as the current solutions for Group 1 and Group 2 capability needs while both Navy and Marine Corps finalize the transition of revised requirements to address Intelligence, Surveillance, and Reconnaissance (ISR) Capability Set via a new Capability Development Document (CDD), the intended successor to the current Operational Requirements Document (ORD).

The new CDD shall incorporate unique mission kits, mission payloads, air vehicle enhancements, and modifications of UAS and related ground control stations for the family of Group 1 tactical UAS systems including Group 1 Short Range/Short Endurance (SR/SE), Group 1 Medium Range/Medium Endurance (MR/ME), and Group1/Group 2 Long Range/Long Endurance (LR/LE). Group 1 UAS are small systems, less than 20 pounds in weight and Group 2 are medium systems, between 21 pounds and 55 pounds in weight. The SURSS program also conducts Field User Evaluations (FUEs) to support Universal Urgent Needs Statements (UUNS) that inform future USMC systems procurements. A Movement towards SUAS Common Control Architecture (SCCA) capability [formerly considered as Single Operator Man-Portable Ground Control System (GCS) / Target Handoff System (SOMGCS/THS)] reduces the size, weight, and manpower required to operate a FoSUAS GCS, increases the mobility of the operator, and improves digital interoperability. A SCCA capability shall be fully mobile and can be attached to the operator while the fielded GCS requires setup at a static location.

SR/SE capabilities are transitioning with revised requirements vice the existing ORD (Block 0/1) requirements to a next generation capability: Existing ORD (Block 0) capabilities are satisfied by the RQ-11 Raven and RQ-12A Wasp UAS. Wasp is a small, all environment UAS with a wingspan of 3.3 feet weight of 2.25 pounds and endurance of 60 minutes. The payload consists of a gimbaled turret with Electro Optical/Infrared (EO/IR) sensor. It allows maximum portability and provides near-real-time reconnaissance required by the platoon and rifle squad. RQ-11B Raven UAS. Raven is a small UAS with a wingspan of 4.6 feet, weight of 5 pounds and endurance of 90 minutes. Raven employs a gimbaled EO/IR sensor. Raven provides the company level unit an organic, near-real-time ISR capability that facilitates rapid battlefield decision making. Although USMC is divesting of Raven, additional Puma assets will fill the future void pending identification and procurement of an alternative solution set under revised requirements documentation. SR/SE (ORD Block 0) assets reduce the request-to-response timeframe for ISR services by eliminating delays or denials for ISR coverage due to an imbalance of other UAS assets that might otherwise be available. Although USMC is divesting of Wasp and Raven on an attrition basis, additional Puma assets will fill the future void pending identification and procurement of alternative solution sets under revised requirements documentation.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)		P-1 Line Item Number / Title: 4757 / Unmanned Air Systems
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0305232M
Line Item MDAP/MAIS Code: N/A		
MR/ME capabilities are transitioning with revised requirements vice the existing ORD (Block 2) requirements to a next generation capability: Existing ORD (Block 2) capabilities are satisfied the RQ-20B Puma UAS. Puma is an all environment UAS with a wingspan of 9.2 feet, weight of 13 pounds and endurance of 2.5 hours. The Puma has demonstrated ranges of up to 28 kilometers. The standard payload consists of a gimbaled turret with an EO/IR sensor; a Signals Intelligence payload is also available. Puma provides an organic, persistent ISR capability to battalion level units, Route Clearance Platoons (RCP) and Combat Logistics Patrols (CLP) to enhance force protection and detect Improvised Explosive Devices (IEDs). Puma or other MR/ME UAS solution sets will see increased procurements as Wasp and Raven attrite and as revised requirements are definitized. LR/LE capabilities are transitioning with revised requirements vice the existing ORD (Block 3) requirements to a next generation capability. The solution set continues to mature and at present includes, but it not limited to, Sky Raider, Indago, and Stalker UAS based on tech demos and field user evaluations. Type, model, and series for procurement is under review at the time of this submission.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)						P-1 Line Item Number / Title: 4757 / Unmanned Air Systems				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A			Other Related Program Elements: 0305232M			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / RQ-11 UAV	P-5a, P-21			- / 126.247	- / 3.848	- / 28.036	- / 24.853	- / 0.000	- / 24.853
P-40	Total Gross/Weapon System Cost				- / 126.247	- / 3.848	- / 28.036	- / 24.853	- / 0.000	- / 24.853
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
Justification: FY 2019: \$3.848M \$3.848M procured Puma as Medium Range/Medium Endurance (MR/ME) Systems as alternative to originally planned Short Range/Short Endurance (SR/SE) Systems due to divestiture of Wasp and Raven UAS. FY 2020: \$28.036M \$5.611M procures NextGen SR/SE Systems. The VTOL SR/SE UAS will provide dispersed Marine Corps units (Companies, Platoons, and Squads) an organic capability to operate in combat zones with significant vertical obstructions such as urban, jungle, and rugged terrains. Quantities are notional and unit cost is an average across many VTOL variants/configurations. Actual quantities of each UAS type/model/series will be determined in the execution year based on fleet need. \$10.456M procures defined SR/SE capabilities. Short Range/Short Endurance (SR/SE) was formally called RQ-12 WASP. Due to rapid changes in technologies, the name was changed to capabilities instead of platforms. The SR/ SE capability solution set will include VTOL starting in FY20. \$11.101M procures Medium Range/Medium Endurance (MR/ME) capabilities. Medium Range/Medium Endurance (MR/ME) was formally called RQ-20 PUMA. Due to rapid changes in technologies, the name was changed to capabilities instead of platforms. FY20 increase in unit cost of Medium Range/Medium Endurance (MR/ME)RQ-20B Puma is due to a new configuration that includes the I45 camera/sensor and other platform enhancements. \$0.868M procures SOMGCS/THS. The Single Operator Man-Portable Ground Control System/Target Handoff System (SOMGCS/THS) provides enhanced opportunities to detect irregular and asymmetric threats in a variety of domains, to include urban domains, providing the warfighter with enhanced situational awareness and understanding. SOMGCS/THS reduces the size, weight, and man power required to operate a SURSS GCS, increases the mobility of the operator, and improves digital interoperability. FY 2021 Base Appropriation Request: \$24.853M Due to continuing rapid changes in SUAS technologies, we changed the verbiage to address capabilities instead of platforms. \$4.600M will procure SR/SE capabilities. The Vertical Takeoff and Landing (VTOL) SR/SE UAS (including PD-100) will provide dispersed Marine Corps units (Companies, Platoons, and Squads) an organic capability to operate in combat zones, such as urban, jungle, and rugged terrains, with significant vertical obstructions. Quantities are notional and unit cost is an average across many VTOL variants/configurations. As with the FY20 plan, replacement Fixed Wing (FW) solution sets for the SR/SE capability requirement, due to the USMC approved plan for divestiture of Wasp and Raven (MROC DM 15-2018 of July 2018), and additional VTOL solution sets are under consideration. Actual quantities of each UAS type/model/series (T/M/S) will be determined in the execution year based on fleet needs, such as replacement of operational losses to maintain AAO.										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)		P-1 Line Item Number / Title: 4757 / Unmanned Air Systems
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0305232M
Line Item MDAP/MAIS Code: N/A		
\$13.289M will procure defined Medium Range/Medium Endurance (MR/ME) capabilities. The RQ-20 PUMA solution set satisfies the MR/ME capability requirement as a FW variant. Due to the USMC approved plan for divestiture of Wasp and Raven as the Fixed Wing (FW) as solution sets for SR/SE capabilities, RQ-20 Puma will fill the SR/SE FW void pending determination of another viable FW solution set in conjunction with the SR/SE VTOL solution sets. The VTOL MR/ME solution set (which includes Instant Eye) continues to be reviewed for additional T/M/S SUAS platforms. Actual quantities of each LR/LE UAS T/M/S will be determined in the execution year based on fleet needs, replacement of operational losses to maintain AAO. \$6.964M will procure Long Range/Long Endurance (LR/LE) capabilities. The LR/LE capability solution sets (including Sky Raider) continues to mature with potential T/M/S LR/LE SUAS platforms being determined. Actual quantities of each LR/LE UAS T/M/S will be determined in the execution year based on fleet needs, such as replacement of operational losses to maintain AAO. The reduction in funding from FY20 to FY21 of \$3.183M as well as quantity decrease of 84 UAS are due to service rebalancing and the revision of FoSUAS (formerly SURSS) Approved Acquisition Objective across all variants as delineated by HQMC Capabilities Development Directorate. The revised AAO supports the Marine Corps Capabilities Based Assessment (MC CBA). This document identifies and refines Marine Corps capabilities, capability gaps, overlaps/redundancies, and risks within the Future Years Defense Program (FYDP) pertaining to the Program Objective Memorandum (POM) year of analysis.		

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Exhibit P-5, Cost Analysis: PB 2021 Navy													Date: February 2020								
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16						P-1 Line Item Number / Title: 4757 / Unmanned Air Systems							Item Number / Title [DODIC]: 1 / RQ-11 UAV								
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
Procurement Quantity <i>(Units in Each)</i>				-			-			-			-			-			-		
Gross/Weapon System Cost <i>(\$ in Millions)</i>				126.247			3.848			28.036			24.853			0.000			24.853		
Less PY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Net Procurement (P-1) <i>(\$ in Millions)</i>				126.247			3.848			28.036			24.853			0.000			24.853		
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Total Obligation Authority <i>(\$ in Millions)</i>				126.247			3.848			28.036			24.853			0.000			24.853		
(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 Dollars)</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 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 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 - RQ-11 UAV Cost																					
Recurring Cost																					
1.1.1) Medium Range/ Medium Endurance (MR/ME) ^{(†) (1)}		568,750.00	52	29.575	481,000.00	8	3.848	326,500.00	34	11.101	107,169.35	124	13.289	-	-	-	107,169.35	124	13.289		
1.1.2) Short Range/ Short Endurance (SR/ SE) ^{(†) (2)}		123,100.00	10	1.231	-	-	-	316,848.48	33	10.456	64,788.73	71	4.600	-	-	-	64,788.73	71	4.600		
1.1.3) Vertical Takeoff and Landing (VTOL) System ^{(†) (3)}		-	-	-	-	-	-	36,673.20	153	5.611	-	-	-	-	-	-	-	-	-		
1.1.4) Single Operator Man Portable Ground Control Station (SOMGCS/THS) ^{(†) (4)}		16,351.65	91	1.488	-	-	-	17,360.00	50	0.868	-	-	-	-	-	-	-	-	-		
1.1.5) PUMA SIGINT Payloads ^(†)		74,250.00	4	0.297	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1.1.6) Laser Marker ^(†)		75,500.00	40	3.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1.1.7) WASP IV Components		-	-	3.185	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1.1.8) PUMA Components		-	-	12.425	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1.1.9) Prior Year Cumulative Funding		-	-	75.026	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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Exhibit P-5, Cost Analysis: PB 2021 Navy													Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16						P-1 Line Item Number / Title: 4757 / Unmanned Air Systems						Item Number / Title [DODIC]: 1 / RQ-11 UAV						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$)	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)
1.1.10) Long Range/ Long Endurance (LR/ LE) ^{(†) (5)}	-	-	-	-	-	-	-	-	-	217,625.00	32	6.964	-	-	-	217,625.00	32	6.964
<i>Subtotal: Recurring Cost</i>	-	-	126.247	-	-	3.848	-	-	28.036	-	-	24.853	-	-	-	-	-	24.853
<i>Subtotal: Hardware - RQ-11 UAV Cost</i>	-	-	126.247	-	-	3.848	-	-	28.036	-	-	24.853	-	-	-	-	-	24.853
Gross/Weapon System Cost	-	-	126.247	-	-	3.848	-	-	28.036	-	-	24.853	-	-	0.000	-	-	24.853

^(†) indicates the presence of a P-5a

Footnotes:

⁽¹⁾ Medium Range/Medium Endurance (MR/ME) was formally called RQ-20 PUMA. Due to rapid changes in technologies, the name was changed to capabilities instead of platforms. FY21 decrease in unit cost of (MR/ME) is due to the cost element consisting of multiple MR/ME platforms, which have different unit costs. In FY20, only RQ-20 Pumas, which have a high unit price, are being procured. In FY 21, only 20% of the budgeted quantity are RQ-20 Pumas. The other 80% of the budgeted quantity are platforms with significantly lower unit costs, thus resulting in a unit cost decrease in FY21.

⁽²⁾ Short Range/Short Endurance (SR/SE) was formally called RQ-12 WASP. Due to rapid changes in technologies, the name was changed to capabilities instead of platforms. The SR/SE capability solution set will include VTOL starting in FY20. FY21 decrease in unit cost of (SR/SE) is due to the cost element consisting of multiple SR/SE platforms, which have different unit costs. The budgeted procurement mix in FY21 consists of platforms with significantly lower unit costs, thus resulting in a unit cost decrease in FY21.

⁽³⁾ Quantities and unit cost are incorporated in SR/SE, MR/ME, and LR/LE cost elements beginning in FY20. Actual quantities of each UAS type/model/series will be determined in the execution year based on fleet need and a buy to budget methodology.

⁽⁴⁾ The SOMGCS/THS LRIP-1 is scheduled for delivery in FY20 for field user evaluation prior to fulfilling the full replacement requirement to transition to common control station. Ongoing field user evaluation results will determine FY21 requirements.

⁽⁵⁾ Long Range/Long Endurance (LR/LE): This type, model and series of UAS is under review for this category of SUAS. Quantity and cost are notional based on best candidate solution set at the time of this submission as well as providing a quantity based on historical attrition rates before receiving FMF feedback.

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16			P-1 Line Item Number / Title: 4757 / Unmanned Air Systems						Item Number / Title [DODIC]: 1 / RQ-11 UAV			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) Medium Range/Medium Endurance (MR/ME) ^(†)		2018	Various / Various	C / IDDQ	DLA Troop Support, Philadlphia, PA	Feb 2018	Aug 2018	26	254,038.50	Y		Nov 2017
1.1.1) Medium Range/Medium Endurance (MR/ME) ^(†)		2019	Various / Various	C / IDDQ	DLA Troop Support, Philadlphia, PA	Jul 2019	Jan 2020	8	481,000.00	Y		May 2019
1.1.1) Medium Range/Medium Endurance (MR/ME) ^(†)		2020	Various / Various	C / IDIQ	DLA Troop Support, Philadlphia, PA	Feb 2020	Aug 2020	34	326,500.00	Y		Nov 2019
1.1.1) Medium Range/Medium Endurance (MR/ME) ^(†)		2021	Various / Various	C / IDDQ	DLA Troop Support, Philadlphia, PA	Feb 2021	Aug 2021	124	107,169.35	Y		Dec 2020
1.1.2) Short Range/Short Endurance (SR/SE) ^(†)		2020	FLIR / Wilsonville, OR	SS / IDIQ	DLA Troop Support, Philadlphia, PA	Feb 2020	Aug 2020	33	316,848.48	Y		Dec 2019
1.1.2) Short Range/Short Endurance (SR/SE) ^(†)		2021	FLIR / Wilsonville, OR	SS / IDIQ	DLA Troop Support, Philadlphia, PA	Feb 2021	Aug 2021	71	64,788.73	Y		Dec 2020
1.1.3) Vertical Takeoff and Landing (VTOL) System ^(†)		2020	Various / Various	C / IDIQ	DLA Troop Support, Philadlphia, PA	Jan 2020	Mar 2020	153	36,673.20	Y		Nov 2019
1.1.4) Single Operator Man Portable Ground Control Station (SOMGCS/THS)		2017	NAWC WD / China Lake, CA	WR	China Lake, CA	Mar 2017	Sep 2017	60	15,983.33	Y		Nov 2016
1.1.4) Single Operator Man Portable Ground Control Station (SOMGCS/THS)		2018	NAWC WD / China Lake, CA	WR	China Lake, CA	Mar 2018	Sep 2018	31	17,064.52	Y		Nov 2017
1.1.4) Single Operator Man Portable Ground Control Station (SOMGCS/THS)		2020	NAWC WD / China Lake, CA	WR	China Lake, CA	Mar 2020	Sep 2020	50	17,360.00	Y		Nov 2019
1.1.5) PUMA SIGINT Payloads	✓	2017	Lucent Government Systems / Florham Park, NJ	MIPR	AFRL, Dayton, OH	Feb 2017	Aug 2017	4	74,250.00	Y		Nov 2016
1.1.6) Laser Marker		2018	Controps / Israel	C / IDIQ	DLA Troop Support, Philadlphia, PA	Feb 2018	Aug 2018	40	75,500.00	Y		Sep 2017
1.1.10) Long Range/Long Endurance (LR/LE) ^(†)		2021	Various / Various	C / BA	DLA Troop Support, Philadlphia, PA	Feb 2021	Aug 2021	32	217,625.00	Y		Dec 2020
^(†) indicates the presence of a P-21												

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020											
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16										P-1 Line Item Number / Title: 4757 / Unmanned Air Systems										Item Number / Title [DODIC]: 1 / RQ-11 UAV											
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2017										Fiscal Year 2018										B A L A N C E				
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017										Calendar Year 2018														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y		J U N	J U L	A U G	S E P
1.1.1) Medium Range/Medium Endurance (MR/ME) ⁽¹⁾																															
Prior Years Deliveries: 26																															
	1	2018	NAVY	26	0	26											A - - - - - - 26										0				
	1	2019	NAVY	8	0	8																					8				
	1	2020	NAVY	34	0	34																					34				
	1	2021	NAVY	124	0	124																					124				
1.1.2) Short Range/Short Endurance (SR/SE) ⁽²⁾																															
Prior Years Deliveries: 10																															
	2	2020	NAVY	33	0	33																					33				
	2	2021	NAVY	71	0	71																					71				
1.1.3) Vertical Takeoff and Landing (VTOL) System ⁽³⁾																															
	3	2020	NAVY	153	0	153																					153				
1.1.10) Long Range/Long Endurance (LR/LE) ⁽⁵⁾																															
	4	2021	NAVY	32	0	32																					32				
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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Exhibit P-21, Production Schedule: PB 2021 Navy																			Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16										P-1 Line Item Number / Title: 4757 / Unmanned Air Systems										Item Number / Title [DODIC]: 1 / RQ-11 UAV													
Cost Elements (Units in Each)							Fiscal Year 2019										Fiscal Year 2020													BALANCE			
OCO#	MFR#	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019										Calendar Year 2020																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP		
1.1.1) Medium Range/Medium Endurance (MR/ME) ⁽¹⁾																																	
Prior Years Deliveries: 26																																	
	1	2018	NAVY	26	26	0																											0
	1	2019	NAVY	8	0	8											A	-	-	-	-	-	-	8								0	
	1	2020	NAVY	34	0	34																A	-	-	-	-	-	-	34			0	
	1	2021	NAVY	124	0	124																											124
1.1.2) Short Range/Short Endurance (SR/SE) ⁽²⁾																																	
Prior Years Deliveries: 10																																	
	2	2020	NAVY	33	0	33																A	-	-	-	-	-	-	33			0	
	2	2021	NAVY	71	0	71																											71
1.1.3) Vertical Takeoff and Landing (VTOL) System ⁽³⁾																																	
	3	2020	NAVY	153	0	153																A	-	-	153								0
1.1.10) Long Range/Long Endurance (LR/LE) ⁽⁵⁾																																	
	4	2021	NAVY	32	0	32																											32
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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LI 4757 - Unmanned Air Systems
Navy

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Exhibit P-21, Production Schedule: PB 2021 Navy								Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16				P-1 Line Item Number / Title: 4757 / Unmanned Air Systems					Item Number / Title [DODIC]: 1 / RQ-11 UAV		

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Various - Various	6	144	144	0	2	6	8	0	2	6	8
2	FLIR - Wilsonville, OR	6	144	144	1	3	4	7	0	0	6	6
3	Various - Various			200	2	0	2	2	0	0	0	0
4	Various - Various	6	144	144	0	2	6	8	0	2	6	8

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

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

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)							P-1 Line Item Number / Title: 4767 / Distributed Common Ground System (DCGS-MC)					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0505208M, 0206625M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	60.540	19.206	32.562	38.260	0.000	38.260	22.930	28.604	36.172	36.877	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	60.540	19.206	32.562	38.260	0.000	38.260	22.930	28.604	36.172	36.877	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	60.540	19.206	32.562	38.260	0.000	38.260	22.930	28.604	36.172	36.877	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	0.166	-	-	-	-	-	-	0.001	Continuing	Continuing
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:
This is a Military Intelligence Program (MIP) budget line item.

Distributed Common Ground/Surface System Marine Corps (DCGS-MC) is integral to delivering decision advantage at the speed of operational relevance outlined in the 2019 National Defense Strategy. DCGS-MC provides an analysis and production capability within garrison and deployed Marine Corps organizations. DCGS-MC complies with the Department of Defense (DoD) DCGS Enterprise interoperability and information sharing requirements by migrating select processing, exploitation, analysis, and production capabilities into a single, integrated, net-centric baseline within the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE). This baseline will enable MCISRE analysts to deliver tactically focused, operational, and strategic intelligence at the tactical edge throughout all phases of operations and will provide relevant, precise decision support for Joint Task Force (JTF), Marine Air Ground Task Force (MAGTF), and subordinate Marine units. The DCGS-MC portfolio currently consists of enterprise services and functional analytic and production tools that provide analysts with the ability to process, disseminate, exploit, analyze, and produce intelligence for discovery via the DCGS Integration Backbone (DIB). The functional capabilities are grouped by DCGS-MC GEOINT, DCGS-MC All Source, and DCGS-MC SIGINT. Future capabilities will be delivered via clearly defined Capability Drops determined by an integrated assessment of user needs, technology readiness, risk mitigation, and affordability.

DCGS-MC Geospatial Intelligence (DCGS-MC GEOINT)

DCGS-MC GEOINT provides geo-referenced data and products that establish the GEOINT foundation for battlespace visualization and a common frame of reference to support the Commander's decision making process. It enables the ability to rapidly respond to, or predict, threats around the world by providing near real time geospatially referenced data and products that serve as the Authoritative Data Source for the full spectrum of Marine Air-Ground Task Force (MAGTF), joint, and multinational partner's operations. DCGS-MC GEOINT enables mission accomplishment across the range of military operations and with all mission partners. The DCGS-MC GEOINT provides the tasking, collection, processing, exploitation, analysis, production, storage, and dissemination of imagery and geospatial information to describe, assess, produce, and visually depict physical features and geographically referenced activities on the Earth. DCGS-MC GEOINT will incorporate those capabilities formally provided by the Tactical Exploitation Group, Topographic Production Capability, Virtual Imagery Processing - Marine Corps, and Target Materials Production legacy systems.

DCGS-MC All Source

DCGS-MC All Source incorporates those capabilities formally provided by the Intelligence Analysis System (IAS) project. This acquisition program is the Marine Corps' primary intelligence analytical toolset at all levels of the Marine Air Ground Task Force (MAGTF). DCGS-MC All Source enables global collaboration with Marine and joint analytical systems. It provides Marines the capability to conduct all-source fusion,

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)		P-1 Line Item Number / Title: 4767 / Distributed Common Ground System (DCGS-MC)
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0505208M, 0206625M
Line Item MDAP/MAIS Code: N/A		
analysis, and production of intelligence by automating multiple intelligence functions and processes. This includes the display of current enemy situation, collection requirements, asset management, message parsing, and database updates. DCGS-MC All Source automatically logs intelligence activities into a journal and provides access to intelligence produced by tactical, theater, and national systems and agencies. It facilitates the dissemination and exchange of intelligence and information with other echelons through tactical local area networks and wide area networks from the Marine Expeditionary Force (MEF) garrison facility down to the infantry company level. DCGS-MC All Source consists of intelligence servers and workstations with their associated peripherals and software. DCGS-MC Signals Intelligence (DCGS-MC SIGINT) The Technical Control Analysis Center (TCAC) FoS is the DCGS-MC SIGINT capability and consists of the TCAC Remote Analysis Workstation (RAWS), the Transportable Workstation (TWS) and the Cross Domain Solution (CDS), and is the focal point of Radio Battalions (RADBN), Marine Corps Forces Special Operations Command (MARFORSOC), and Joint Strike Fighter (JSF) Signal Intelligence (SIGINT) operations. TCAC automatically collects, stores, retrieves and plays back digital audio signals. It fuses and analyzes SIGINT data from tactical, theater, and national collectors and databases for dissemination to tactical commanders. TCAC provides SIGINT analysis applications to deployable MAGTF units capable of directing and managing the technical and operational functions of other RADBN SIGINT/EW assets. Additionally, TCAC provides a focal point for national, theater, and tactical data networks for data exchange with tactical SIGINT/EW assets, the IAS and national databases. TCAC will enable the transfer of USMC tactical SIGINT collection and analytical data into the Real-Time Regional Gateway (RT-RG) and by producing DIB enabled products that will be discoverable by any DCGS enabled Marine. The system provides ground processing of Electronic Warfare (EW) information including EW Support and Electronic Attack (EA) data collected by the RADBN and JSF aircraft. The Cross Domain Solution also enables the TCAC to transfer approved and sanitized file types from Top Secret/Sensitive Compartmented Information (TS/SCI) networks (e.g. JWICS/NSAnet) to Marine Corps Enterprise Network-SIPR (MCEN-S) networks for delivery to Tactical Commanders.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)					P-1 Line Item Number / Title: 4767 / Distributed Common Ground System (DCGS-MC)					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A				Other Related Program Elements: 0505208M, 0206625M			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Distributed Common Ground Surface System (DCGS) (120306)				- / 60.540	- / 19.206	- / 32.562	- / 38.260	- / 0.000	- / 38.260
P-40	Total Gross/Weapon System Cost				- / 60.540	- / 19.206	- / 32.562	- / 38.260	- / 0.000	- / 38.260
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										

Justification:

FY 2019: \$16.081M (active)

DCGS-MC GEOINT: Funding procured geospatial intelligence peripheral components, MAVEN hardware, software integration into DCGS-MC Common Intel Server and Common Geospatial Intelligence (GEOINT) hardware and software consolidation efforts.

In FY 2019, DCGS-MC All Source (IAS) and DCGS-MC SIGINT (TCAC) were executed under BLI 4747.

FY 2020: \$32.562M (active)

DCGS-MC GEOINT: \$20.516M supports modernization efforts such as geospatial intelligence peripheral components, software integration into DCGS-MC Common Intel Server, and Common Geospatial Intelligence (GEOINT) hardware and software consolidation efforts as well as ECP's across the DCGS-MC portfolio of systems. Additionally, funding supports the collapsing of GEOINT/Target Intelligence, hardware/software baselines and sustaining and advancing critical technology investments in AI/ML and intelligence cloud services.

DCGS-MC All Source: \$7.770M supports the procurement of hardware associated with the Tier II common components and Tier III technical fielding support. The IAS program was previously funded in BLI 4747 in FY 2019 and prior.

DCGS-MC SIGINT: \$4.276M will procure the Transportable Work Station (TWS) hardware, fielding and initial engineering, and tech and management support. The TCAC program was previously funded in LI 4747 in FY 2019 and prior.

FY 2021 Base Appropriation Request: \$38.260M (active)

DCGS-MC GEOINT: \$23.571M will support the Common Data Link (CDL) Antenna Refresh. Additionally, funding will support advancing GEOINT critical technology investments in AI/ML and intelligence cloud services. The \$3.055M increase from FY 2020 to FY 2021 supports procurement and fielding of GEOINT hardware and software necessary to support Marine Corps Future Force 2025 intelligence structure increases, this will include the Contingency Operations (COOP) server stacks in support of MCISRE cloud initiative (eHUB).

DCGS-MC ALL SOURCE: \$8.228M will support the procurement of Common Intel Workstations, Fielding and Initial Engineering, and Tech and Management support for the Common Intel Server and software enhancements in support of Advanced Analytics Technical Solution (AATS). \$0.458M increase from FY 2020 to FY 2021 reflects software enhancements to the Advanced Analytics Technical Solution (AATS) required in order to keep pace with emerging technology and to meet the needs of Marine Corps Intelligence Analysts.

DCGS-MC SIGINT: \$6.461M will procure Cross Domain Solution (CDS) hardware refresh, fielding and initial support, and software procurement for TCAC Family of Systems (FoS). Increase of \$2.185M from FY 2020 to FY 2021 will support the refresh of Cross Domain Solution (CDS) hardware procurement.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)		P-1 Line Item Number / Title: 4767 / Distributed Common Ground System (DCGS-MC)
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0505208M, 0206625M
Line Item MDAP/MAIS Code: N/A		
Funding in this line item has been reprioritized while ensuring the Marine Corps continues to evolve toward a Force that is aligned with the National Defense Strategy. OCO: FY 2019 OCO: \$3.125M DCGS-MC GEOINT: \$3.125M supported MAVEN Intelligence, Surveillance and Reconnaissance (ISR) operations and Processing, Exploitation and Dissemination (PED) capabilities.		

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Exhibit P-5, Cost Analysis: PB 2021 Navy											Date: February 2020							
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16						P-1 Line Item Number / Title: 4767 / Distributed Common Ground System (DCGS-MC)						Item Number / Title [DODIC]: 1 / Distributed Common Ground Surface System (DCGS) (120306)						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				60.540		19.206		32.562		38.260		0.000		38.260				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				60.540		19.206		32.562		38.260		0.000		38.260				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				60.540		19.206		32.562		38.260		0.000		38.260				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		0.166		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</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 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 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 Cost																		
Recurring Cost																		
1.1.1) DCGS-MC GEOINT: Enterprise DIB Service (EDS) Solution ⁽¹⁾	-	-	8.492	-	-	-	-	-	2.306	-	-	-	-	-	-	-	-	-
1.1.2) DCGS-MC GEOINT: H/W ⁽²⁾	-	-	9.299	-	-	13.986	-	-	12.174	-	-	16.075	-	-	-	-	-	16.075
1.1.3) DCGS-MC GEOINT: Peripheral refresh	-	-	-	-	-	2.066	-	-	-	-	-	-	-	-	-	-	-	-
1.1.4) DCGS-MC All Source: Common Intel Server ⁽³⁾	-	-	-	-	-	-	-	-	5.642	-	-	-	-	-	-	-	-	-
1.1.5) DCGS-MC All Source: Common Intel Workstation ⁽⁴⁾	-	-	-	-	-	-	-	-	-	-	-	5.389	-	-	-	-	-	5.389
1.1.6) DCGS-MC SIGINT: Transportable Work Station (TWS) ⁽⁵⁾	-	-	-	-	-	-	-	-	3.050	-	-	-	-	-	-	-	-	-
1.1.7) DCGS-MC SIGINT: Cross Domain Solution (CDS) ⁽⁶⁾	-	-	-	-	-	-	-	-	-	-	-	3.949	-	-	-	-	-	3.949

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Exhibit P-5, Cost Analysis: PB 2021 Navy										Date: February 2020							
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16					P-1 Line Item Number / Title: 4767 / Distributed Common Ground System (DCGS-MC)					Item Number / Title [DODIC]: 1 / Distributed Common Ground Surface System (DCGS) (120306)							

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

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$)	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)
1.1.10) Prior Year Funding Total	-	-	14.605	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	32.396	-	-	16.052	-	-	23.172	-	-	25.413	-	-	-	-	-	25.413
Subtotal: Hardware Cost	-	-	32.396	-	-	16.052	-	-	23.172	-	-	25.413	-	-	-	-	-	25.413
Software Cost																		
Recurring Cost																		
2.1.1) DCGS-MC GEOINT: Software	-	-	1.978	-	-	2.532	-	-	3.783	-	-	3.896	-	-	-	-	-	3.896
2.1.2) DCGS-MC All Source: Software ⁽⁷⁾	-	-	-	-	-	-	-	-	-	-	-	2.327	-	-	-	-	-	2.327
2.1.3) DCGS-MC SIGINT: Software ⁽⁸⁾	-	-	-	-	-	-	-	-	-	-	-	0.750	-	-	-	-	-	0.750
2.1.4) Prior Years Funding Total	-	-	7.351	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	9.329	-	-	2.532	-	-	3.783	-	-	6.973	-	-	-	-	-	6.973
Subtotal: Software Cost	-	-	9.329	-	-	2.532	-	-	3.783	-	-	6.973	-	-	-	-	-	6.973
Support Cost																		
3.1) DCGS-MC GEOINT: Support ⁽⁹⁾	-	-	3.573	-	-	0.622	-	-	2.253	-	-	3.600	-	-	-	-	-	3.600
3.2) DCGS-MC All Source: Support ⁽¹⁰⁾	-	-	-	-	-	-	-	-	2.128	-	-	0.512	-	-	-	-	-	0.512
3.3) DCGS-MC SIGINT: Support ⁽¹¹⁾	-	-	-	-	-	-	-	-	1.226	-	-	1.762	-	-	-	-	-	1.762
3.4) Prior Years Funding Total	-	-	15.242	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support Cost	-	-	18.815	-	-	0.622	-	-	5.607	-	-	5.874	-	-	-	-	-	5.874
Gross/Weapon System Cost	-	-	60.540	-	-	19.206	-	-	32.562	-	-	38.260	-	-	0.000	-	-	38.260

Footnotes:

⁽¹⁾ DCGS-MC GEOINT EDS: Decrease of \$2.306M in FY21 reflects transition from EDS to Common Intel Server.

⁽²⁾ DCGS-MC GEOINT H/W: The \$3.901M H/W increase from FY20 to FY21 for will support the procurement of Contingency Operations (COOP) server stacks in support of MCISRE cloud initiative (eHUB).

⁽³⁾ DCGS-MC All Source Common Intel Server: Prior to FY20, DCGS-MC All Source (IAS) funding can be found in PMC LI 4747. Decrease of \$5.642M in FY21 reflects completion of Common Intel Server hardware procurement.

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Exhibit P-5, Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16	P-1 Line Item Number / Title: 4767 / Distributed Common Ground System (DCGS-MC)	Item Number / Title [DODIC]: 1 / Distributed Common Ground Surface System (DCGS) (120306)
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
⁽⁴⁾ DCGS-MC All Source Common Intel Workstation: Prior to FY20, DCGS-MC All Source (IAS) funding can be found in PMC LI 4747. Increase of \$5.389M in FY21 for DCGS-MC All Source Hardware reflects transition from Common Intel Workstation procurement. ⁽⁵⁾ DCGS-MC SIGINT TWS: Prior to FY20, DCGS-MC SIGINT (TCAC) funding can be found in PMC LI 4747. Decrease of \$3.050M in FY21 reflects completion of TWS hardware procurement in FY20. ⁽⁶⁾ DCGS-MC SIGINT CDS: Prior to FY20, DCGS-MC SIGINT (TCAC) funding can be found in PMC LI 4747. Increase of \$3.949M in FY21 reflects Cross Domain Solution hardware procurement. ⁽⁷⁾ DCGS-MC All Source Software: Prior to FY20, DCGS-MC All Source (IAS) funding can be found in PMC LI 4747. Increase of \$2.327M in FY21 reflects software procurement to support All Source software baseline improvements. ⁽⁸⁾ DCGS-MC SIGINT Software: Increase of \$0.750M from FY20 to FY21 reflects initial procurement of TCAC FoS Software License. ⁽⁹⁾ DCGS-MC GEOINT Support: FY21 increase of \$1.347M supports fielding of GEOINT. ⁽¹⁰⁾ DCGS-MC All Source: Prior to FY20, DCGS-MC All Source (IAS) funding can be found in PMC LI 4747. Decrease of \$1.616M in FY21 reflects completion of fielding for Advanced Analytics Technical Solution (AATS). ⁽¹¹⁾ DCGS-MC SIGINT Support: Increase of \$0.536M from FY20 to FY21 reflects fielding and support for TWS Refresh.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)							P-1 Line Item Number / Title: 4787 / UAS Payloads					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0305242M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	36.479	0.000	0.000	5.489	0.000	5.489	2.300	0.762	0.762	0.762	-	46.554
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	36.479	0.000	0.000	5.489	0.000	5.489	2.300	0.762	0.762	0.762	-	46.554
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	36.479	0.000	0.000	5.489	0.000	5.489	2.300	0.762	0.762	0.762	-	46.554
<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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: In FY 2021, funding was added to this LI to better support ISR Payload requirements. The Unmanned Aerial Systems (UAS) Payloads integration program will alleviate Marine Corps Intelligence, Surveillance and Reconnaissance (ISR) capability gaps caused by rapidly changing missions, threats and technologies. It will provide responsive capability to integrate and support rapid fielding of ISR payloads for UAS within the Marine Corps. Sensor payloads will increase the effectiveness and versatility of the Marine Corps UAS currently planned to have the Electro-Optic(EO) / Infrared (IR) collection, communications relay, and automatic identification capabilities. Upgrades include, but are not limited to, Signals Intelligence (SIGINT)/ Electronic Warfare Support (ES), Synthetic Aperture Radar (SAR) / Moving Target Indicator (MTI), and Wide Area and Hyperspectral Imagery collection. SIGINT/ES payloads will fill current capability gaps for the Marine Corps Intelligence, Surveillance and Reconnaissance (ISR) mission and is required as part of the Marine Corps mission to locate and target adversary Signals of Interest (SOI). Mobile Ad-hoc Networks (MANET) provide the RQ-11 RAVEN and the RQ-20 PUMA extended communications and data relay, utilizing radios such as the AN/PRC-117G and the ANW2 waveform. MANET provides Marine Corps ground units an organic airborne communication relay which allows the transmission of mission critical intelligence. Synthetic Aperture Radar (SAR) with Moving Target Indicator (MTI) will be integrated for Marine Corps small tactical UAS. This capability fills current capability gaps for the ISR mission and will allow Marine Corps ISR assets to locate and track ground targets that cannot effectively be located or tracked with the current ground based sensor technology. The ability to locate and track moving ground targets from small tactical UAVs is an essential capability that facilitates the six functions of Marine Corps Aviation and the Marine Corps ISR Enterprise across the range of military operations. Wide Area Persistent Surveillance (WAS) provides the Marine Air Ground Task Force (MAGTF) with organic airborne Wide Area Surveillance. The Wide Area Surveillance (WAS) payload collects and records Electro Optical / Infrared (EO/IR) images over a wide area in order to conduct persistent surveillance of large areas of interest, in near real time, while recording data to enable forensics. The WAS payload will provide the Marine Corps the ability to disseminate multiple high resolution sub-sampled imagery windows to multiple users.												

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 16: Intell/Comm Equipment (Non-Tel)						P-1 Line Item Number / Title: 4787 / UAS Payloads				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0305242M				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / UAS Payloads	P-5a			- / 36.479	- / 0.000	- / 0.000	- / 5.489	- / 0.000	- / 5.489
P-40	Total Gross/Weapon System Cost				- / 36.479	- / 0.000	- / 0.000	- / 5.489	- / 0.000	- / 5.489
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										

Justification:

FY 2021 Base Appropriation Request: \$5.489M

The increase of \$5.489M from FY20 to FY21 is due to the reestablishment of the UAS Payloads PMC budget to better support USMC ISR Payload requirements. \$5.489M procures two Spectral Bat Signals Intelligence (SIGINT) payloads and two Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI).

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Exhibit P-5, Cost Analysis: PB 2021 Navy													Date: February 2020								
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16							P-1 Line Item Number / Title: 4787 / UAS Payloads						Item Number / Title [DODIC]: 1 / UAS Payloads								
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
Procurement Quantity <i>(Units in Each)</i>				-			-			-			-			-			-		
Gross/Weapon System Cost <i>(\$ in Millions)</i>				36.479			0.000			0.000			5.489			0.000			5.489		
Less PY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Net Procurement (P-1) <i>(\$ in Millions)</i>				36.479			0.000			0.000			5.489			0.000			5.489		
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Total Obligation Authority <i>(\$ in Millions)</i>				36.479			0.000			0.000			5.489			0.000			5.489		
(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 Dollars)</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 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 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 Cost																					
Recurring Cost																					
1.1.1) UAS - SIGINT		-	-	2.712	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1.1.2) UAS - Moblie AdHoc Network (MANET)		-	-	0.653	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1.1.3) SIGINT Block 0		-	-	2.971	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1.1.4) SIGINT Block 1 ^(†) (1)		-	-	4.247	-	-	-	-	-	-	750,000.00	2	1.500	-	-	-	750,000.00	2	1.500		
1.1.5) SAR/MTI Payload Block 0 ^(†) (2)		-	-	4.646	-	-	-	-	-	-	1,994K	2	3.989	-	-	-	1,994K	2	3.989		
1.1.6) Project Minotaur (3)		-	-	11.500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1.1.7) ISR Transfer Funds		-	-	9.750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Subtotal: Recurring Cost		-	-	36.479	-	-	-	-	-	-	-	-	5.489	-	-	-	-	-	5.489		
Subtotal: Hardware Cost		-	-	36.479	-	-	-	-	-	-	-	-	5.489	-	-	-	-	-	5.489		
Gross/Weapon System Cost		-	-	36.479	-	-	0.000	-	-	0.000	-	-	5.489	-	-	0.000	-	-	5.489		
†) indicates the presence of a P-5a																					
Footnotes:																					
(1) FY21 procures two SIGINT Block 1 payloads. This requirement is fulfilled with Spectral Bat payloads.																					

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Exhibit P-5, Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16	P-1 Line Item Number / Title: 4787 / UAS Payloads	Item Number / Title [DODIC]: 1 / UAS Payloads
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
(2) FY21 procures two SAR/MTI Payload Block 0. This requirement is fulfilled by the Split Aces payload. (3) Minotaur is a software package that provides multi-intelligence sensor fusion and is integrated on the Tactical Intelligence, Surveillance and Reconnaissance Processing Exploitation and Dissemination System (TIPS) to provide increased capability to UAVs.		

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 16			P-1 Line Item Number / Title: 4787 / UAS Payloads						Item Number / Title [DODIC]: 1 / UAS Payloads			
Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.4) SIGINT Block 1		2021	Lucent Government Systems / Florham Park, NJ	MIPR	Florham Park, NJ	Apr 2021	Oct 2021	2	750,000.00	Y		
1.1.5) SAR/MTI Payload Block 0		2021	ImSAR, LLC / Springville, UT	MIPR	Springville, UT	Apr 2021	Oct 2021	2	1,994K	Y		

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

Appropriation / Budget Activity / Budget Sub Activity:

1109N: Procurement, Marine Corps / BA 04: Communications and Electronics
Equipment / BSA 19: Other Support (Non-Tel)

P-1 Line Item Number / Title:

4625 / Next Generation Enterprise Service

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

Program Elements for Code B Items: N/A

Other Related Program Elements: 0208550M, 0505550M,
0206313M, 0206312M

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	306.279	116.120	95.726	78.922	0.000	78.922	129.633	86.327	88.432	90.200	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	306.279	116.120	95.726	78.922	0.000	78.922	129.633	86.327	88.432	90.200	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	306.279	116.120	95.726	78.922	0.000	78.922	129.633	86.327	88.432	90.200	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Next Generation Enterprise Network (NGEN) is a Department of the Navy (DON) enterprise program (ACAT IAC) which provides secure, net-centric data and services to Navy and Marine Corps personnel. NGEN forms the foundation for the DON's future Naval Networking Environment (NNE), is interoperable with and leverages other DOD provided Net-Centric Enterprise Services and supports the Joint Information Environment (JIE). For the Marine Corps, NGEN is a Government Owned/Government Operated (GO/GO) model augmented by NGEN contractors with the garrison Marine Corps Enterprise Network (MCEN) representing the NGEN Marine Corps management domain. NGEN (USMC) supports the Marine Corps Enterprise Network (MCEN) using a regionalized model, executed through Marine Forces Cyberspace Command, Marine Corps Cyberspace Operations Group (formerly Marine Corps Network Operations and Support Center (MCNOSC) and MAGTF IT Support Centers (MITSCs). The NGEN (USMC) program provides contractor support for the operation and support of the MCEN Non-secure Internet Protocol Router Network (MCEN-N) to include multiple contracts that provide equipment refresh. The program also supports hardware/software license and warranty generating lifecycle services ultimately enabling Cyber/Information Technology (CYBER/IT) capabilities for the Marine Corps in accordance with the NGEN Acquisition Strategy. These capabilities include enterprise infrastructure, end-user workstations, service desk, and network operations centers at Marine Corps base/post/stations and regional installation commands CONUS and OCONUS (Hawaii, Japan, Germany, and Korea).

NGEN will deliver an end-to-end hosting solution to consolidate and replace End-Of-Life (EOL) hardware/software (HW/SW) and infrastructure that currently provides enterprise network services (email, file storage, security services, identity management, etc.) to MCEN-N users (CONUS and OCONUS). It also provides High Availability/Disaster Recovery (HA/DR) capabilities that are not currently available in support of USMC Continuity of Operations (COOP) requirements. The requirement also includes the delivery of a Wide Area Network (WAN) transport solution based upon the JIE and Joint Regional Security Stack (JRSS) construct to consolidate and replace EOL HW/SW that currently provides enterprise network WAN transport services to MCEN-N users. As the consolidated, upgraded solution is developed, the program will continue to tech refresh end user devices, servers, routers, switches, network storage, software, initial equipment warranties, and defensive cyberspace capabilities (intrusion prevention systems, firewalls, etc.). The hardware and software for this refresh differs in quantities and costs based on varying requirements including the current pricing. The quantities that are ordered are based on hardware/software end of service/life limitations and the operational balance between security and risk management. Tech Refresh includes the design, configuration, functional testing, and integration of commercial or non-developmental network solutions to resolve and mitigate network security vulnerabilities in conjunction with newer technology insertion to improve reliability, improve maintainability, reduce cost, and/or add minor performance enhancement.

Network Access Control Compliance and Remediation (NACCR) is an Abbreviated Acquisition Program (AAP) modification to the NGEN and Secure Operational Network Infrastructure Capability (SONIC) Programs of Record (PORs) supporting the network access control concept on the MCEN. The NACCR end state solution provides an integrated capability allowing only authorized and compliant assets connection to the garrison enterprise network. This solution utilizes 802.1X and Active Directory authentication protocols, as well as a series of compliance checks to ensure that critical software patches, anti-

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4625 / Next Generation Enterprise Service
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0208550M, 0505550M, 0206313M, 0206312M
Line Item MDAP/MAIS Code: N/A		
virus/anti-malware definitions and other established compliance criteria are current for assets on the network. It also generates trouble tickets as required and reports compliance standards. Any asset found to be non-compliant with the established criteria will be forced into a partially isolated network segment, where required remediation corrective actions will be taken. Should the automated remediation efforts prove unsuccessful after the prescribed number of attempts, the asset will be forced into a completely isolated network segment until it can be manually brought into compliance. Comply to Connect (C2C) is an AAP modification to the NGEN and SONIC PORs supporting Network Access Control (NAC) on the MCEN and associated Marine Corps domains. C2C is an expansion of the existing NACCR AAP to include all types of devices operating on all Marine Corps networks. The C2C end state solution provides an integrated capability allowing only authorized and compliant assets connection to the garrison enterprise network. This solution utilizes 802.1X and Active Directory authentication protocols, as well as a series of automated compliance checks to ensure that critical software patches, anti-virus/anti-malware definitions and other established compliance criteria are current for assets on the network. It also automatically generates trouble tickets and reports compliance standards. Any asset found to be non-compliant with the established criteria may be partially or completely isolated from the network, while required remediation/corrective actions will be taken. Should the automated remediation efforts prove unsuccessful after the prescribed number of attempts, the asset will be forced into a completely isolated network segment until it can be manually brought into compliance.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)						P-1 Line Item Number / Title: 4625 / Next Generation Enterprise Service				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0208550M, 0505550M, 0206313M, 0206312M				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Next Generation Enterprise Service	P-5a, P-21			- / 306.279	- / 116.120	- / 95.726	- / 78.922	- / 0.000	- / 78.922
P-40	Total Gross/Weapon System Cost				- / 306.279	- / 116.120	- / 95.726	- / 78.922	- / 0.000	- / 78.922
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
Justification: FY 2019: \$116.120M ensures the Marine Corps is defending and protecting the MCEN against cyber-attacks and vulnerabilities. Funding procures services, hardware and software supporting end user devices, and network infrastructure technical refresh. Tech refresh supports the MCEN Unification Campaign Plan, Cyberspace Operations requirements, and the Marine Corps' implementation of the JIE which includes Enterprise Infrastructure Modernization (EIM) critical design and site configuration. Tech Refresh includes the design, configuration, and functional testing and integration of commercial or non-developmental network solutions to resolve and mitigate network security vulnerabilities. This is in conjunction with the insertion of newer technology to improve reliability, improve maintainability, reduce cost, and/or add minor performance enhancement. In addition, FY 2019 efforts include the continuation of WLAN implementation which will increase the operational readiness of operating forces and decrease maintenance time by allowing the maintainers to connect to technical manuals and maintenance systems while they are working. Currently maintainers must leave their work and go to a kiosk where there is a wired connection. Cost Elements in FY 2019 were updated to reflect actuals. Comply to Connect (C2C) Above Threshold Reprogramming (ATR) for \$34M was added. FY 2020: \$95.726M will ensure the Marine Corps is defending and protecting the MCEN against cyber-attacks and vulnerabilities. Overall, FY 2020 funding decreased \$20.394M from FY 2019 due to the additional funding provided to the program in FY 2019 as part of the Above Threshold Reprogramming (ATR) for Comply to Connect (C2C). The baseline appropriations request also includes \$78K which is needed to procure End User Devices in support of MCB Guam personnel. Fielding Support (Cost Element 1.1.2) \$2.831M funding in this cost element provided fielding support for Network Equipment which was procured in FY 2020. This cost element is directly related to changes in cost elements 1.1.1 and 1.1.3. Network Equipment Tech Refresh (Cost Element 1.1.3) \$49.164M. Funding in this cost element procured equipment which supported the Marine Corps' Assured Command and Control Strategy which focuses on transforming and optimizing the non-Classified side of the Marine Corps Enterprise Network and directly supports DoD's Comply To Connect (C2C) initiative through network modernization. Upgrades include the procurement of 802.1X access switches enabling the Network Access Control portion of the C2C requirement found in Section 1653 of the FY 2017 NDAA. Additionally, the equipment procured under this cost element will be replacing equipment that is no longer receiving security patches or updates from the vendor and is therefore more vulnerable to hostile actors and other cybersecurity vulnerabilities. If not replaced, these aging network devices will be removed from the network as a cybersecurity precaution and this will lead to Marine Corps users being unable to connect to the MCEN. The increase will enable the Marine Corps to replace the aging network devices with current cybersecurity standard compliant devices which will enable users across the Marine Corps to continue to operate without network disruptions. Enterprise Infrastructure Modernization (EIM) (Cost Element 1.1.4) 27.842M, Funding under this cost element provides for the upgrading and modernizing the Enterprise Service Stacks (ESS), Installation Processing Nodes (IPN), Installation Service Node (ISN) and Geographically Separated Units (GSU) across the non-Classified side of the Marine Corps Enterprise Network. These modernizations will support the Marine Corps' ability to migrate to the Joint Information Environment (JIE) and the cloud by increasing bandwidth which will enable individual and organizational mobility and supports the rapid deployment of mission critical applications and services. In addition, the migration to the cloud will result in reducing long network engineering/provision lead times.										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4625 / Next Generation Enterprise Service
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0208550M, 0505550M, 0206313M, 0206312M
Line Item MDAP/MAIS Code: N/A		
Wireless Local Area Network (WLAN) (Cost Element 1.1.5) \$14.410M, Funding in this cost element provides for the completion of the WLAN project at the initial maintenance bays and hangars installations. This effort will enable maintainers to access updated technical manual messages and updated maintenance information/alerts. The implementation of WLAN at maintenance bays and hangars, resulted in a 25% increase to the number of Ready Basic Aircraft due to efficiencies generated from WLAN. Network Access Control Compliance and Remediation (NACCR) (Cost Element 1.2.1) \$0.678M funding in this cost element provided for the completion of the initial NACCR procurement. Disaster Recovery (Cost Element 1.2.3) \$0.723M funding in this cost element supports the initial phase of the procurement of replacement equipment for damaged equipment during natural disasters aboard Marine Corps Installations. Defense Policy Review Initiative (Cost Element 1.1.6) \$0.078M FY 2021 Baseline Appropriation Request: \$78.922M will ensure the Marine Corps is defending and protecting the MCEN against cyber-attacks and vulnerabilities while also providing a robust, modern communications infrastructure. The decrease in FY21 is principally due to significantly reduced buy of network infrastructure following significant investment in FY20. The decrease in FY21 reduces the investment in network infrastructure due to higher Service priorities. Additionally, the baseline appropriations request decreased due to the completion of the current Wireless Local Area Network (WLAN) requirement in FY 2020, and deferred the remaining WLAN requirements to future budget years. End User Device (Cost Element 1.1.1) funding increased from \$0.00M in FY 2020 to \$16.285M in FY 2021, a \$16.285M increase to re-establish a hardware refresh timeline consistent with previous funding levels. Funding in this cost element provides for the refresh/replacement of End User Devices (EUDs) enables Replacing the aging EUDs reduces vulnerable equipment on the MCEN, reducing cyber security risks to the Marine Corps network. Fielding Support (Cost Element 1.1.2) funding decreased from \$2.831M in FY 2020 to \$2.329M in FY 2021, a \$0.502M decrease due to the reduction in equipment being fielded in FY21. This cost element is directly related to changes in cost elements 1.1.1 and 1.1.3. Network Equipment Tech Refresh (Cost Element 1.1.3) funding decreased from \$49.164M in FY20 to \$29.420M in FY 2021, a \$19.744M decrease to funding for aging infrastructure and buy-dwon of technical debt. Funding in this cost element provides modern, cybersecurity compliant replacement equipment for vulnerable, aging infrastructure which poses cyber security risks to the MCEN. If not replaced, these aging network devices will be removed from the network as a cybersecurity precaution which leads to Marine Corps users being unable to connect to the MCEN. Enterprise Infrastructure Modernization (EIM) (Cost Element 1.1.4) funding increased from \$27.842M in FY 2020 to \$30.859M in FY 2021, a \$3.017M increase due to the planned modernization schedule. Funding under this cost element provides for modernization of the Enterprise Service Stacks (ESS), Installation Processing Nodes (IPNs), Installation Service Nodes (ISNs), and Geographically Separated Units (GSU) across the non-Classified side of the Marine Corps Enterprise Network. These modernizations enable the Marine Corps' ability to migrate to the Joint Information Environment (JIE) and the cloud by increasing reliability, bandwidth, and responsiveness. Wireless Local Area Network (WLAN) (Cost Element 1.1.5) funding decreased from \$14.410M in FY 2020 to \$0M in FY 2021, a \$14.410M decrease, due to the completion of the initial procurement of WLAN capabilities for the maintenance bays and stations. Remaining WLAN requirements have been deferred to future budget years due to higher Service priorities. Network Access Control Compliance and Remediation (Cost Element 1.2.1) funding decreased from \$0.678M in FY 2020 to \$0.000M in FY 2021, a \$0.678M decrease due to the completion of initial fielding of the discovery tool for identifying the physical devices on the network. Disaster Recovery (Cost Element 1.2.3) funding decreased from \$0.723M in FY 2020 to \$0.000M in FY 2021, due to the completion of the initial procurement replacement equipment related to natural disasters on Marine Corps' Installations.		

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Exhibit P-5, Cost Analysis: PB 2021 Navy													Date: February 2020								
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19							P-1 Line Item Number / Title: 4625 / Next Generation Enterprise Service						Item Number / Title [DODIC]: 1 / Next Generation Enterprise Service								
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
Procurement Quantity <i>(Units in Each)</i>				-			-			-			-			-			-		
Gross/Weapon System Cost <i>(\$ in Millions)</i>				306.279			116.120			95.726			78.922			0.000			78.922		
Less PY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Net Procurement (P-1) <i>(\$ in Millions)</i>				306.279			116.120			95.726			78.922			0.000			78.922		
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Total Obligation Authority <i>(\$ in Millions)</i>				306.279			116.120			95.726			78.922			0.000			78.922		
(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 Dollars)</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 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 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 Cost																					
Recurring Cost																					
1.1.1) End User Devices (EUD) Tech Refresh ^{(†) (1)}	1,068.45	84,592	90.382	1,157.39	8,692	10.060	-	-	-	1,163.63	13,995	16.285	-	-	-	1,163.63	13,995	16.285			
1.1.2) Fielding Support ⁽²⁾	-	-	8.870	-	-	0.884	-	-	2.831	-	-	2.329	-	-	-	-	-	2.329			
1.1.3) Network Equipment Tech Refresh ⁽³⁾	-	-	128.578	-	-	23.315	-	-	49.164	-	-	29.420	-	-	-	-	-	29.420			
1.1.4) Enterprise Infrastructure Modernization (EIM) ⁽⁴⁾	-	-	45.329	-	-	28.460	-	-	27.842	-	-	30.859	-	-	-	-	-	30.859			
1.1.5) Wireless Local Area Network (WLAN) ⁽⁵⁾	-	-	10.393	-	-	17.348	-	-	14.410	-	-	-	-	-	-	-	-	-			
1.1.6) Defense Policy Review Initiative	-	-	-	-	-	0.016	-	-	0.078	-	-	0.029	-	-	-	-	-	0.029			
Subtotal: Recurring Cost	-	-	283.552	-	-	80.083	-	-	94.325	-	-	78.922	-	-	-	-	-	78.922			
Non Recurring Cost																					
1.2.1) Network Access Control, Compliance and Remediation (NACCR) ⁽⁶⁾	-	-	22.727	-	-	2.037	-	-	0.678	-	-	-	-	-	-	-	-	-			

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Exhibit P-5, Cost Analysis: PB 2021 Navy													Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19						P-1 Line Item Number / Title: 4625 / Next Generation Enterprise Service							Item Number / Title [DODIC]: 1 / Next Generation Enterprise Service					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$)	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)
1.2.2) Comply to Connect (C2C)	-	-	-	-	-	34.000	-	-	-	-	-	-	-	-	-	-	-	-
1.2.3) Disaster Relief (7)	-	-	-	-	-	-	-	-	0.723	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	22.727	-	-	36.037	-	-	1.401	-	-	-	-	-	-	-	-	-
Subtotal: Hardware Cost	-	-	306.279	-	-	116.120	-	-	95.726	-	-	78.922	-	-	-	-	-	78.922
Gross/Weapon System Cost	-	-	306.279	-	-	116.120	-	-	95.726	-	-	78.922	-	-	0.000	-	-	78.922

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

Footnotes:

- (1) End User Device (Cost Element 1.1.1) funding increased from \$0.00M in FY 2020 to \$16.285M in FY 2021, a \$16.285M increase. This funding provides for the refresh/replacement of End User Devices (EUDs).
- (2) Fielding Support (Cost Element 1.1.2) funding decreased from \$2.831M in FY 2020 to \$2.329M in FY 2021, a \$0.502M decrease due to the reduction in equipment being fielded in FY 2021. This cost element is directly related to changes in cost elements 1.1.1 and 1.1.3.
- (3) Network Equipment Tech Refresh (Cost Element 1.1.3) funding decreased from \$49.164M in FY 2020 to \$29.420M in FY 2021, a \$19.744M decrease due to the buy down of aging infrastructure which reduced the amount of equipment required to be replaced in FY 2021.
- (4) Enterprise Infrastructure Modernization (EIM) (Cost Element 1.1.4) funding increased from \$27.842M in FY 2020 to \$30.859M in FY 2021, a \$3.017M increase due to the planned modernization schedule for the ESS, IPNs, ISNs, and GSUs.
- (5) Wireless Local Area Network (WLAN) (Cost Element 1.1.5) funding decreased from \$14.410M in FY 2020 to \$0M in FY 2021, a \$14.410M decrease, due to the completion of the initial procurement of WLAN capabilities to the maintenance bays and stations.
- (6) Network Access Control Compliance and Remediation (Cost Element 1.2.1) funding decreased from \$0.678M in FY 2020 to \$0.000M in FY 2021, a \$0.678M decrease due to the completion of initial fielding of the discovery tool for identifying the physical devices on the network.
- (7) Disaster Recovery (Cost Element 1.2.3) funding decreased from \$0.723M in FY 2020 to \$0.000M in FY 2021, due to the completion of the initial procurement replacement equipment related to natural disasters on Marine Corps' Installations.

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy								Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19				P-1 Line Item Number / Title: 4625 / Next Generation Enterprise Service				Item Number / Title [DODIC]: 1 / Next Generation Enterprise Service				

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) End User Devices (EUD) Tech Refresh ^(†)		2019 ⁽⁸⁾	Various Vendors / Various	C / FFP	MCSC, Quantico, VA	Mar 2019	Apr 2019	8,692	1,157.39	Y		
1.1.1) End User Devices (EUD) Tech Refresh ^(†)		2021 ⁽⁹⁾	Various Vendors / Various	C / TBD	MCSC, Quantico, VA	Feb 2021	Mar 2021	13,995	1,163.63	Y		

^(†) indicates the presence of a P-21

Footnotes:

⁽⁸⁾ Vendors were Dell Federal Systems/ADS.

⁽⁹⁾ Vendor will be determined when the contract is awarded in 2Q FY 2021.

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19										P-1 Line Item Number / Title: 4625 / Next Generation Enterprise Service										Item Number / Title [DODIC]: 1 / Next Generation Enterprise Service														
Cost Elements (Units in Thousands)								Fiscal Year 2019												Fiscal Year 2020												B A L A N C E		
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019												Calendar Year 2020															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				
1.1.1) End User Devices (EUD) Tech Refresh ⁽¹⁾																																		
Prior Years Deliveries: 84592																																		
	1	2019	NAVY		8.692	.000	8.692					A -	.745	.745	.745	.745	.023	-	-	1.138	1.138	1.138	1.138	1.137									.000	
	1	2021	NAVY		13.995	.000	13.995																											13.995
								O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020																					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19										P-1 Line Item Number / Title: 4625 / Next Generation Enterprise Service										Item Number / Title [DODIC]: 1 / Next Generation Enterprise Service																					
Cost Elements (Units in Thousands)								Fiscal Year 2021										Fiscal Year 2022												BALANCE											
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021										Calendar Year 2022																								
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P										
1.1.1) End User Devices (EUD) Tech Refresh ⁽¹⁾																																									
Prior Years Deliveries: 84592																																									
	1	2019	NAVY		8.692	8.692	.000																											.000							
	1	2021	NAVY		13.995	.000	13.995											A -	2.333	2.333	2.333	2.333	2.333	2.330																	.000
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P											

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Exhibit P-21, Production Schedule: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19					P-1 Line Item Number / Title: 4625 / Next Generation Enterprise Service				Item Number / Title [DODIC]: 1 / Next Generation Enterprise Service			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Various Vendors - Various			TBD	0	0	0	0	0	0	0	0

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

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

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)							P-1 Line Item Number / Title: 4630 / Common Computer Resources					
ID Code (A=Service Ready, B=Not Service Ready): B				Program Elements for Code B Items: 0206313M, 0206623M, 0206624M, 0303150M, 0604766M				Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	438.618	62.904	51.094	35.349	0.000	35.349	59.643	44.529	44.525	45.421	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	438.618	62.904	51.094	35.349	0.000	35.349	59.643	44.529	44.525	45.421	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	438.618	62.904	51.094	35.349	0.000	35.349	59.643	44.529	44.525	45.421	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: Beginning in FY 2020, MARINE CORPS CYBERSPACE OPERATIONS GROUP (MCCOG), and UNITED STATES MARINE CORPS FORCES CYBERSPACE COMMAND (MARFORCYBER) were transferred to a new procurement line item, 4645 Cyberspace Activities, in order to consolidate Marine Corps Cyberspace Procurement Activities into one LI. MARINE CORPS COMMON HARDWARE SUITE (MCHS) provides Commercial-Off-The-Shelf (COTS) laptops, workstations, software, servers, and other information technology (IT) hardware devices (ie Mobility) to support the Operating Forces and other Marine Corps customers. MCHS provides support for two principal groups: 1) United States Marine Corps (USMC) Tactical and Functional Programs of Record that use COTS IT hardware as part of their fielded systems, and 2) tactical and other Marine Corps customers not supported by Next Generation Enterprise Network (NGEN) such as Marine Corps Forces, Europe; Marine Corps Forces, Korea; Marine Corps Forces, Africa; and stand-alone Marine Corps units and schoolhouses. FORMALIZED SCHOOLS TECHNICAL REFRESH (FSTR) funds and manages the software and IT hardware required to provide a robust and reliable Computer-Based Training (CBT) capability for TECOM (Training and Education Command) schools. Computers used in TECOM classrooms are not funded or managed by HQMC as part of the Marine Corps Enterprise Network (MCEN), and must therefore be funded and managed by the FSTR program. This program standardizes IT equipment for the 812 classrooms throughout TECOM and formalizes the upgrade and refresh process. In order to maintain adequate reliability and software compliance, computers need to be refreshed every four years. FSTR provides reliable hardware, software, and network resources to support Marine Corps Programs of Instruction and curriculum, delivered in TECOM formal classrooms. The FSTR program is foundational to realizing the Commandant of the Marine Corps' vision of exploiting technology as an enabler to advance Training & Education capabilities. MARINE CORPS ENTERPRISE INFORMATION TECHNOLOGY SERVICES (MCEITS) provides an overarching portfolio of capabilities to deliver "Power to the Edge" for the Marine Corps. Born from an effort to establish a Continuity of Operations Plan of Headquarters Marine Corps (HQMC) Automated Information Systems, MCEITS is a unifying framework of both the Net-Centric Enterprise Services to be delivered, and the infrastructure and systems which must be deployed to enable delivery of those services. MCEITS realigns the existing USMC environment of applications, databases, networks, and facilities into an integrated architecture. It provides the environment to access enterprise shared data and services while improving operational flexibility, responsiveness, and effectiveness for operating forces and the supporting establishment based on a common infrastructure and shared services. MCEITS allows for achievement of architectural standardization, consolidated management, seamless interoperability, and access to the data residing in our currently fielded applications (business and tactical). MCEITS enables access to enterprise information and provides the ability to collaborate and share information across the business and warfighter domains. MCEITS includes work to rationalize, modernize, virtualize, migrate, and host systems and applications residing in the Marine Corps enterprise information technology center (i.e., data center) located in Kansas City, Missouri. Additionally, MCEITS has a secondary, fail-over site located in Camp Lejeune, North Carolina, a System Integration Environment (SIE), and two Distributed Platforms.												

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4630 / Common Computer Resources
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: 0206313M, 0206623M, 0206624M, 0303150M, 0604766M	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
Procurement funding provides for various network equipment to include computers, network equipment, racks along with associated installation costs. In addition, procurement funding supports efforts to include cloud aligned to the Managed Services Organization (MSO). MARINE CORPS RECRUITING INFORMATION SUPPORT SYSTEM (MCRISS) is an enterprise level system to automate administrative procedures for recruiting station operations. This customized automated System, centered on procedures in the Guidebook for Recruiters, Volume I, dramatically improves efficiency and effectiveness in Marine Corps recruiting. Furthermore, Military Entrance Processing Command requires Marine Corps recruiting to provide information in electronic format only. MCRISS is the Marine Corps Recruiting Command's program to manage applicant processing from commitment to accession/ commission into the Marine Corps and Marine Corps Reserve. This enterprise approach allows for efficient sharing of information about potential recruits and recruiter screening efforts, yielding a more cost effective process. MARINE CORPS CYBERSPACE OPERATIONS GROUP (MCCOG) (formerly MCNOSC) executes Marine Corps Global Information Grid Operations and Marine Corps Defensive Cyber Operations in support of Marine Corps operational requirements in order to enhance freedom of action across all warfighting domains, while denying the efforts of adversaries to degrade or disrupt this advantage through cyberspace. MCCOG is the Network Operations (NETOPS) component of Marine Corps Forces Cyberspace Command and provides network situational awareness, command and control, and technical support to Marine Corps operating forces and supporting establishment organizations, both in garrison and while deployed. MCCOG is the primary DOD Computer Network Defense Service Provider for the U.S. Marine Corps and directs Service actions to prevent and respond to security incidents. The MCCOG delivers numerous enterprise services for the Marine Corps, to include mainframe computer services management, Defense Message System (DMS), DOD Public Key Infrastructure (PKI), and Active Directory/Global Address List. The MCCOG is responsible for the operations and defense of MCEITS, which delivers data center services to the Marine Corps. Finally, MCCOG provides technical expertise to HQMC, Marine Corps Combat Development Command (MCCDC), Marine Corps Systems Command (MCSC), and Marine Corps organizations around the world in support of Information Technology initiatives undertaken within the Marine Corps and DOD. The PMC funding will support Core Competencies in the Computer Networks Defense and NETOPS areas with skilled cyber-warriors (24x7x365). The added responsibilities and network security events have required continued operational employment of current assets and personnel. PMC funding is based on increased mission requirements dictated by DoD/USSTRATCOM/USCYBERCOM to defend the network. The procurement funding will be used to refresh the MCCOG Alternate Network Operations Security Center, USMC Site R refresh, Network Common Operational Picture Tools, Host Based Security Systems, Secure Configuration Compliance Validation Initiative and Secure Configuration Remediation Initiative (SCCVI/SCRI), Intrusion Prevention and scanning tools, Virtual Private Network, and other operations and defense tools. Beginning in FY20 this effort moves to LI 4645. SECURE OPERATIONAL NETWORK INFRASTRUCTURE AND COMMUNICATIONS (SONIC) program provides funding to procure and support hardware, software, infrastructure and services necessary to support and improve critical C2 network operations. This funding enables central management of refresh and sustainment of hardware, software, and the infrastructure necessary to provide network services on the USMC Garrison SIPRNET. This ensures enterprise architecture goals and standards are established and maintained and takes advantage of quantity-related discounts. The SIPRNET provides Marine Corps garrison forces with a secure digital means to communicate and share data, information, and knowledge at the secret level with dispersed organizations located around the world. SONIC resources the tech refresh of technologically obsolete equipment, shortfalls in network operational capabilities, solutions to resolve and mitigate network security vulnerabilities, and technology insertion for increased SIPRNET capability as expressed by the Marine Corps Forces (MARFORs). Tech Refresh includes the design, configuration, and functional testing and integration of commercial or non-developmental network solutions to resolve and mitigate network security vulnerabilities. MARINE CORPS INFORMATION OPERATIONS PROGRAM (MCIOP) provides MAGTF commanders and the Marine Corps a responsive and effective full-spectrum Information Operations (IO) planning and psychological operations delivery capability by means of deployable support teams and comprehensive general support IO reach-back capability in order to integrate IO across the range of military operations within the physical, informational and cognitive dimensions of the information environment in a Service, Joint or Coalition setting. UNITED STATES MARINE CORPS FORCES CYBERSPACE COMMAND (MARFORCYBER) will procure hardware and software for Deployable Mission Support Systems (DMSS). DMSS kits are maintained with hardware support and software renewals, and refresh perpetual software licenses for DMSS kits. Beginning in FY20 this effort moves to LI 4645. PAPERLESS ACQUISITION (PA) SYSTEMS is comprised of two programs, Purchase Request Builder (PR Builder) and Standard Procurement System / Procurement Desktop Defense (SPS/PD2). PR Builder is a fully web-based, Mission Assurance Category (MAC) III sensitive business system. SPS/PD2, part of the Joint SPS Acquisition Program, is the USMC's authoritative contracting generation system within the Marine Corps' electronic Systems Business Enterprise. Both of these systems provide system-to-system interface with other DoD financial management systems which include Standard Accounting, Budgeting, and Reporting System (SABRS), Federal Government's Electronic Document Access system (EDA), and Invoice, Receipt Acceptance and Property Transfer.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4630 / Common Computer Resources
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: 0206313M, 0206623M, 0206624M, 0303150M, 0604766M	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
TECHNOLOGY SERVICES ORGANIZATION (TSO):provides development, testing, and production hosting environments in support of the Marine Corps enterprise pay, personnel, accounting and financial management systems to include Marine Corps Total Force System (MCTFS), Marine Online, Marine Corps Orders Resource System (MCORS), Standards Accounting, Budgeting and Reporting System (SABRS), and the Marine Corps Financial Integrated Analysis System (MCFIAS). The TSO also provides complete SDLC activities for these systems as well as development of the Navy, Air Guard, and Air Force Reserve Order Writing Systems. The TSO is implementing the Marine Corp's SABRS application to the Department of the Navy. PROFESSIONAL DEVELOPMENT - MARINE CORPS UNIVERSITY: The Professional Development Program develops, delivers, and evaluates Professional Military Education (PME) and training through resident and distance education programs to prepare leaders to meet the challenges of the national security environment. The .edu expansion provides wireless connectivity, information sharing, and audio visual capabilities in support of Education Command's effort to modernize PME. Having .edu networks at all of the Marine Corp University campuses creates the opportunity for courses to collaborate, conduct research, wargame, and conduct video teleconferencing. MARINE CORPS WARGAMING CAPABILITY: MARINE CORPS WARGAMING CAPABILITY: Wargaming Capability facilitates Force Design through the assessment and evaluation of current Operation Plans, Concepts of Operations, future operational and functional concepts, and operational and technology-based approaches. Wargaming Capability results are used to develop, assess, and refine future operational and functional concepts across the full range of military operations (ROMO); inform requirements generation decisions; assess capability investments; guide capability resource actions; inform the POM development; and provide education and leadership development. Wargaming Capability efforts include prototyping with an emphasis on identifying appropriate technologies and directing cyber security support for initiatives to boost information assurance, network configuration, security control validation, and type accreditation across the material solution. [P40A / Laptop Refresh]: Laptop, Technical Refresh [P40A / Marine Corps Wargaming Capability]: Wargaming capability efforts are focused within multiple areas to include identifying, defining, and documenting requirements and capabilities; directing cyber security support for initiatives to boost information assurance in the areas of modeling & simulation, network configuration, security control validation, and type accreditation; development of performance specifications; and modeling and simulation prototyping efforts. The wargaming capability facilitates the assessment and evaluation of operating and functional concepts, operational and technology-based approaches, current concepts of operations, and principles and methods that inform decisions in support of force development and requirements generation. Wargaming capability results are used to develop, assess, and refine future operating and functional concepts across the full range of military operations (ROMO). Additionally, they test current OPLANS and CONOPS; examine operational and tactical actions through repeated, multiple iterations; enable the full development of concepts through opportunities for examination and evaluation; assess capability investments while guiding capability resourcing actions and informing the POM development; and provide education and leadership development. Wargaming capability results are used to develop, assess, and refine future operating and functional concepts across the full range of military operations (ROMO). Additionally, they test current OPLANS and CONOPS; examine operational and tactical actions through repeated, multiple iterations; enable the full development of concepts through opportunities for examination and evaluation; assess capability investments while guiding capability resourcing actions and informing the POM development; and provide education and leadership development.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)						P-1 Line Item Number / Title: 4630 / Common Computer Resources				
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: 0206313M, 0206623M, 0206624M, 0303150M, 0604766M			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Common Computer Resources	P-5a			- / 438.618	- / 62.904	- / 51.094	- / 35.349	- / -	- / 35.349
P-40	Total Gross/Weapon System Cost				- / 438.618	- / 62.904	- / 51.094	- / 35.349	- / 0.000	- / 35.349
*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: Beginning in FY 2020, MARINE CORPS CYBERSPACE OPERATIONS GROUP (MCCOG), and UNITED STATES MARINE CORPS FORCES CYBERSPACE COMMAND (MARFORCYBER) were transferred to a new procurement line item, 4645 Cyberspace Activities, in order to consolidate Marine Corps Cyberspace Procurement Activities into one LI. FY 2019: \$62.904M MARINE CORPS COMMON HARDWARE (MCHS) FY 2019 Base Appropriation Request: \$0.940M supported the purchase of hardware/software for Marine Forces Europe/Marine Forces Korea (MARFORE/MARFORK) and the Enterprise Staging & Warehousing effort (ES&W) that includes the receipt, inventory, imaging, kitting and shipping (RIKS) of IT hardware to MFE/MFA, MFK, and OPFORs (shipped in a standard configuration ready to use). FORMALIZED SCHOOLS TECHNICAL REFRESH (FSTR) FY 2019 Base Appropriation Request: \$6.764M funding supported procurement of tablets for TECOM classrooms throughout the Marine Corps. Additionally, classrooms for USMC Military Occupational Specialty (MOS) formal schools will be updated and refreshed. SECURE OPERATIONAL NETWORK INFRASTRUCTURE AND COMMUNICATIONS (SONIC) FY 2019 Baseline Appropriation Request: \$17.018M funding procured hardware and software supporting Classified End User Devices, and network infrastructure technical refresh. Tech refresh, in conjunction with the insertion of newer technology to improve reliability, improve maintainability, reduce cost, and/or add minor performance enhancement, supports the MCEN Unification Campaign Plan, Cyberspace Operations requirements, and the Marine Corps' implementation of the Joint Information Environment (JIE) which includes Enterprise Infrastructure Modernization (EIM) critical design and site configuration. Tech Refresh also includes the design, configuration, and functional testing and integration of commercial or non-developmental network solutions to resolve and mitigate network security vulnerabilities within the classified network. In addition, FY 2019 efforts included the continuation of the Virtual Desktop Infrastructure being fielded at four sites. Cost Elements in FY 2019 were updated to reflect actuals. Changes compared to the FY 2019 request were caused by the realignment of Marine Corps resources in order to align with the Marine Corps' Assured Command and Control Strategy. FY 2019 Classified End User Device quantities increased from 2,112 to 2,683 due to the decrease in unit cost allowing for more devices to be procured. MARINE CORPS ENTERPRISE IT SERVICES (MCEITS) FY 2019 Base Appropriation Request: \$19.118M supported technical refresh and domain consolidation for all MCEITS IT Center infrastructures hosting environments. In addition, funding supported application migration and hardware/software procurements for the Application and Development/test environment and sustainment engineering changes. MARINE CORPS RECRUITING INFORMATION SUPPORT SYSTEM (MCRISS) FY 2019 Base Appropriation Request: \$0.362M; Funding supported mission critical software licenses required to support the Modernization of Marine Corps Recruiting Information Support System.										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4630 / Common Computer Resources
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: 0206313M, 0206623M, 0206624M, 0303150M, 0604766M	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
MARINE CORPS INFORMATION OPERATIONS PROGRAM (MCIOP) FY 2019 Base Appropriation Request: \$0.408M provided mission critical hardware and software that are specific to the needs of the intelligence environment. Modeling and simulation explores existing and emergent Information Operations (IO) initiatives and cyber technologies. PAPERLESS ACQUISITION (PA) SYSTEMS FY 2019 Base Appropriation Request: \$0.124M provided mission critical hardware required to support the needs of Paperless Acquisition Systems for Standard Procurement System (SPS), Electronic Procurement System (EPS), and Purchase Request Builder (PRB). TECHNOLOGY SERVICES ORGANIZATION (TSO) FY 2019 Base Appropriation request: \$0.878M supported laptop and server refresh to include hardware and software supporting the development of Marine Corps enterprise HRM and Financial Management systems. MARINE CORPS CYBERSPACE OPERATIONS GROUP (MCCOG): FY 2019 Base Appropriation Request: \$3.944M procured hardware and software for Defensive Cyber Operations support and network infrastructure upgrades. MARFORCYBER: FY 2019 Base Appropriation Request: \$13.348M procured hardware and software for Deployable Mission Support Systems (DMSS). DMSS kits are maintained with hardware support, software renewals, and refresh perpetual software licenses. DMSS kits are required in order for MARFORCYBER to support Marine Corps units all across the globe. \$8.488M procures DMSS kits for MARFORCYBER and \$4.860M procures DMSS kits for the Marine Corps Operating Forces. FY 2020: \$51.094M MARINE CORPS COMMON HARDWARE (MCHS) FY 2020 Base Appropriation Request: \$0.953M supports the purchase of hardware/software for Marine Forces Europe/Marine Forces Korea (MARFORE/MARFORK) and the Enterprise Staging & Warehousing effort (ES&W) that includes the receipt, inventory, imaging, kitting, and shipping (RIIKS) of IT hardware to MFE/MFA, MFK, and OPFORs (shipped in a standard configuration ready to use). End User Device (Cost Element 1.2) funding increased from \$0.712M in FY 2019 to \$0.732M in FY 2020, a \$0.020M increase, due to the replacement End User Devices (EUDs) that are becoming non-compliant for users at MARFORK and MARFOREUR, this replacement will enable users to remain connected to the network with a fully compliant EUD. Unit costs increase from FY 2019 to FY 2020 due to inflation. Fielding Support (Cost Element 1.6) \$0.221M supports the fielding of equipment that is procured through other customer funds. The type of support provided includes the creation of the birth record for equipment to ensure that the equipment can be accounted for in property accountability systems, along with configuring and kitting the equipment to ensure it is consistent with Marine Corps IT standards. FORMALIZED SCHOOLS TECHNICAL REFRESH (FSTR) FY 2020 Base Appropriation Request: \$6.905M funding supports Training and Education Command (TECOM) schoolhouse classroom computer refresh and tablet procurements. The Marine Corps operates 62 Military Occupational Specialty (MOS) producing schools, with an established AAO of over 10,000 computers, required to deliver training and education curriculum. Costs are driven by IT equipment refresh, enterprise software licensing, computer imaging/shipping, and industry best practices. SECURE OPERATIONAL NETWORK INFRASTRUCTURE AND COMMUNICATIONS (SONIC) FY 2020 Baseline Appropriation Request: \$13.946M ensures the Marine Corps continues to defend and protect the MCEN-S against cyber-attacks and vulnerabilities. The overall FY20 funding increase of \$0.652M from FY 2019 reflects the Marine Corps decision to align resources to Secure Operational Network Infrastructure and Communications enhancement in order to replace aging and end-of-life network		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4630 / Common Computer Resources
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: 0206313M, 0206623M, 0206624M, 0303150M, 0604766M	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
infrastructure. This increases the Marine Corps Enterprise Network's reliability and security posture against cyberattacks from both Nation-States and third party actors. The baseline appropriations request also includes \$9K which is needed to procure Classified End User Devices in support of MCB Guam personnel. End User Device (Cost Element 5.1) funding increased from \$2.520M in FY 2019 to \$4.000M in FY 2020, a \$1.480M increase, due to the replacement of Classified End User Devices (EUDs) enabling users to remain connected to the network with a fully compliant EUD. Replacing the aging EUDs will reduce the cybersecurity vulnerabilities arising from these items no longer receiving support or updates. If these EUDs are not replaced, it will be necessary for these users to be removed from the network to protect against cyber threats, thereby resulting in an inability to perform mission essential duties. The Field Support (Cost Element 5.2) funding increased from \$0.254M in FY 2019 to \$0.259M in FY 2020, a \$0.004M increase, due to increasing the quantity of 2,641 laptops procured in FY 2020 to replace aging Classified EUDs, which were procured at the beginning stages of the WIN 10 implementation. This cost element is directly related to changes in cost elements 5.1 and 5.3. Network Equipment Tech Refresh (Cost Element 5.3) \$5.598M is for the replacement of outdated equipment that is no longer receiving security patches or updates from the vendor, increasing cybersecurity vulnerabilities across the MCEN-S. If not replaced, these aging network devices will be removed from the network as a result of not receiving cybersecurity updates which will lead to Marine Corps users being unable to connect to the MCEN. Funding within this cost element enabled the Marine Corps to replace these aging network devices with ones that are compliant with current cybersecurity standards which enabled users across the Marine Corps to continue to operate without network disruptions. Enterprise Infrastructure Modernization Classified (EIM-S) (Cost Element 5.4) \$4.080M is for upgrading and modernizing the Classified Enterprise Service Stacks (ESS-S), Classified Installation Processing Nodes CLASSIFIED (IPN-S), Classified Installation Service Node (ISN-S) and Geographically Separated Units (GSU) across the Marine Corps within the classified environment. These modernizations supported the Marine Corps' ability to migrate to the Joint Information Environment (JIE) and the cloud by increasing bandwidth, enhancing individual and organizational mobility, and supporting the rapid deployment of mission critical applications and services. In addition, the migration to the cloud will result in reduced long network engineering/provision lead times. Network Access Control Compliance and Remediation (Cost Element 5.5) funding decreased from \$.390M in FY 2019 to \$0M in FY 2020 due to the completion of initial fielding of the discovery tool identifying the physical devices on the network. MARINE CORPS INFORMATION OPERATIONS PROGRAM (MCIOP) FY 2020 Base Appropriation Request: \$0.416M supports additional hardware refreshes and also will provide mission critical hardware and software that is specific to the needs of the information environment. The \$0.008M increase in funding from FY19 to FY20 is due to the hardware refresh schedule which enhances interoperability and real-time support to deployed forces. MARINE CORPS RECRUITING INFORMATION SUPPORT SYSTEM (MCRISS) FY 2020 Base Appropriation Request: \$0.050M supports software licenses which are mission critical and required to support the Modernization of Marine Corps Recruiting Information Support System. MCRISS analytical software updates. This provides increased analytical capabilities to the MCRISS software platform. PAPERLESS ACQUISITION (PA) SYSTEMS FY 2020 Base Appropriation Request: \$0.127M provides mission critical hardware required to support the needs of Paperless Acquisition Systems such as Standard Procurement System (SPS), Electronic Procurement System (EPS), and Purchase Request Builder (PRB). MARINE CORPS ENTERPRISE IT SERVICES (MCEITS) FY 2020 Base Appropriation Request: Datacenter Tech Refresh (Cost Element 3.1) \$18.010M supports technical refresh for all MCEITS IT Center infrastructures hosting environments. Funding supports additional application migrations, hardware/software procurements for the Application and Development/test environment, and sustainment engineering changes. Infrastructure procured under this cost element will replace equipment essential to sustaining capabilities in the datacenter. The replacement of aging and non-compliant infrastructure is required to support emerging cybersecurity standards and compliance directives. If infrastructure is not replaced, this will put the existing system at risk for Cybersecurity vulnerabilities which result in the inability to share critical mission essential data across the Marine Corps.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4630 / Common Computer Resources
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: 0206313M, 0206623M, 0206624M, 0303150M, 0604766M	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
Data Center Domain Consolidation (Cost Element 3.2) \$0.000M in FY 2020. This effort completed in FY 2019.		
PROFESSIONAL DEVELOPMENT - MARINE CORPS UNIVERSITY FY 2020 Base Appropriation Request: \$6.796M. \$1.478M supports the .edu network capacity upgrade will allow five Staff Non-Commissioned Officer Academies (SNCOA) at locations CONUS and OCONUS to be brought on the .edu network. The current network which supports only Marine Corps University at Marine Corps Base Quantico and the SNCOA at Camp Johnson is at capacity which does not allow for any additional capabilities. \$5.318M will support the SNCOA, Camp Pendleton .edu expansion will provide wireless connectivity, information sharing and audio visual capabilities in support of EDCOM's effort to modernize Professional Military Education (PME). This is the next step in expanding the capability which ensures that students receive the same access to information and education that students attending the Quantico and CP Johnson campuses receive. SNCOA campuses that rely on the .mil network for access to resources are restricted and often blocked from sites not approved by .mil hardening efforts. Having .edu networks at all of the MCU campuses creates the opportunity for courses to collaborate, conduct research, wargame, and conduct video teleconferencing. TECHNOLOGY SERVICES ORGANIZATION (TSO) FY 2020 Base Appropriation request: \$3.891M supports laptop and network device procurement that enables the development of Marine Corps enterprise HRM and Financial Management systems. This includes the maintenance of the Marine Corps Total Force System (MCTFS), Marine Online (MOL), Marine Corps Orders Resource System (MCORS), Standard Accounting, Budgeting & Reporting System (SABRS) and the Marine Corps Financial Integrated Analysis System (MCFIAS). This Technical refresh/upgrade of SABRS database technology from ADABAS to a newer database architecture provides a modern and well-supported database technology that ultimately enables the normalization of Marine Corps financial data in a true relational database. The increase of \$3M from FY19 to FY20 is funding for fielding of initial modernized Human Resource Development Process (HRDP) IT capability as part of the HR2025 initiative. FY 2021 Base Appropriation Request: \$33.877M Marine Corps Common Hardware (MCHS) FY 2021 Base Appropriation Request: \$0.972M will support the purchase of hardware/software for Marine Forces Europe/Marine Forces Korea (MARFORE/MARFORK) and the Enterprise Staging & Warehousing effort (ES&W) that includes the receipt, inventory, imaging, kitting, and shipping (RIIKS) of IT hardware to MFE/MFA, MFK, and OPFORs (shipped in a standard configuration ready to use). End User Device (Cost Element 1.1) funding increased from \$0.750M in FY 2020 to \$0.771M in FY 2021, a \$0.021M increase, due to the additional procurements for End User Devices (EUDs) that are becoming non-compliant for users at MARFORK and MARFOREUR. This replacement will enable users to remain connected to the network with a fully compliant EUD. Unit costs increase from FY 2020 to FY 2021 is due to inflation. Fielding Support (Cost Element 1.2) funding between FY 2020 and FY 2021 remained constant. Funding in this cost element provides for the imaging, kitting, and shipping along with creation of property accountability records for End User Devices along with network equipment. FORMALIZED SCHOOLS TECHNICAL REFRESH (FSTR) FY 2021 Base Appropriation Request: \$7.000M funding will support Training and Education Command (TECOM) schoolhouse classroom computer refresh and tablet procurements. The Marine Corps operates 62 Military Occupational Specialty (MOS) producing schools, with an established AAO of over 10,000 computers, required to deliver training and education curriculum. Costs are driven by IT equipment refresh, enterprise software licensing, computer imaging/shipping, and industry best practices. \$0.095M increase in funding from FY20 to FY21 is due to increased hardware buy. SECURE OPERATIONAL NETWORK INFRASTRUCTURE AND COMMUNICATIONS (SONIC)		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4630 / Common Computer Resources
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: 0206313M, 0206623M, 0206624M, 0303150M, 0604766M	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
FY 2021 Baseline Appropriation Request: \$14.286M will ensure the Marine Corps continues to defend and protect the MCEN-S against cyber-attacks and vulnerabilities. There will be no significant FY 2021 funding increase/decrease for SONIC. Equipment that will be procured with this funding request increases the Marine Corps Enterprise Network's reliability and security posture against cyberattacks from both Nation-States and third party actors. End User Device (Cost Element 5.1) funding remained constant from FY20. Funding in this cost element procures Classified End User Devices (EUDs) enabling users to remain connected to the network with a fully compliant EUD. Replacing the aging EUDs will reduce the cybersecurity vulnerabilities arising from these items no longer receiving support or updates. If these EUDs are not replaced, it will be necessary for these users to be removed from the network to protect against cyber threats, thereby resulting in an inability to perform mission essential duties. Fielding Support (Cost Element 5.2) funding increased from \$0.259M in FY 2020 to \$0.279M in FY 2021, a \$0.020M increase, due to inflation. Funding in this cost element provides for the imaging, kitting, and shipping along with creation of property accountability records for End User Devices along with network equipment. Network Equipment Tech Refresh (Cost Element 5.3) funding decreased from \$5.598M in FY 2020 to \$3.959M in FY 2021, a \$1.639M decrease, due to the buy down of aging infrastructure which reduced the amount of equipment required to be replaced in FY 2021. The equipment procured under this cost element will be replacing outdated equipment that is no longer receiving security patches or updates from the vendor, increasing cybersecurity vulnerabilities across the Marine Corps Enterprise Network on the SIPR side. If not replaced, these aging network devices will be removed from the network as a result of not receiving cybersecurity updates which will lead to Marine Corps users being unable to connect to the MCEN. Funding within this cost element will enable the Marine Corps to replace these aging network devices with ones that are compliant with current cybersecurity standards which will enable users across the Marine Corps to continue to operate without network disruptions. Enterprise Infrastructure Modernization Classified (EIM-S) (Cost Element 5.4) funding increased from \$4.080 in FY 2020 to \$5.409M in FY 2021, a \$1.329M increase, due to the modernization of the Classified Enterprise Infrastructure. Funding under this cost element provides for upgrading and modernizing the Classified Enterprise Service Stacks (ESS-S), Classified Installation Processing Nodes CLASSIFIED (IPN-S), Classified Installation Service Node (ISN-S) and Geographically Separated Units (GSU) across the Marine Corps within the classified environment. These modernizations will support the Marine Corps' ability to migrate to the Joint Information Environment (JIE) and the cloud by increasing bandwidth, enhancing individual and organizational mobility and supporting the rapid deployment of mission critical applications and services. MARINE CORPS INFORMATION OPERATIONS PROGRAM (MCIOP) FY 2021 Base Appropriation Request: \$0.423M funding will support hardware and software refreshes that are specific to the information environment. These enhancements will support the growing operational requirements of deployed teams and enable coordination of the operations in the information operational environment across the Marine Corps and in support of Joint requirements. The 0.007M increase in funding from FY20 to FY21 is due to the support of real-time Information Operations (IO). MARINE CORPS ENTERPRISE IT SERVICES (MCEITS) FY 2021 Base Appropriation Request: Datacenter Tech Refresh (Cost Element 3.1) \$4.571M supports technical refresh for all MCEITS IT Center infrastructures hosting environments. Funding supports additional application migrations, hardware/software procurements for the Application and Development/test environment, and sustainment engineering changes. Datacenter Tech Refresh (Cost Element 3.1) funding decreased from \$18.010M in FY 2020 to \$4.571M in FY 2021, a \$13.439M decrease. This is due to the continued transformation under a new acquisition strategy for MCEITS from a 5-year "rip and replace" strategy to an "as a service model". Infrastructure procured under this cost element will replace equipment essential to sustaining capabilities in the datacenter. The replacement of aging and non-compliant infrastructure is required to support emerging cybersecurity standards and compliance directives. If infrastructure is not replaced, this will put the existing system at risk for Cybersecurity vulnerabilities which result in the inability to share critical mission essential data across the Marine Corps.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4630 / Common Computer Resources
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: 0206313M, 0206623M, 0206624M, 0303150M, 0604766M	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
MARINE CORPS WARGAMING CAPABILITY: FY 2021 Base Appropriation Request \$2.000M supports the procurement of various Computer Network Defense equipment. Additionally, long lead cryptographic equipment will be procured through the National Security Agency (NSA). The \$2.000M increase from FY20 to FY21 begins the initial procurement of long lead items such as cryptographic equipment which will support the Wargaming material solution through the FYDP. TECHNOLOGY SERVICES ORGANIZATION (TSO) FY 2021 Base Appropriation request: \$3.909M supports the refresh of laptops, network device and the procurement of supporting software that enables the development of Marine Corps enterprise HRM and Financial Management systems. This includes the maintenance of the Marine Corps Total Force System (MCTFS), Marine Online (MOL), Marine Corps Orders Resource System (MCORS), Standard Accounting, Budgeting & Reporting System (SABRS) and the Marine Corps Financial Integrated Analysis System (MCFIAS) Programs of Record. \$3M of the \$3.909M is for MOL Modernization as part of the HR2025 initiative and is being procured via a professional services contract administered by HQMC(M&RA). MARINE CORPS RECRUITING INFORMATION SUPPORT SYSTEM (MCRISS) FY 2021 Base Appropriation Request: \$0.058M will support expansion of license coverage for incidental users on MCRISS. This provides Recruit Liaison section, Depot Medical Personnel, and Depot Administrators direct access to recruit records for changes prior to acceptance to depot training. PAPERLESS ACQUISITION (PA) SYSTEMS FY 2021 Base Appropriation Request: \$0.130M will provide mission critical hardware required to support the needs of Paperless Acquisition Systems such as Standard Procurement System (SPS), Electronic Procurement System (EPS), and Purchase Request Builder (PRB). PROFESSIONAL DEVELOPMENT FY2021 Base Appropriation Request: \$2.000M supports the final stage of Camp Pendleton Staff NCO Academy installation and the initiation of 29 Palms Staff NCO Academy, Camp Pendleton Installation Materials and labor, 29 Palms Staff NCO Academy (SNCOA) Design and Engineering, 29 Palms SNCOA construction, renovation and modernization, and provides for service fees. The decrease of \$4.796M from FY20 to FY21 is due to completion of the initial expansion at Camp Pendleton.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy																Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19									P-1 Line Item Number / Title: 4630 / Common Computer Resources							Aggregated Items Title: Common Computer Resources					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total			
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	
1) MARINE CORPS COMMON HARDWARE SUITE (MCHS)																					
1.1) MCHS End User Device Refresh ^{(1)(f)}	A		1.257	69,743	87.640	1.118	641	0.717	1.140	642	0.732	1.164	645	0.751	-	-	-	1.164	645	0.751	
1.2) Fielding Support ⁽²⁾	A		-	-	1.042	-	-	0.223	-	-	0.221	-	-	0.221	-	-	-	-	-	0.221	
1.3) Prior Year Cumulative Funding	A		-	-	55.775	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Subtotal: 1) MARINE CORPS COMMON HARDWARE SUITE (MCHS)			-	-	144.457	-	-	0.940	-	-	0.953	-	-	0.972	-	-	-	-	-	0.972	
2) Formal Schools Technical Refresh (FSTR)																					
2.1) FSTR Refresh	A		-	-	3.275	-	-	2.634	-	-	2.689	-	-	2.741	-	-	-	-	-	2.741	
2.2) FSTR Tablets/ Modernization	A		-	-	-	-	-	4.130	-	-	4.216	-	-	4.259	-	-	-	-	-	4.259	
Subtotal: 2) Formal Schools Technical Refresh (FSTR)			-	-	3.275	-	-	6.764	-	-	6.905	-	-	7.000	-	-	-	-	-	7.000	
3) MARINE CORPS ENTERPRISE INFORMATION TECHNOLOGY SERVICES (MCEITS) ⁽³⁾																					
3.1) Data Center Tech Refresh ⁽⁴⁾	A		-	-	-	-	-	15.068	-	-	18.010	-	-	4.571	-	-	-	-	-	4.571	
3.2) Data Center Domain Consolidation ⁽⁵⁾	A		-	-	-	-	-	4.050	-	-	-	-	-	-	-	-	-	-	-	-	
3.3) Prior Year Cumulative Funding	A		-	-	71.124	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Subtotal: 3) MARINE CORPS ENTERPRISE INFORMATION TECHNOLOGY SERVICES (MCEITS)			-	-	71.124	-	-	19.118	-	-	18.010	-	-	4.571	-	-	-	-	-	4.571	
4) Marine Corps Cyberspace Operations Group																					
4.1) DMSS	A		1,009.500	2	2.019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4.2) Network Operations Infrastructure(Refresh/ Upgrades) ⁽⁶⁾	A		-	-	51.331	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4.3) Computer Network Defense ⁽⁷⁾	A		-	-	10.973	-	-	3.944	-	-	-	-	-	-	-	-	-	-	-	-	
4.4) AltNOSC Infrastructure Upgrade	A		-	-	5.700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4.5) Command IT Refresh	A		-	-	5.723	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Subtotal: 4) Marine Corps Cyberspace Operations Group			-	-	75.746	-	-	3.944	-	-	-	-	-	-	-	-	-	-	-	-	
5) Secure Operational Network Infrastructure and Communications (SONIC) ⁽⁸⁾																					

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19							P-1 Line Item Number / Title: 4630 / Common Computer Resources								Aggregated Items Title: Common Computer Resources					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
5.1) End User Devices (9)(†)	A		1.227	23,499	28.839	2.653	950	2.520	1.114	3,591	4.000	1.164	3,436	4.000	-	-	-	1.164	3,436	4.000
5.2) Fielding Support (10)	A		-	-	0.931	-	-	0.254	-	-	0.259	-	-	0.279	-	-	-	-	-	0.279
5.3) Network Equipment Tech Refresh (11)	A		-	-	21.674	-	-	4.919	-	-	5.598	-	-	3.959	-	-	-	-	-	3.959
5.4) Enterprise Infrastructure Modernization (EIM) (12)	A		-	-	28.083	-	-	8.930	-	-	4.080	-	-	5.409	-	-	-	-	-	5.409
5.5) Network Access Control Compliance & Remediation (NACCR)	A		-	-	3.302	-	-	0.390	-	-	-	-	-	-	-	-	-	-	-	-
5.6) Defense Policy Review Initiative	A		-	-	-	-	-	0.005	-	-	0.009	-	-	0.639	-	-	-	-	-	0.639
Subtotal: 5) Secure Operational Network Infrastructure and Communications (SONIC)			-	-	82.829	-	-	17.018	-	-	13.946	-	-	14.286	-	-	-	-	-	14.286
6) MARINE CORPS INFORMATION OPERATION PROGRAM (MCIOP)																				
6.1) Workstations	A		-	-	6.065	-	-	0.408	-	-	0.416	-	-	0.423	-	-	-	-	-	0.423
Subtotal: 6) MARINE CORPS INFORMATION OPERATION PROGRAM (MCIOP)			-	-	6.065	-	-	0.408	-	-	0.416	-	-	0.423	-	-	-	-	-	0.423
7) MARINE FORCES CYBER COMMAND																				
7.1) Deployable Mission Support Systems (DMSS) (13)	A		-	-	10.880	-	-	13.348	-	-	-	-	-	-	-	-	-	-	-	-
7.2) Distributed Computing Equipment	A		-	-	4.728	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.3) Video Teleconferencing and Multi-media Equipment	A		-	-	7.972	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.4) Network Hardware	A		-	-	8.120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.5) Telephone Equipment	A		-	-	0.310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.6) Cable Infrastructure	A		-	-	4.842	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.7) Wireless Center IT Equipment	A		-	-	2.803	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.8) Operations Center IT Equipment	A		-	-	2.696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19							P-1 Line Item Number / Title: 4630 / Common Computer Resources							Aggregated Items Title: Common Computer Resources						
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Subtotal: 7) MARINE FORCES CYBER COMMAND			-	-	42.351	-	-	13.348	-	-	-	-	-	-	-	-	-	-	-	-
8) Paperless Acquisition (PA) Systems																				
8.1) WebMethod Licenses	A		-	-	3.105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.2) Hardware	A		-	-	0.122	-	-	0.124	-	-	0.127	-	-	0.130	-	-	-	-	-	0.130
Subtotal: 8) Paperless Acquisition (PA) Systems			-	-	3.227	-	-	0.124	-	-	0.127	-	-	0.130	-	-	-	-	-	0.130
9) Marine Corps Recruiting Information Support System (MCRISS)																				
9.1) Software Licenses	A		-	-	0.049	-	-	0.362	-	-	0.050	-	-	0.058	-	-	-	-	-	0.058
Subtotal: 9) Marine Corps Recruiting Information Support System (MCRISS)			-	-	0.049	-	-	0.362	-	-	0.050	-	-	0.058	-	-	-	-	-	0.058
10) Technology Services Organization (TSO)																				
10.1) MOL Modernization	A		-	-	-	-	-	-	-	-	3.000	-	-	3.000	-	-	-	-	-	3.000
10.2) Hardware	A		-	-	0.250	-	-	0.096	-	-	0.175	-	-	0.175	-	-	-	-	-	0.175
10.3) Laptop Refresh (14)(t)	A		-	-	0.132	2.461	160	0.394	2.463	160	0.394	2.465	160	0.394	-	-	-	2.465	160	0.394
10.4) Tech Refresh	A		-	-	0.468	-	-	0.123	-	-	0.128	-	-	0.136	-	-	-	-	-	0.136
10.5) Various Software	A		-	-	0.455	-	-	0.265	-	-	0.194	-	-	0.204	-	-	-	-	-	0.204
Subtotal: 10) Technology Services Organization (TSO)			-	-	1.305	-	-	0.878	-	-	3.891	-	-	3.909	-	-	-	-	-	3.909
11) Prior Year Cumulative																				
11.1) Prior Year	A		-	-	8.190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 11) Prior Year Cumulative			-	-	8.190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12) Marine Corps Wargaming Capability																				
12.6) Computer Network Defense ⁽¹⁵⁾	A		-	-	-	-	-	-	-	-	-	-	-	1.000	-	-	-	-	-	1.000
12.9) Cryptographic Equipment ⁽¹⁶⁾	A		-	-	-	-	-	-	-	-	-	-	-	1.000	-	-	-	-	-	1.000
Subtotal: 12) Marine Corps Wargaming Capability			-	-	0.000	-	-	-	-	-	-	-	-	2.000	-	-	-	-	-	2.000
14) Professional Development																				
14.1) .EDU Infrastructure ⁽¹⁷⁾			-	-	-	-	-	-	-	-	1.478	-	-	-	-	-	-	-	-	-
14.2) SNCOA ⁽¹⁸⁾	A		-	-	-	-	-	-	-	-	5.318	-	-	2.000	-	-	-	-	-	2.000
Subtotal: 14) Professional Development			-	-	0.000	-	-	-	-	-	6.796	-	-	2.000	-	-	-	-	-	2.000

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy																Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19									P-1 Line Item Number / Title: 4630 / Common Computer Resources							Aggregated Items Title: Common Computer Resources					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total			
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	
Total			-	-	438.618	-	-	62.904	-	-	51.094	-	-	35.349	-	-	-	-	-	35.349	

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

(†) indicates the presence of a P-5a

Footnotes:

- (1) End User Device Refresh (Cost Element 1.1) funding increased from \$0.732M in FY 2020 to \$0.751M in FY 2021, a \$0.019M increase, due to the replacement End User Devices (EUDs) that are becoming non-compliant for users at MARFORK and MARFOREUR, this replacement will enable users to remain connected to the network with a fully compliant EUD. Unit costs increase from FY 2020 to FY 2021 is due to inflation.
- (2) Fielding Support (Cost Element 1.2) funding between FY 2020 and FY 2021 remained constant. Funding in this cost element provides for the imaging, kitting, shipping along with creation of property accountability records for End User Devices along with network equipment.
- (3) Funding in FY 2018 was broken into multiple cost elements for tech refresh for the Kansas City IT Center, starting in FY 2019 these cost elements will be consolidated into a singular tech refresh line.
- (4) Datacenter Tech Refresh funding decreased from \$18.010M in FY 2020 to \$4.571M in FY 2021, a \$13.439M decrease. This is due to the continued transformation under a new acquisition strategy for MCEITS from a 5-year "rip and replace" strategy to an "as a service model". Infrastructure procured under this cost element will replace equipment essential to sustaining capabilities in the datacenter. The replacement of aging and non-compliant infrastructure is required to support emerging cybersecurity standards and compliance directives. If infrastructure is not replaced, this will put the existing system at risk for Cybersecurity vulnerabilities which result in the inability to share critical mission essential data across the Marine Corps.
- (5) Data Center Domain Consolidation \$0.000M in FY 2021 due to the completion of domain consolidation in the Kansas City IT Center (KCITC) in FY 2019.
- (6) Beginning in FY20, MCCOG funds were moved to LI 4645, Cost Element 1.3.
- (7) Beginning in FY20, MCCOG funds were moved to LI 4645, Cost Element 1.3.
- (8) Funds support regular hardware refresh and emerging hardware requirements.
- (9) End User Device (Cost Element 5.1) funding remained constant from FY 20. Funding in this cost element procures Classified End User Devices (EUDs) enabling users to remain connected to the network with a fully compliant EUD. Replacing the aging EUDs will reduce the cybersecurity vulnerabilities arising from these items no longer receiving support or updates. If these EUDs are not replaced, it will be necessary for these users to be removed from the network to protect against cyber threats, thereby resulting in an inability to perform mission essential duties.
- (10) Fielding Support (Cost Element 5.2) funding increased from \$0.259M in FY 2020 to \$0.279M in FY 2021, a \$0.020M increase, due to inflation. Funding in this cost element provides for the imaging, kitting, and shipping along with creation of property accountability records for End User Devices along with network equipment.
- (11) Network Equipment Tech Refresh (Cost Element 5.3) funding decreased from \$5.598M in FY 2020 to \$3.959M in FY 2021, a \$1.639M decrease, due to the buy down of aging infrastructure which reduced the amount of equipment required to be replaced in FY 2021. The equipment procured under this cost element will be replacing outdated equipment that is no longer receiving security patches or updates from the vendor, increasing cybersecurity vulnerabilities across the Marine Corps Enterprise Network on the SIPR side. If not replaced, these aging network devices will be removed from the network as a result of not receiving cybersecurity updates which will lead to Marine Corps users being unable to connect to the MCEN. Funding within this cost element will enable the Marine Corps to replace these aging network devices with ones that are compliant with current cybersecurity standards which will enable users across the Marine Corps to continue to operate without network disruptions.
- (12) Enterprise Infrastructure Modernization Classified (EIM-S) (Cost Element 5.4) funding increased from \$4.080 in FY 2020 to \$5.409M in FY 2021, a \$1.329M increase, due to the modernization of the Classified Enterprise Infrastructure. Funding under this cost element provides for upgrading and modernizing the Classified Enterprise Service Stacks (ESS-S), Classified Installation Processing Nodes CLASSIFIED (IPN-S), Classified Installation Service Node (ISN-S) and Geographically Separated Units (GSU) across the Marine Corps within the classified environment. These modernizations will support the Marine Corps' ability to migrate to the Joint Information Environment (JIE) and the cloud by increasing bandwidth, enhancing individual and organizational mobility and supporting the rapid deployment of mission critical applications and services.
- (13) Beginning in FY20, DMSS funds were moved to LI 4645, Cost Element 1.2.
- (14) Refresh of Laptop computers for TSO.
- (15) The \$1.000M increase from FY20 to FY21 begins the initial procurement various computer network defense equipment which will support the Wargaming material solution through the FYDP.
- (16) The \$1.000M increase from FY20 to FY21 supports the procurement of long lead Cryptographic equipment which will support the Wargaming material solution through the FYDP.
- (17) The decrease of \$1.478M from FY20 to FY21 is due to completion of the initial expansion at Camp Pendleton.
- (18) The decrease of \$3.318M from FY20 to FY21 is due to completion of the initial expansion at Camp Pendleton.

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19				P-1 Line Item Number / Title: 4630 / Common Computer Resources					Aggregated Items: Common Computer Resources			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1) MARINE CORPS COMMON HARDWARE SUITE (MCHS)												
1.1) MCHS End User Device Refresh ⁽¹⁾		2018	Various / Various	C / FFP	MCSC, Quantico, VAMCSC, Quantico, VAMCSC, Quantico	Aug 2018	Sep 2018	1,653	0.781	Y		
1.1) MCHS End User Device Refresh ⁽¹⁾		2019 ⁽¹⁹⁾	Various / Various	C / TBD	MCSC, Quantico, VAMCSC, Quantico, VA	Aug 2019	Sep 2019	641	1.118	Y		
1.1) MCHS End User Device Refresh ⁽¹⁾		2020	Various / Various	C / TBD	** NO PCO **	Aug 2020	Aug 2020	642	1.140	Y		
5) Secure Operational Network Infrastructure and Communications (SONIC)												
5.1) End User Devices ⁽⁹⁾		2018	Various / Various	C / TBD	** NO PCO **	Feb 2018	Apr 2018	2,112	1.331	Y		
5.1) End User Devices ⁽⁹⁾		2019	Various / Various	C / TBD	** NO PCO **	Feb 2019	Apr 2019	950	2.653	Y		
5.1) End User Devices ⁽⁹⁾		2020	Various / Various	C / TBD	** NO PCO **	Feb 2020	Apr 2020	3,591	1.114	Y		
5.1) End User Devices ⁽⁹⁾		2021	Various / Various	C / TBD	** NO PCO **	Feb 2021	Apr 2021	3,436	1.164	Y		
10) Technology Services Organization (TSO)												
10.3) Laptop Refresh ⁽¹⁴⁾		2019	TBD / TBD	Reqn	MCSC, Quantico, VA	Aug 2020	Aug 2020	160	2.461	N	Sep 2020	Apr 2020
10.3) Laptop Refresh ⁽¹⁴⁾		2020	TBD / TBD	Reqn	MCSC, Quantico, VA	Feb 2021	Feb 2021	160	2.463	N	Mar 2021	Oct 2020
10.3) Laptop Refresh ⁽¹⁴⁾		2021	TBD / TBD	Reqn	MCSC, Quantico, VA	Aug 2021	Aug 2021	160	2.465	N	Sep 2021	Apr 2021

Footnotes:

⁽¹⁹⁾ Unit cost updated to reflects updates to the current unit cost estimate to include the change from spindle drive (status quo) to solid state drive. The switch to a solid state drive will increase the reliability of end user devices.

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

Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)	P-1 Line Item Number / Title: 4631 / Command Post Systems

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0506313M

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	1,032.636	117.281	80.897	33.713	0.000	33.713	14.341	14.925	15.222	15.531	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	1,032.636	117.281	80.897	33.713	0.000	33.713	14.341	14.925	15.222	15.531	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	1,032.636	117.281	80.897	33.713	0.000	33.713	14.341	14.925	15.222	15.531	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Networking On The Move (NOTM) - NOTM provides a command and control (C2) capability by integrating tactical data systems with on the move satellite communications (SATCOM) for beyond line-of-sight communication that allows commanders to have uninterrupted two-way access to digital data, anywhere on the battlefield. NOTM provides Marine Air-Ground Task Force (MAGTF) commanders and staffs with full Common Operational Picture (COP) access, virtually unlimited situational awareness and a powerful ability to issue digital orders (fires, maneuver, planning) to Ground Combat Element (GCE), Air Combat Element (ACE) and Logistics Combat Element (LCE) units at all echelons while on-the-move or at-the-halt. NOTM also provides Marine units the capability to link with and extend Defense Information System Network (DISN) services; SIPRNet, NIPRNet, and Defense Switched Networks (DSN). Integrated full motion video (receipt and retransmission), tactical voice communications, plus three options for secure wireless local area network (LAN) connectivity between staff members makes this capability a crucial asset to all elements of the MAGTF. Currently the USMC has three variants depending on the type of transportation being used; the NOTM Ground Combat Vehicle (GCV), NOTM Utility Task Vehicle (UTV), and NOTM Airborne (NOTM-A).

Joint Battle Command - Platform (JBC-P) Family of Systems (FoS) - JBC-P FoS is an Army led ACAT II program of Joint Requirements Oversight Council (JROC) interest formerly known as the Blue Force Tracker (BFT) FoS. It is comprised of L-Band Satellite Communications (SATCOM) and is a digital, battle command information FoS that provides integrated, on the move, timely, relevant Command and Control Situational Awareness (C2SA) information to tactical combat, combat support, and combat service support commanders, leaders, and key C2 nodes. JBC-P FoS will provide JROC mandated C2SA convergence across Combat Operations Centers (COC), ground vehicles and dismounted personnel.

Global Command and Control System - Tactical Combat Operations System (GCCS-TCO) - GCCS-TCO is the principal tool within the MAGTF for situational awareness through distribution of the Common Tactical Picture (CTP). It supports tactical operations by providing information via high speed computer systems in a timely manner and includes the Tactical COP Workstations/Servers. Procurement funding allows for system refresh and replacements to match the program's acquisition objective.

Advanced Field Artillery Tactical Data Family of Systems (AFATDS FoS) - AFATDS FoS consists of three programs: AFATDS, Back Up Computer System (BUCS), and Mobile Tactical Shelter (MTS). The AFATDS automates the fires planning, tactical fire direction, and fire support coordination required to support maneuver from the sea and subsequent operations ashore. AFATDS integrates all supporting arms assets within the MAGTF such as mortars, cannon artillery, rockets and missiles, close air support, and naval surface fire support systems. BUCS is a hand-held computer system designed to provide a backup to the AFATDS in computing ballistic firing solutions as well as provide survey and meteorological functions in support of artillery. Additionally, BUCS is the primary ballistic firing solution system during Ship To Objective Maneuver (STOM) and for the Expeditionary Fire Support System (EFSS). The MTS is a Lightweight Multi-purpose Shelter (LMS) mounted on a High Mobility Multipurpose Wheeled Vehicle (HMMWV) which protects both the AFATDS and operators from the environment. MTS enables rapid emplacement and displacement of fire support elements and provides networked communications on the move. Transition to BLI 4733 in FY19.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)						P-1 Line Item Number / Title: 4631 / Command Post Systems				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206313M, 0506313M				
Line Item MDAP/MAIS Code: N/A										
Target Hand-Off System (THS) - The THS addresses a Marine Corps operational requirement for a lightweight, handheld, and digital target acquisition engagement coordination system. The THS is interoperable with all Fire Support platforms and Target Locating Devices designed for the Forward Air Controllers (FACs), Forward Observers (FOs), Fire Support Teams (FSTs), Firepower Control Teams (FCTs), Tactical Air Control Parties (TACPs), and Reconnaissance Teams. The THS provides the ability to quickly acquire and digitally prosecute targets in day, night, and near-all-weather visibility conditions in order to conduct precise and rapid indirect surface fire support, Naval Surface Fire Support (NSFS), and Close Air Support (CAS). Transition to BLI 4733 in FY19. Marine Corps Information Operation Program (MCIOP) - provides MAGTF commanders and the Marine Corps a responsive and effective full-spectrum information operations (IO) planning and psychological operations delivery capability by means of deployable support teams and a comprehensive general support IO reach-back capability in order to integrate IO into Marine Corps operations. Multiple classification levels require separate Information Technology (IT) infrastructure to support each classification level in accordance with National Security Agency and Defense Intelligence Agency standards. This includes equipment necessary for connecting internal MCIOC IT infrastructure (voice, video, and data) with the existing Marine Corps Base Quantico support infrastructure. Transition to BLI 4620 in FY19. Combat Operations Center (COC) - The COC provides commanders with a rapidly deployable, common, modular, and scalable operational agency that facilitates command and control across the full spectrum of MAGTF operations. The AN/TSQ-239A Family of Systems (FoS) is designed to provide centralized C2 Operational Facilities (OPFAC) to collect, process, and disseminate tactical data for the commander and staff of a Marine Expeditionary Force (MEF), Division, Wing, Marine Logistics Group, Regiment, Marine Air Group, Battalion, and Squadron. The COC provides the commander with a Common Operational Picture (COP) and tactical data and communications assets needed to plan and conduct operations in an expeditionary combat environment. The system enables analytical and intuitive decision-making with a modular and scalable equipment set consisting of a common module OPFAC, C2 system, visual displays, and SW. Existing Tactical Data System software, previously resident on numerous platforms throughout the Marine Air Ground Task Force (MAGTF), have been re-hosted on the COC system to provide commanders with integrated data access and communications. COC program office will begin developing a design for an update to the current COC configuration called Next Generation Operational Facility (OPFAC). The Next Generation OPFAC will provide the MAGTF with a more agile and modular COC capability to better support future Expeditionary Advanced Based Operations (EABO) that require a smaller physical presence. In FY21 the Combat Operations Center (COC) requirements transitions into the Combat Data Network (CDN) BLI 4634 under the title Common Hosting Environment (CHE). Hand Held Command and Control (H2C2) - Provides the dismounted user at the tactical edge, a handheld devices that provides integrated, on-the-move, secure, timely, and relevant Command & Control/ Situational Awareness (C2/SA) information to tactical combat, combat support and combat service support commanders, leaders, and key C2 nodes. H2C2 provides leaders with a capability for selecting, managing, and assimilating relevant data and information. This allows them to pass orders and graphics that will provide the joint warfighter the capability to visualize the commander's intent and scheme of maneuver, and provide enhanced SA of friendly, reported enemy, neutral, and civilian entities.										
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Navy	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	115.123	78.699	32.933	-	32.933	14.314	14.898	15.193	15.501
NR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	2.158	2.198	0.780	-	0.780	0.027	0.027	0.029	0.030
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	117.281	80.897	33.713	-	33.713	14.341	14.925	15.222	15.531

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)						P-1 Line Item Number / Title: 4631 / Command Post Systems				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206313M, 0506313M				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Command Post Systems	P-5a, P-21			- / 1,032.636	- / 117.281	- / 80.897	- / 33.713	- / -	- / 33.713
P-40	Total Gross/Weapon System Cost				- / 1,032.636	- / 117.281	- / 80.897	- / 33.713	- / 0.000	- / 33.713
*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 2019: \$117.281M (\$115.123M Active, \$2.158M Reserves) Networking On The Move (NOTM): \$86.042M (\$86.035M Active; \$0.007M Reserves) - FY19 funds procured (24) NOTM-GCV systems and (20) NOTM-A systems. Funds also supported technology refresh kits in support of system reliability and provided support services for production, fielding and training. Global Command and Control System - Tactical Combat Operations (GCCS-TCO): \$2.955M Active - FY19 funding procured technical refresh of "workstations" (laptops/clients) across the operational forces. Joint Battle Command - Platform Family of Systems (JBC-P FoS): \$14.481M Active - FY19 funds continued support for items such as, software and hardware integration, hardware refresh, ancillary equipment, NET and field support, and procures Mounted Family of Computer Systems (MFoCS). Combat Operations Center (COC): \$13.803M (\$11.652M Active; \$2.151M Reserves) - FY19 funds required for hardware server refresh supporting existing software baseline. FY 2020: \$80.897 (\$78.699M Active, \$2.198M Reserve) Networking on the Move (NOTM): \$51.373M (\$51.359M Active, \$0.014M Reserve) - FY20 funding procures NOTM-GCV systems and NOTM-A aircraft modification kits. FY20 funding will also support tech refresh, as well as acquisition, fielding, and training support associated with production systems. Global Command and Control System - Tactical Combat Operations (GCCS-TCO): \$1.409M Active - FY20 funding procures Tactical COP Servers (TCS) and Tactical COP Workstations for the replenishment of currently fielded systems due to harsh field environment and obsolescence. Joint Battle Command - Platform Family of Systems (JBC-P FoS): \$8.159M Active - FY20 funding supports JLTV availability and will continue support for items such as, software and hardware integration, hardware refresh, ancillary equipment, NET and field support, and it will procure Mounted Family of Computer Systems (MFoCS). FY20 funding request is in accordance with the JBC-P hardware refresh cycle that occurs every two years (i.e. FY18, FY20). Combat Operations Center (COC): \$8.440M (\$6.256M Active, \$2.184M Reserves) - FY20 funds are required for hardware refresh activities in support of a common hardware baseline. Funding will also be used to align the COC software and hardware baseline with systems currently hosted within the COC in order to manage software growth and interoperability. Supporting the existing software baseline is necessary to maintain Authority To Operate (ATO) and integration with Tactical Service Oriented Architecture (TSOA), Joint Tactical Command Operational Picture (COP) Workstation (JTCW), and Command and Control Personal Computer (C2PC). Handheld Command and Control (H2C2): \$11.516M Active - The H2C2 program is now comprised of two increments which are procured and fielded separately. Increment I provides a dismounted C2SA capability at the squad level via a tethered connection to tactical radios and received a 1QFY20 fielding decision. FY20 PMC funded activities include fielding of Increment I systems starting in 1QFY20 and										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4631 / Command Post Systems
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0506313M
Line Item MDAP/MAIS Code: N/A		
continuing throughout the FY, and procurement of low rate initial production articles for the MAGTF Common Handheld Increment II End user Device. Prior to FY20 the H2C2 effort was captured under the JBCP-FoS Handheld End User Device Early Capability Release. FY 2021 Base Appropriation Request: \$33.713M (\$32.933M Active, \$0.780M Reserve) FY21 funds will primarily support the procurement of Qty 40 NOTM-A modification kits and Qty 9 NOTM-UTV systems. The NOTM-A modification kits are critical to maintaining command and control (C2) and operational awareness while moving throughout the battlespace. The NOTM-UTV systems integrate the NOTM capabilities onto an MV-22 transportable vehicle, providing increased operational speed and maneuverability while maintaining operational awareness. Remaining funding will support procurement of tech refresh equipment, fielding support, and naval integration efforts which include installing common NOTM hardware and software to integrate C2 onboard Naval L-Class ships. Decrease of \$18.417M from FY20 to FY21 reflects the completion of NOTM-GCV system procurements. Global Command and Control System - Tactical Combat Operations (GCCS TCO): \$0.753M (\$0.000M Active, \$0.753 Reserve) FY21 funds will be used to procure peripherals for the replenishment of currently fielded equipment due to harsh field conditions. The decrease of \$0.656M from FY20 to FY21 reflects alignment with procurement schedule for technical refresh of servers and workstations. Joint Battle Command - Platform Family of Systems (JBC-P FoS): The decrease of \$8.159M from FY20 to FY21 is due to the Marine Corps' concerted effort to modernize in accordance with the National Defense Strategy (NDS)/Defense Planning Guidance (DPG). Combat Operations Center (COC): \$0.004M FY21 funds efforts towards divestiture. Decrease of \$8.436M from FY20 to FY21 is due to the Marine Corps' concerted effort to modernize in accordance with the National Defense Strategy (NDS)/Defense Planning Guidance (DPG). Handheld Command and Control (H2C2): The decrease of \$11.516M from FY20 to FY21 reflects completed procurement of low rate initial production articles for the MAGTF Common Handheld Increment II End user Device and Marine Corps prioritization and modernization efforts reflected in the National Defense Strategy.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19						P-1 Line Item Number / Title: 4631 / Command Post Systems						Aggregated Items Title: Command Post Systems								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
1) JBC-P																				
1.1) Mounted Family of Computer Systems (MFoCS)	A		-	-	44.105	-	-	2.932	-	-	2.476	-	-	-	-	-	-	-	-	-
1.2) Ancillary Hardware Components	A		-	-	8.361	-	-	0.500	-	-	0.500	-	-	-	-	-	-	-	-	-
1.3) Hardware/ Software Integration, NET and Fielding Support			-	-	29.096	-	-	2.084	-	-	2.194	-	-	-	-	-	-	-	-	-
1.4) Hardware Refresh ⁽¹⁾	A		-	-	6.558	-	-	-	-	-	1.006	-	-	-	-	-	-	-	-	-
1.5) Joint Light Tactical Vehicle (JLTV) B-Kits	A		-	-	-	-	-	8.965	-	-	1.983	-	-	-	-	-	-	-	-	-
Subtotal: 1) JBC-P			-	-	88.120	-	-	14.481	-	-	8.159	-	-	-	-	-	-	-	-	-
2) GCCS-TCO																				
2.1) Refresh-Reserves ⁽²⁾	A		-	-	0.980	-	-	-	-	-	-	-	-	0.753	-	-	-	-	-	0.753
2.2) Hardware/ Software Refresh ⁽³⁾	A		-	-	16.126	-	-	2.955	-	-	1.409	-	-	-	-	-	-	-	-	-
Subtotal: 2) GCCS-TCO			-	-	17.106	-	-	2.955	-	-	1.409	-	-	0.753	-	-	-	-	-	0.753
3) NOTM																				
3.1) NOTM Reserves Refresh	A		-	-	0.001	-	-	0.007	-	-	0.014	-	-	0.027	-	-	-	-	-	0.027
3.2) Program and Systems, Support, Fielding, & Training ⁽⁴⁾	A		-	-	29.882	-	-	7.667	-	-	7.670	-	-	3.566	-	-	-	-	-	3.566
3.3) System Refresh/ Equipment Upgrades ⁽⁵⁾	A		-	-	65.704	-	-	11.620	-	-	11.969	-	-	4.092	-	-	-	-	-	4.092
3.4) Ground Combat Vehicles (GCV) Systems ^{(6)(†)}	A		1,503K	43	64.640	1,507K	24	36.168	1,507K	15	22.605	-	-	-	-	-	-	-	-	-
3.5) NOTM Airborne (NOTM-A) Systems ^(†)	A		1,529K	28	42.812	1,529K	20	30.580	-	-	-	-	-	-	-	-	-	-	-	-
3.6) NOTM Airborne Modification Kits ^{(7)(†)}	A		380,410.71	56	21.303	-	-	-	379,777.00	24	9.115	379,777.00	40	15.191	-	-	-	379,777.00	40	15.191
3.7) NOTM Utility Task Vehicle (UTV) Systems ^{(8)(†)}	A		-	-	-	-	-	-	-	-	-	1,120K	9	10.080	-	-	-	1,120K	9	10.080
Subtotal: 3) NOTM			-	-	224.342	-	-	86.042	-	-	51.373	-	-	32.956	-	-	-	-	-	32.956

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19									P-1 Line Item Number / Title: 4631 / Command Post Systems						Aggregated Items Title: Command Post Systems					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
4) COC																				
4.1) Program Management Support (V)1-4 ⁽⁹⁾			-	-	2.177	-	-	5.500	-	-	2.266	-	-	-	-	-	-	-	-	-
4.2) COC Refresh ⁽¹⁰⁾	A		-	-	14.432	-	-	6.152	-	-	3.990	-	-	0.004	-	-	-	-	-	0.004
4.3) Reserves COC Refresh ⁽¹¹⁾	A		-	-	1.679	-	-	2.151	-	-	2.184	-	-	-	-	-	-	-	-	-
Subtotal: 4) COC			-	-	18.288	-	-	13.803	-	-	8.440	-	-	0.004	-	-	-	-	-	0.004
5) H2C2																				
5.1) Dismounted Handheld Systems ^{(12)(†)}	A		-	-	-	-	-	-	9,210.00	1,250	11.513	-	-	-	-	-	-	-	-	-
5.2) Program Management Support	A		-	-	-	-	-	-	-	-	0.003	-	-	-	-	-	-	-	-	-
Subtotal: 5) H2C2			-	-	0.000	-	-	-	-	-	11.516	-	-	-	-	-	-	-	-	-
6) Prior Year Cumulative Funding																				
6.1) Prior Year Cumulative Funding	A		-	-	684.780	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 6) Prior Year Cumulative Funding			-	-	684.780	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	1,032.636	-	-	117.281	-	-	80.897	-	-	33.713	-	-	-	-	-	33.713
Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.																				
(†) indicates the presence of a P-5a																				
Footnotes:																				
(1) JBC-P FY20 funding request is in accordance with the JBC-P hardware refresh cycle that occurs every two years (i.e. FY18, FY20). The decrease in funding from FY20 to FY21 reflects the Marine Corps concerted effort to modernize in accordance with the National Defense Strategy (NDS) and Defense Planning Guidance (DPG).																				
(2) GCCS TCO Reserves: Increase of \$0.753M from FY20 to FY21 supports the procurement of peripherals for the replenishment of currently fielded equipment due to harsh field conditions.																				
(3) GCCS TCO: Decrease of \$1.409 from FY20 to FY21 aligns to the technical refresh cycle requirements.																				
(4) NOTM Program Support - decrease of \$4.104M from FY20 to FY21 aligns with decreased installation and fielding activities associated with the NOTM procurement schedule.																				
(5) NOTM Systems Refresh/Equipment Upgrades is for various components with varying quantities and prices. The decrease of \$7.877 from FY20 to FY21 aligns to reduction in equipment upgrades and technology refresh plans.																				
(6) NOTM-GCV Systems - decrease of \$22.605M from FY20 to FY21 reflects completion of GCV system procurement.																				
(7) NOTM-A Mod Kits - increase \$6.076M from FY20 to FY21 reflects increase in procurement quantities from 24 to 40.																				
(8) NOTM UTV Increase of \$10.080 from FY20 to FY21 reflects procurement quantity increase from 0 UTV systems to 9 UTV systems.																				
(9) COC: Program Management Support decrease of \$2.266M from FY20 to FY21 reflects divestiture of the COC program.																				
(10) COC: COC Refresh decrease of \$3.986M from FY20 to FY21 reflects divestiture of the COC program. In FY21 the Combat Operations Center (COC) requirements transitions into the Combat Data Network (CDN) program BLI 4634 under the title Common Hosting Environment (CHE).																				
(11) COC: Reserves COC Refresh decrease of \$2.184M from FY20 to FY21 reflects divestiture of the COC program.																				

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19	P-1 Line Item Number / Title: 4631 / Command Post Systems	Aggregated Items Title: Command Post Systems

⁽¹²⁾ Decrease of \$11.513M from FY20 to FY21 for Dismounted Handheld Systems reflects completed procurement of low rate initial production MCH Increment II end user devices. Systems are comprised of the end user device, peripherals, and associated software licenses. This program has no procurement funding beyond FY20.

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy								Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19			P-1 Line Item Number / Title: 4631 / Command Post Systems					Aggregated Items: Command Post Systems				
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
3) NOTM												
3.4) Ground Combat Vehicles (GCV) Systems ^{(6)(†)}		2016	SSC Atlantic / Charleston, SC	C / TBD	** NO PCO **	Oct 2015	Jan 2016	6	1,500K	N	Jan 2016	
3.4) Ground Combat Vehicles (GCV) Systems ^{(6)(†)}		2017	Defense Logistic Agency / Philadelphia, PA	Various	Philadelphia, PA	Sep 2017	Jun 2018	17	1,500K	Y		
3.4) Ground Combat Vehicles (GCV) Systems ^{(6)(†)}		2018	Defense Logistic Agency / Philadelphia, PA	Various	Philadelphia, PA	Jun 2018	Dec 2018	20	1,507K	N	Jan 2018	
3.4) Ground Combat Vehicles (GCV) Systems ^{(6)(†)}		2019	Defense Logistic Agency / Philadelphia, PA	Various	Philadelphia, PA	Feb 2019	Jun 2019	24	1,507K	N	Sep 2018	
3.4) Ground Combat Vehicles (GCV) Systems ^{(6)(†)}		2020	Defense Logistic Agency / Philadelphia, PA	Various	Philadelphia, PA	Jun 2020	Sep 2020	15	1,507K	N	Oct 2020	
3.5) NOTM Airborne (NOTM-A) Systems ^(†)		2015	ViaSat Inc.@Carlsbad, CA / Carlsbad, CA	C / TBD	** NO PCO **	Oct 2014	Dec 2014	4	1,529K	Y		
3.5) NOTM Airborne (NOTM-A) Systems ^(†)		2016	ViaSat Inc.@Carlsbad, CA / Carlsbad, CA	Various	Philadelphia, PA	Sep 2016	Nov 2016	6	1,529K	N	Apr 2016	
3.5) NOTM Airborne (NOTM-A) Systems ^(†)		2018	ViaSat Inc.@Carlsbad, CA / Carlsbad, CA	Various	Philadelphia, PA	Apr 2018	Jun 2018	18	1,529K	Y		
3.5) NOTM Airborne (NOTM-A) Systems ^(†)		2019	ViaSat Inc.@Carlsbad, CA / Carlsbad, CA	Various	Philadelphia, PA	Mar 2019	May 2019	20	1,529K	Y		
3.6) NOTM Airborne Modification Kits ^{(7)(†)}		2018	ViaSat Inc. / Carlsbad, CA	C / FFP	** NO PCO **	Apr 2018	Oct 2018	54	379,777.00	Y		
3.6) NOTM Airborne Modification Kits ^{(7)(†)}		2020	ViaSat Inc. / Carlsbad, CA	C / FFP	** NO PCO **	Nov 2019	May 2020	24	379,777.00	Y		
3.6) NOTM Airborne Modification Kits ^{(7)(†)}		2021	ViaSat Inc. / Carlsbad, CA	C / TBD	** NO PCO **	Oct 2020	Apr 2021	40	379,777.00	Y		
3.7) NOTM Utility Task Vehicle (UTV) Systems ^{(8)(†)}		2021	Defense Logistic Agency / Philadelphia, PA	C / TBD	** NO PCO **	Oct 2020	Jun 2021	9	1,120K	Y		
5) H2C2												
5.1) Dismounted Handheld Systems ^{(12)(†)}		2020	TBD / TBD	MIPR	ARMDEC, AL	Sep 2020	Mar 2021	1,250	9,210.00	N	Sep 2020	Jan 2020
†) indicates the presence of a P-21												

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Exhibit P-21, Production Schedule: PB 2021 Navy			Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19		P-1 Line Item Number / Title: 4631 / Command Post Systems			Aggregated Items: Command Post Systems

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	SSC Atlantic - Charleston, SC		23	40	0	0	7	7	0	0	3	3
2	Defense Logistic Agency - Philadelphia, PA		23	40	0	0	3	3	0	0	3	3
3	ViaSat Inc.@Carlsbad, CA - Carlsbad, CA		20	20	0	0	2	2	0	0	2	2
4	ViaSat Inc. - Carlsbad, CA		54	54	0	0	6	6	0	0	6	6
5	Defense Logistic Agency - Philadelphia, PA		25	25	0	0	8	8	0	0	8	8
6	TBD - TBD			TBD	0	0	0	0	0	0	0	0

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

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

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

Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)	P-1 Line Item Number / Title: 4633 / Radio Systems

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0605873M, 0506313M

Line Item MDAP/MAIS Code: 000

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	671.301	231.619	213.218	343.250	0.000	343.250	530.487	570.001	585.814	386.927	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	671.301	231.619	213.218	343.250	0.000	343.250	530.487	570.001	585.814	386.927	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	671.301	231.619	213.218	343.250	0.000	343.250	530.487	570.001	585.814	386.927	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

This budget line item procures radios, radio systems, satellite communications systems, and associated equipment.

Global Broadcast Service (GBS): GBS is a smart-push/user-pull Satellite Communication (SATCOM) system that provides large volumes of information to deployed, or garrison forces. The AN/TSR-9 and AN/TSR-11 receives and disseminates GBS broadcasts at up to 45 Mbps, and is capable of processing both classified and unclassified information products such as: imagery, intelligence, video (NTSC and Digital), theater message traffic, Joint and service-unique news, weather and MWR programming. Each Transportable Ground Receive Suite (TGRS) consists of a Receive Terminal (including a 1-meter parabolic dish antenna), Receive Broadcast Manager Server, Power Controller Unit, Crypto Device (KG-250), Integrated Receiver-Decoder (for NTSC video), Managed Ethernet Switch, Unmanaged Ethernet Switch, Video Converter, and transit cases. The Portable Receive Suite (PRS) is a man-portable ground station single enclave (Classified or Unclassified) receive suite. The PRS can be connected to a LAN with the addition of a user supplied Ethernet switch. The PRS receives information products broadcasted through the Global Broadcast Service (GBS) via the Ka-band transponders via the Wideband Global SATCOM (WGS) satellites' Ka-band downlink transponders.

Very Small Aperture Terminal (VSAT): The VSAT Family of Systems (FoS) provides wideband, beyond-line-of-sight (BLOS), low-cost satellite communications to Marine Air-Ground Task Force (MAGTF) commanders from the Major Subordinate Command to Battalion levels. The VSAT FoS provides the RF communications link in support of the transfer of voice, video, and data services.

Secure Mobile Anti-Jam Reliable Tactical-Terminal (SMART-T): SMART-T provides tactical users with protected data and voice via Advanced Extremely High Frequency (AEHF) satellite communications. The SMART-T system is transported on High Mobility Multipurpose Wheeled Vehicles (HMMWVs), providing MAGTF Commanders a secure, survivable, long-haul, low/medium data rate communications link not subject to terrain masking and horizon limitations. The SMART-T is the only USMC asset that possesses a SATCOM AEHF capability.

Military Global Positioning System (GPS) User Equipment (MGUE) (formerly DAGR): MGUE efforts are focused on increasing the resiliency and assurance of Positioning, Navigation, and Timing (PNT) capabilities across the enterprise, which enable Marine Air/Ground Task Force (MAGTF) Commanders to know and trust position, effectively navigate, and receive precise and accurate timing for users, platforms, and systems across warfighting functions. Current MGUE efforts will enable the Marine Corps to transition to the modernized military GPS signal (M-Code) through participation in both Air Force-led MGUE Increment I and Increment II programs. Increment I will deliver a receiver card capable of being embedded and integrated within a variety of USMC platforms and end items, while Increment II will deliver the next generation handheld device and will replace the Defense Advanced GPS Receiver (DAGR). Under the MGUE program, the Marine Corps will continuously test, evaluate, and facilitate integration of PNT solutions across platforms and devices.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)						P-1 Line Item Number / Title: 4633 / Radio Systems				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206313M, 0605873M, 0506313M				
Line Item MDAP/MAIS Code: 000										
Tactical Communications Modernization (TCM): TCM addresses the requirements to enhance, replace, and sustain tactical radio systems while achieving interoperability and minimizing the affects of equipment obsolescence. TCM enables Command, Control (C2) and situational awareness at all echelons and elements of the MAGTF. TCM provides for Line of Sight (LOS), Beyond Line of Sight (BLOS) secure voice, and data, operating in frequency bands from 1.6MHz to 2.5GHz. TCM procurements enable joint interoperability, mobile networking, and support National Security Agency (NSA) Communications Security (COMSEC) Modernization requirements down to the squad level. Terrestrial Wideband Transmission Systems (TWTS): TWTS is a capabilities portfolio that provides the Marine Air Ground Task Force (MAGTF) with a continued capability of secure Beyond Line of Sight (BLOS) and Line of Sight (LOS) terrestrial digital data transmission. The BLOS systems include the Army/Navy Transportable Radio Communications-170A (AN/TRC-170A) and its replacement system the Next Generation Troposcatter (NGT). The NGT capability will provide a high bandwidth communications data link to support remote locations where satellite communication is not available. The LOS systems include the Army-Navy/Mobile Radio Communications (AN/MRC-142), Wireless Point to Point Link (WPPL), Tactical Elevated Antenna Mast (TEAMS), and the future Line-of-Site Radio System Family of Systems (LRS FoS) which will include both Radio Frequency (RF) and Optical capabilities. In FY21, to align with the Marine Corps Strategy for assured Command and Control requirements and to meet technology readiness requirements, the Line of Site Replacement (LOS-R) will begin to transition to the LRS FoS. The LRS FoS programs will meet shore-to-shore (RF and Optical capabilities) and shore-to ship (RF capability) operational requirements as well as provide spectrum diversity and flexibility. The RF capability will provide secure RF PTP and PMP digital connectivity for voice and data traffic while the Optical capability provides a Low Probability of Intercept (LPI)/ Low Probability of Detection (LPD) communication pathway and increased data throughput. [P40A / Tech Refresh (Reserve)]: SMART-T Tech Refresh (Reserve): Increase of \$.013M from FY20 to FY21 supports refresh of various elements to mitigate obsolescence issues. [P40A / Line of Sight Replacement (LOS-R) Mast Trailer]: TWTS LOS-R Mast Trailer: Based on acquisition strategy change, program office is no longer procuring the Mast Trailer in FY20; new strategy is to procure in FY23 to support validation and verification for integration of the mast onto the JLTV trailer.										
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Navy	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	231.619	213.218	308.818	-	308.818	530.487	570.001	585.814	386.836
NR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	34.432	-	34.432	-	-	-	0.091
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	231.619	213.218	343.250	-	343.250	530.487	570.001	585.814	386.927

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)						P-1 Line Item Number / Title: 4633 / Radio Systems				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A			Other Related Program Elements: 0206313M, 0605873M, 0506313M			
Line Item MDAP/MAIS Code: 000										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Radio Systems	P-5a, P-21			- / 671.301	- / 231.619	- / 213.218	- / 343.250	- / -	- / 343.250
P-40	Total Gross/Weapon System Cost				- / 671.301	- / 231.619	- / 213.218	- / 343.250	- / 0.000	- / 343.250
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. 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 2019: \$231.619M Global Broadcast Service (GBS): \$1.815M - Funding procured planned hardware tech refresh efforts to mitigate obsolescence issues. Funding also provided for fielding efforts and program support. Very Small Aperture Terminal (VSAT): \$7.567M - Funding provided for system tech refreshes and upgrades, such as the Master Reference Terminal (MRT), servers, and switches to continue mitigation of end-of-life/end-of-support and obsolescence issues; and program support. Secure Mobile Anti-Jam Reliable Tactical-Terminal (SMART-T): \$0.778M - Funding allocated to procure tech refresh components, such as digital transmitter and circuit card assemblies, to mitigate end of life/end of sale and obsolescence issues until Next Generation (NEXGEN) Advanced Extremely High Frequency (AEHF) solution is identified. Funding also provided for program support. Military Global Positioning System (GPS) User Equipment (MGUE): \$0.531M - Funding procured ancillary components such as cables and logistics support. Tactical Communications Modernization (TCM): \$184.285M - provided the ability to procure multiple families of radio systems which support the primary voice and data communication requirements for the operational forces, fielding requirements, and program support. Funds supported completion of the MUOS FW and MUOS antenna procurements (\$75.020M) which replaced aging Ultra High Frequency (UHF) tactical satellite capabilities; and initial procurement of High Frequency Radio II (HFR II) systems (\$93.643M) which replaces aging legacy HFR systems to meet the National Security Agency (NSA) mandate for Communications Security (COMSEC) modernization with approved cryptographic products and is considered a high priority in the TCM portfolio. Remaining funds (\$15.622M) procured fielding/production support and ancillaries/accessories components. Terrestrial Wideband Transmission System (TWTS): \$36.643M - Funding supports procurement of NGT assets as well as associated ancillary components and program support. NGT replaces the AN/TRC-170A system that is facing severe diminishing manufacturing sources and material shortages (DMSMS) and will provide C and X band alternative satellite communication frequencies. FY 2020: \$213.218M Global Broadcast Service (GBS): \$3.764M - \$2M Congressional add funding will procure 16 GBS Receive Suites (AN/PRS-11) to support the Modeled Meteorological Information Manager (MMIM) program. Remaining \$1.096M will continues to procure hardware to support planned tech refresh efforts and programmatic support. Very Small Aperture Terminal (VSAT): \$15.957M - Funding enables acceleration for procurement of (89) Marine Corps Wideband Satellite - Expeditionary (MCWS-X) production assets, which will provide the warfighter with a man-packable, lighter, smaller, and more capable terminal. Funding also supports procurement of ancillary components, such as tech manuals, training manuals, and sparing.										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4633 / Radio Systems
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0605873M, 0506313M
Line Item MDAP/MAIS Code: 000		
Secure Mobile Anti-Jam Reliable Tactical-Terminal (SMART-T): \$0.000M - Decrease from FY19 to FY20 of \$0.778M reflects the realignment of funding to support higher Marine Corps requirements to better align with the National Defense Strategy.		
Military Global Positioning System (GPS) User Equipment (MGUE): \$7.965M - Funding supports transition from DAGR to MGUE, adding to the M-Code capability.		
Tactical Communications Modernization (TCM): \$156.965M - Funding continues to provide for the procurement of multiple families of radio systems which support the primary voice and data communication requirements for the operational forces. Funding will complete procurement of High Frequency Radio II (HFR II) Manpack capability, and initiate procurement of the HFR II Vehicle Radio Communication (VRC), Mobile Radio Communication (MRC) and Transportable Radio Communication (TRC) capabilities (\$96.830M). Funding will also initiate procurement of Multi-Channel Manpack (MCMP) capabilities (\$40.975M), spares for radio systems (\$13.229M); fielding/production support and ancillaries/accessories components (\$5.931M). HFR II replaces aging legacy HFR systems to meet the National Security Agency (NSA) mandate for Communications Security (COMSEC) modernization with approved cryptographic products and the procurement is considered the higher priority of the TCM portfolio. MCMP replaces legacy single channel radios to meet the NSA mandate for COMSEC modernization. During multiple field user evaluations/testing events significant temperature concerns were realized causing a procurement delay of the MCMP and MCHH radios from FY20 to FY21.		
Terrestrial Wideband Transmission System (TWTS): \$28.567M - Funding supports procurement of LOS-R radios, ancillary components, and masts as well as engineering and program support for the TWTS portfolio. The LOS-R radio procurement enables the Marine Corps to mitigate sustainment issues and readiness concerns due to component obsolescence and end-of-life/end-of-sale (EOL/EOS) of the AN/MRC-142 and WPPL-T. The LOS-R system ensures interoperability with the Navy and is compatible with the Army's TRILOS system.		
FY 2021 Base Appropriation Request: \$343.250M		
Global Broadcast Service (GBS): \$6.294M - Funding will support hardware tech refresh efforts to mitigate obsolescence issues as well as program and fielding support. Increase of \$2.530M from FY20 to FY21 procures multiple antennas, such as the Third Generation Receive Terminal antenna, or the Parabolic Dish antenna, at multiple unit costs, to support refresh and upgrades to fielded GBS systems, and fielding efforts.		
Very Small Aperture Terminal (VSAT): \$14.602M - Funding will procure remaining 47% (80) MCWS-X systems to meet the Approved Acquisition Objective (AAO). In addition, funding will continue to provide for ancillary components and fielding support. Decrease of \$1.355M from FY20 to FY21 is due to procurement of 9 less MCWS-X systems in FY21 and thus achieving AAO requirement.		
Secure Mobile Anti-Jam Reliable Tactical-Terminal (SMART-T): \$1.552M (\$1.539M Base; \$.013M Reserve) - Increase of \$1.552M from FY20 to FY21 will support tech refresh to mitigate EOL/EOS obsolescence issues. Funding allocated to procure and support tech refresh components, such as digital transmitter and circuit card assemblies, to mitigate EOL/EOS and obsolescence issues until NEXGEN AEHF solution is identified.		
Military Global Positioning System (GPS) User System (MGUE): \$0.150M - Decrease of \$7.815M from FY20 to FY21 reflects a transition to the development phase of the Positioning, Navigation, and Timing (PNT) capabilities; remaining \$0.150M will continue to support Increment I integration and ancillary equipment.		
Tactical Communications Modernization (TCM): \$264.421M (\$230.002M Base; \$34.419M Reserve) - Funding will continue to provide for the procurement of multiple families of radio systems which support the primary voice and data communication requirements for the operational forces. Funding will support procurement of Multi-Channel Manpack (MCMP) and MCMP VRC capabilities, Multi-Channel Hand Held (MCHH) and MCHH Vehicle Integration Kit (VIK) capabilities; and fielding/production support and ancillaries/accessories components. HFR II replaces aging legacy HFR systems to meet the National Security Agency (NSA) mandate for Communications Security (COMSEC) modernization with approved cryptographic products. Multi-Channel Radio Family of Systems (MCR FoS), MCMP and MCHH, replaces legacy single channel radios to meet the NSA mandate for COMSEC modernization. Increase of \$107.456M from FY20 to FY21 supports the procurement of the remaining MCMP systems and the initial procurement of MCHH systems.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4633 / Radio Systems
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0605873M, 0506313M
Line Item MDAP/MAIS Code: 000		
Terrestrial Wideband Transmission System (TWTS): \$56.231M - Funding supports procurement of (45) Line of Sight Replacement radios; remaining 39% of total Approved Acquisition Objective (AAO); and program and fielding support. In FY21, to align with the Marine Corps Strategy for assured Command and Control requirements and to meet technology readiness requirements, the Line of Site Replacement (LOS-R) will begin to transition to the Line-of-Site Radio System (LRS) Family of Systems (FoS). The LRS FoS will encompass both Radio Frequency (RF) and Optical transmission capabilities through different configurations of radio, optical and mast components. Additionally, funds will procure (122) LRS FoS Mobile Radio Communication (MRC) RF capability radios. Increase of \$27.664M from FY20 to FY21 supports procurement of 25% of the Approved Acquisition Objective (AAO) of the LRS MRC RF capability radios.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy														Date: February 2020						
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19							P-1 Line Item Number / Title: 4633 / Radio Systems							Aggregated Items Title: Radio Systems						
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
1) Global Broadcast Service (GBS)																				
1.1) Program /Training Support ⁽¹⁾			-	-	1.954	-	-	0.655	-	-	0.667	-	-	0.192	-	-	-	-	-	0.192
1.2) AN/PRS-11 ^(†)	A		-	-	-	-	-	-	125,000.00	16	2.000	-	-	-	-	-	-	-	-	-
1.3) Tech Refresh ⁽²⁾	A		-	-	0.709	-	-	1.160	-	-	1.097	-	-	5.702	-	-	-	-	-	5.702
1.4) Fielding Support ⁽³⁾			-	-	0.195	-	-	-	-	-	-	-	-	0.400	-	-	-	-	-	0.400
Subtotal: 1) Global Broadcast Service (GBS)			-	-	2.858	-	-	1.815	-	-	3.764	-	-	6.294	-	-	-	-	-	6.294
2) Very Small Aperture Terminal (VSAT)																				
2.1) Logistics/Fielding/ Training Support ⁽⁴⁾			-	-	0.729	-	-	1.253	-	-	0.958	-	-	1.820	-	-	-	-	-	1.820
2.2) VSAT Tech Refresh and Upgrade	A		-	-	8.567	-	-	6.314	-	-	-	-	-	-	-	-	-	-	-	-
2.3) MCWS-X ^{(5)(†)}	A		-	-	-	-	-	-	150,000.00	89	13.350	150,000.00	80	12.000	-	-	-	150,000.00	80	12.000
2.5) MCWS Ancillary Components ⁽⁶⁾	A		-	-	-	-	-	-	-	-	1.649	-	-	0.782	-	-	-	-	-	0.782
Subtotal: 2) Very Small Aperture Terminal (VSAT)			-	-	9.296	-	-	7.567	-	-	15.957	-	-	14.602	-	-	-	-	-	14.602
3) Secure Moblie Anti-Jam Reliable Tactical - Terminal (SMART-T)																				
3.1) Tech Refresh ⁽⁷⁾	A		-	-	1.328	-	-	0.778	-	-	-	-	-	1.539	-	-	-	-	-	1.539
3.2) Tech Refresh (Reserve)	A		-	-	-	-	-	-	-	-	-	-	-	0.013	-	-	-	-	-	0.013
Subtotal: 3) Secure Moblie Anti-Jam Reliable Tactical - Terminal (SMART-T)			-	-	1.328	-	-	0.778	-	-	-	-	-	1.552	-	-	-	-	-	1.552
4) Military GPS User Equipment (MGUE)																				
4.1) Ancillary Components (cables, cards, antennas, etc.) ⁽⁸⁾	A		-	-	1.469	-	-	0.350	-	-	3.777	-	-	0.150	-	-	-	-	-	0.150
4.2) MGUE ECPs ⁽⁹⁾	A		-	-	-	-	-	-	-	-	1.436	-	-	-	-	-	-	-	-	-
4.3) Engineering/ Program Support ⁽¹⁰⁾			-	-	-	-	-	0.181	-	-	2.752	-	-	-	-	-	-	-	-	-
Subtotal: 4) Military GPS User Equipment (MGUE)			-	-	1.469	-	-	0.531	-	-	7.965	-	-	0.150	-	-	-	-	-	0.150
5) Tactical Communications Modernization (TCM)																				
5.1) Engineering, Fielding & Program Support			-	-	40.075	-	-	4.013	-	-	3.138	-	-	3.203	-	-	-	-	-	3.203

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19							P-1 Line Item Number / Title: 4633 / Radio Systems							Aggregated Items Title: Radio Systems						
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
5.2) Ancillary and Accessory Components ⁽¹¹⁾	A		-	-	8.512	-	-	11.609	-	-	2.794	-	-	21.620	-	-	-	-	-	21.620
5.3) MBR II MUOS ^(†)	A		9,676.00	1,000	9.676	8,817.05	6,977	61.517	-	-	-	-	-	-	-	-	-	-	-	-
5.4) MUOS Antennas ^(†)	A		3,371.82	2,165	7.300	3,102.70	4,352	13.503	-	-	-	-	-	-	-	-	-	-	-	-
5.5) HFR II Manpack ^{(12)(†)}	A		-	-	-	23,364.02	4,008	93.643	23,624.00	611	14.434	-	-	-	-	-	-	-	-	-
5.6) HFR II VRC ^{(13)(†)}	A		-	-	-	-	-	-	32,250.00	749	24.155	-	-	-	-	-	-	-	-	-
5.7) HFR II MRC ^{(14)(†)}	A		-	-	-	-	-	-	32,500.00	1,044	33.930	-	-	-	-	-	-	-	-	-
5.8) HFR II TRC ^{(15)(†)}	A		-	-	-	-	-	-	32,500.00	748	24.310	-	-	-	-	-	-	-	-	-
5.9) MCMP ^{(16)(†)}	A		-	-	-	-	-	-	55,000.00	745	40.975	55,000.00	713	39.215	-	-	-	55,000.00	713	39.215
5.10) MCMP VRC ^{(17)(†)}	A		-	-	-	-	-	-	-	-	-	92,000.00	541	49.772	-	-	-	92,000.00	541	49.772
5.11) MCHH ^{(18)(†)}	A		-	-	-	-	-	-	-	-	-	18,000.00	3,784	68.112	-	-	-	18,000.00	3,784	68.112
5.12) MCHH VIK ^{(19)(†)}	A		-	-	-	-	-	-	-	-	-	37,000.00	745	27.565	-	-	-	37,000.00	745	27.565
5.13) TCM Ground Radios Sparing (IIP) ⁽²⁰⁾	A		-	-	-	-	-	-	-	-	13.229	-	-	20.515	-	-	-	-	-	20.515
5.15) MCMP (Reserve) ^{(21)(†)}	A		-	-	-	-	-	-	-	-	-	55,000.00	70	3.850	-	-	-	55,000.00	70	3.850
5.16) MCHH (Reserve) ^{(22)(†)}	A		-	-	-	-	-	-	-	-	-	18,024.60	569	10.256	-	-	-	18,024.60	569	10.256
5.17) MCHH VIK (Reserve) ^(†)	A		-	-	-	-	-	-	-	-	-	37,000.00	549	20.313	-	-	-	37,000.00	549	20.313
Subtotal: 5) Tactical Communications Modernization (TCM)			-	-	65.563	-	-	184.285	-	-	156.965	-	-	264.421	-	-	-	-	-	264.421
6) Terrestrial Wideband Transmission Systems (TWTS)																				
6.1) Engineering and Program Support ⁽²³⁾			-	-	3.889	-	-	1.819	-	-	1.757	-	-	2.614	-	-	-	-	-	2.614
6.2) Next Generation Troposcatter (NGT) X and C Band ^(†)	A		-	-	-	960,674.00	35	33.624	-	-	-	-	-	-	-	-	-	-	-	-
6.3) Line of Sight Replacement (LOS-R) Radios ^{(24)(†)}	A		-	-	-	-	-	-	255,000.00	102	26.010	255,000.00	47	11.985	-	-	-	255,000.00	47	11.985

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19						P-1 Line Item Number / Title: 4633 / Radio Systems									Aggregated Items Title: Radio Systems					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
6.5) Ancillary Components ⁽²⁵⁾	A		-	-	-	-	-	0.400	-	-	0.402	-	-	-	-	-	-	-	-	-
6.6) Fielding/NET Support ⁽²⁶⁾			-	-	-	-	-	0.800	-	-	0.398	-	-	1.732	-	-	-	-	-	1.732
6.7) LRS FoS MRC (RF Capability) ⁽²⁷⁾	A		-	-	-	-	-	-	-	-	-	275,000.00	122	33.550	-	-	-	275,000.00	122	33.550
6.9) LRS FoS Standalone Optical ^{(28)(†)}	A		-	-	-	-	-	-	-	-	-	775,000.00	6	4.650	-	-	-	775,000.00	6	4.650
6.10) LRS FoS MRC (Optical Capability) ^{(29)(†)}	A		-	-	-	-	-	-	-	-	-	850,000.00	2	1.700	-	-	-	850,000.00	2	1.700
Subtotal: 6) Terrestrial Wideband Transmission Systems (TWTS)			-	-	3.889	-	-	36.643	-	-	28.567	-	-	56.231	-	-	-	-	-	56.231
7) Prior Year Cumulative Funding																				
7.1) Prior Year Cumulative Funding	A		-	-	586.898	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 7) Prior Year Cumulative Funding			-	-	586.898	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	671.301	-	-	231.619	-	-	213.218	-	-	343.250	-	-	-	-	-	343.250

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

(†) indicates the presence of a P-5a

Footnotes:

- (1) GBS Program/Training Support - Decrease of \$0.475M from FY20 to FY21 is due to procuring multiple antennas, such as the Third Generation Receive Terminal antenna, or the Parabolic Dish antenna, at multiple unit costs, to support refresh and upgrades to fielded GBS systems, and fielding efforts.
- (2) GBS Tech Refresh: Increase of \$4.605M from FY20 to FY21 procures multiple antennas such as the Third Generation Receive Terminal antenna and the Parabolic Dish antenna which have varying unit costs, to support refresh and upgrades to fielded GBS systems.
- (3) GBS Fielding Support - Increase of \$0.400M from FY20 to FY21 supports fielding costs associated with procurement of multiple antennas, such as the Third Generation Receive Terminal antenna, or the Parabolic Dish antenna as well as upgraded equipment.
- (4) VSAT Logistics/Fielding/Training Support - Increase of \$0.862M from FY20 to FY21 supports MRT refresh fielding efforts occurring Q1 FY21 through Q3 FY21.
- (5) VSAT MCWS-X: Decrease of \$1.350M from FY20 to FY21 supports procurement of remaining (80) MCWS-X systems; 47% of Approved Acquisition Objective (AAO). The MCWS-X will provide the warfighter with a man-packable, lighter, smaller, and more capable terminal.
- (6) VSAT MCWS Ancillary Components: Decrease of \$0.867M from FY20 to FY21 reflects reduction in tech manuals, training manuals, and sparing requirements.
- (7) SMART-T Tech Refresh: Increase of \$1.539M from FY20 to FY21 will support tech refresh to mitigate EOL/EOS obsolescence issues.
- (8) MGUE Ancillary Components: Decrease of \$3.627M from FY20 to FY21 reflects transition to the development phase of the Positioning, Navigation, and Timing (PNT) capabilities.
- (9) MGUE ECPS: Decrease of \$1.436M from FY20 to FY21 reflects transition to the development phase of the Positioning, Navigation, and Timing (PNT) capabilities.
- (10) MGUE Engineering/Program Support: Decrease of \$2.752M from FY20 to FY21 reflects transition to the development phase of the Positioning, Navigation, and Timing (PNT) capabilities.
- (11) TCM Ancillary and Accessory Components: Increase of \$18.826 from FY20 to FY21 increase is due to procurement of components to replace obsolete items (e.g. Vehicular Amplifier Adaptor) in the systems and procurement of radio system GPS components and procures more of the Vehicular Amplifier.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19	P-1 Line Item Number / Title: 4633 / Radio Systems	Aggregated Items Title: Radio Systems
(12) TCM HFR II Manpack: Due to funding adjustments within the year of execution, HFR II MP buy was adjusted across two years and will complete in FY20. (13) TCM HFR II VRC: Cost savings is expected in unit cost due to reutilization of certain fielded VRC parts, updated cost estimate includes RT, adaptor, and other costs. The Marine Corps considers HFR II the higher priority in the TCM portfolio for procurement and is indicative of the adjustments to FY20 and FY21 funding adjustments in each of the cost elements. (14) TCM HFR II MRC: Cost savings is expected in unit cost due to reutilization of certain fielded MRC parts, updated cost estimate includes RT, adaptor, and other costs. The Marine Corps considers HFR II the higher priority in the TCM portfolio for procurement and is indicative of the adjustments to FY20 and FY21 funding adjustments. (15) TCM HFR II TRC: Cost savings is expected in unit cost due to reutilization of certain fielded TRC parts. Updated cost estimate includes RT, adaptor, and other costs. The Marine Corps considers HFR II the higher priority in the TCM portfolio for procurement indicative of the adjustments to FY20 and FY21 funding adjustments. (16) TCM MCMP: During multiple field user evaluations/testing events significant temperature concerns were realized causing a procurement delay of the MCMP radios from FY20 to FY21. (17) TCM MCMP VRC: Due to HFR II cost savings, MCMP VRC current AAO will be procured in FY21. (18) TCM MCHH: During multiple field user evaluations/testing events significant temperature concerns were realized causing a procurement delay of the MCHH radios from FY20 to FY21. (19) TCM MCHH VRC: Increase of \$27.565M from FY20 to FY21 reflects initial procurement of Qty 745 systems. (20) TCM Ground Radios Sparing: Increase of \$7.286M from FY20 to FY21 supports sparing procurement to include HFR II MP systems. (21) MCMP (Reserve) - Increase of \$3.850M from FY20 to FY21 reflects procurement of Qty 70 MCMP systems in support of reserve units. (22) MCHH (Reserve) - Increase of \$10.256M from FY20 to FY21 reflects procurement of Qty 569 MCHH systems in support of reserve units. (23) TWTS Engineering and Program Support: Increase of \$0.857M from FY20 to FY21 supports development of Line-of-Sight Radio System (LRS) Family of Systems (FoS) logistics products such as technical data packages, provisioning data, and initial integration efforts. (24) TWTS LOS-R Radios: Acquisition strategy change to delay procurement of the Mast trailer to support integration onto the JLTV trailer in FY23 enables the program office to procure 61% of LOS-R radio AAO in FY20 and remaining 39% in FY21. Unit cost increase from the previous budget submission is a result of inadvertent swap in unit costs between the LOS-R radio and the LOS-R mast trailer, unit cost of \$255K is in accordance with current Army procurement contract. In FY21, to align with the Marine Corps Strategy for assured Command and Control requirements and to meet technology readiness requirements, the Line of Site Replacement (LOS-R) will begin to transition to the Line-of-Site Radio System (LRS) Family of Systems (FoS). (25) TWTS Ancillary Components: Decrease of \$0.402 from FY20 to FY21 supports completion of refurbishment of initial Next Generation Troposcatter (NGT) systems in preparation for fielding. (26) TWTS Fielding/Net Support: Increase of \$1.334M from FY20 to FY21 supports NGT and LRS MRC (RF Capability) fielding and NET requirements. (27) TWTS LRS MRC (RF Capability): In FY21, to align with the Marine Corps Strategy for assured Command and Control requirements and to meet technology readiness requirements, the Line of Site Replacement (LOS-R) will begin to transition to the Line-of-Site Radio System (LRS) Family of Systems (FoS). Increase of \$33.550M from FY20 to FY21 supports procurement of 122 LRS Mobile Radio Communication (MRC) Radio Frequency (RF) capability to support increased radio communication capabilities. (28) TWTS LRS FoS Standalone Optical: In FY21, to align with the Marine Corps Strategy for assured Command and Control requirements and to meet technology readiness requirements, the Line of Site Replacement (LOS-R) will begin to transition to the Line-of-Site Radio System (LRS) Family of Systems (FoS). Increase of \$4.650M from FY20 to FY21 support initial procurement of the standalone optical system. (29) TWTS MRC (Optical Capability): In FY21, to align with the Marine Corps Strategy for assured Command and Control requirements and to meet technology readiness requirements, the Line of Site Replacement (LOS-R) will begin to transition to the Line-of-Site Radio System (LRS) Family of Systems (FoS). Increase of \$1.700M from FY20 to FY21 supports initial procurement of the LRS MRC optical capability for verification and validation events.		

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19				P-1 Line Item Number / Title: 4633 / Radio Systems					Aggregated Items: Radio Systems			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1) Global Broadcast Service (GBS)												
1.2) AN/PRS-11		2020	General Dynamics / Taunton, MA	C / CPFF	Taunton, MA	Oct 2019	Apr 2020	16	125,000.00	Y		
2) Very Small Aperture Terminal (VSAT)												
2.3) MCWS-X ^{(5)(†)}		2020	TBD / TBD	C / TBD	TBD	Jun 2020	Sep 2020	89	150,000.00	Y		
2.3) MCWS-X ^{(5)(†)}		2021	TBD / TBD	TBD	TBD	Jan 2021	Apr 2021	80	150,000.00	Y		
5) Tactical Communications Modernization (TCM)												
5.3) MBR II MUOS ^(†)		2016	Harris Corp / Rochester, NY	C / IDIQ	PRP	May 2018	Sep 2018	24	9,676.00	Y		Oct 2017
5.3) MBR II MUOS ^(†)		2018	Harris Corp / Rochester, NY	C / IDIQ	PRP	May 2018	Sep 2018	850	9,676.00	Y		May 2018
5.3) MBR II MUOS ^(†)		2019	Harris Corp / Rochester, NY	C / IDIQ	PRP	Dec 2018	Mar 2019	6,977	8,817.05	Y		May 2018
5.4) MUOS Antennas ^(†)		2018	Harris Corp / Rochester, NY	C / IDIQ	PRP	May 2018	Oct 2018	2,165	3,372.00	Y		May 2018
5.4) MUOS Antennas ^(†)		2019	Harris Corp / Rochester, NY	C / IDIQ	PRP	Dec 2018	Mar 2019	4,352	3,102.70	Y		May 2018
5.5) HFR II Manpack ^{(12)(†)}		2019	Harris Corp / Rochester, NY	C / IDIQ	Navy PRP	Sep 2019	Jan 2020	4,008	23,364.02	Y		
5.5) HFR II Manpack ^{(12)(†)}		2020	Harris Corp / Rochester, NY	C / IDIQ	MCSC	Mar 2020	Jul 2020	611	23,624.00	Y		Jun 2019
5.6) HFR II VRC ^{(13)(†)}		2020	Harris Corp / Rochester, NY	C / IDIQ	MCSC	Mar 2020	Jul 2020	749	32,250.00	Y		Jun 2019
5.7) HFR II MRC ^{(14)(†)}		2020	Harris Corp / Rochester, NY	C / IDIQ	MCSC	Mar 2020	Jul 2020	1,044	32,500.00	Y		Jun 2019
5.8) HFR II TRC ^{(15)(†)}		2020	Harris Corp / Rochester, NY	C / IDIQ	MCSC	Mar 2020	Jul 2020	748	32,500.00	Y		Feb 2019
5.9) MCMP ^{(16)(†)}		2020	TBD / TBD	C / IDIQ	United States Army, PEO C3T, HMS	Aug 2020	Nov 2020	745	55,000.00	Y		
5.9) MCMP ^{(16)(†)}		2021	TBD / TBD	C / TBD	United States Army, PEO C3T, HMS	Jun 2021	Sep 2021	713	55,000.00	Y		
5.10) MCMP VRC ^{(17)(†)}		2021	TBD / TBD, United States Army, PEO C3T	C / IDIQ	** NO PCO **	Jun 2021	Sep 2021	541	92,000.00	Y		
5.11) MCHH ^{(18)(†)}		2021	TBD / TBD, United States Army, PEO C3T	C / IDIQ	APG, MD	Jul 2021	Oct 2021	3,784	18,000.00	Y		
5.12) MCHH VIK ^{(19)(†)}		2021	TBD / TBD, United States Army, PEO C3T	C / IDIQ	** NO PCO **	Jul 2021	Oct 2021	745	37,000.00	Y		
5.15) MCMP (Reserve) ⁽²¹⁾		2021	TBD / TBD	C / IDIQ	** NO PCO **	Jun 2021	Oct 2021	70	55,000.00	Y		
5.16) MCHH (Reserve) ^{(22)(†)}		2021	TBD / TBD	C / IDIQ	** NO PCO **	Jul 2021	Oct 2021	569	18,024.60	Y		
5.17) MCHH VIK (Reserve) ^(†)		2021	TBD / TBD, United States Army, PEO C3T	C / TBD	** NO PCO **	Jul 2021	Oct 2021	549	37,000.00	Y		
6) Terrestrial Wideband Transmission Systems (TWTS)												
6.2) Next Generation Troposcatter (NGT) X and C Band ^(†)		2019	GATR Technologies / Huntsville, AL	C / FFP	Quantico, VA	Oct 2019	Apr 2021	35	960,674.00	Y		May 2019

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy								Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19				P-1 Line Item Number / Title: 4633 / Radio Systems				Aggregated Items: Radio Systems				

Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
6.3) Line of Sight Replacement (LOS-R) Radios ^{(24)(†)}		2020	Ultra / Canada	C / IDIQ	Canada	Jun 2020	Mar 2021	102	255,000.00	Y		
6.3) Line of Sight Replacement (LOS-R) Radios ^{(24)(†)}		2021	Ultra / Canada	C / IDIQ	** NO PCO **	Oct 2020	Jul 2021	47	255,000.00	Y		
6.9) LRS FoS Standalone Optical (28)		2021	TBD / TBD	C / TBD	TBD	Sep 2021	Sep 2022	6	775,000.00	N	Jul 2020	Aug 2020
6.10) LRS FoS MRC (Optical Capability) ⁽²⁹⁾		2021	TBD / TBD	C / TBD	TBD	Sep 2021	Sep 2022	2	850,000.00	N	Jul 2020	Aug 2020

(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2021 Navy																			Date: February 2020																						
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19										P-1 Line Item Number / Title: 4633 / Radio Systems										Aggregated Items: Radio Systems																					
Items (Units in Each)							Fiscal Year 2018										Fiscal Year 2019														B A L A N C E										
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 7	BAL DUE AS OF 1 OCT	Calendar Year 2018														Calendar Year 2019																				
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P											
2) Very Small Aperture Terminal (VSAT)																																									
2.3) MCWS-X ⁽⁵⁾																																									
	25	2020	NAVY		89	0	89																										89								
	25	2021	NAVY		80	0	80																										80								
5) Tactical Communications Modernization (TCM)																																									
5.3) MBR II MUOS																																									
Prior Years Deliveries: 126																																									
	26	2016	NAVY		24	0	24											A -	-	-	-	24													0						
	26	2018	NAVY		850	0	850											A -	-	-	-	850													0						
	26	2019	NAVY		6,977	0	6,977															A -	-	-	6,977													0			
5.4) MUOS Antennas																																									
	27	2018	NAVY		2,165	0	2,165											A -	-	-	-	-	2,165													0					
	27	2019	NAVY		4,352	0	4,352															A -	-	-	1,000	-	-	3,352													0
5.5) HFR II Manpack ⁽¹²⁾																																									
	28	2019	NAVY		4,008	0	4,008																									A -	4,008								
	28	2020	NAVY		611	0	611																										611								
5.6) HFR II VRC ⁽¹³⁾																																									
	29	2020	NAVY		749	0	749																										749								
5.7) HFR II MRC ⁽¹⁴⁾																																									
	30	2020	NAVY		1,044	0	1,044																										1,044								
5.8) HFR II TRC ⁽¹⁵⁾																																									
	31	2020	NAVY		748	0	748																										748								
5.9) MCMP ⁽¹⁶⁾																																									
	32	2020	NAVY		745	0	745																										745								
	32	2021	NAVY		713	0	713																										713								
5.10) MCMP VRC ⁽¹⁷⁾																																									
	33	2021	NAVY		541	0	541																										541								
5.11) MCHH ⁽¹⁸⁾																																									
	34	2021	NAVY		3,784	0	3,784																										3,784								
5.12) MCHH VIK ⁽¹⁹⁾																																									
	35	2021	NAVY		745	0	745	O C T	N O V	D E C	J A N	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	745									

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020												
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19										P-1 Line Item Number / Title: 4633 / Radio Systems										Aggregated Items: Radio Systems												
Items <i>(Units in Each)</i>							Fiscal Year 2018										Fiscal Year 2019										BALANCE					
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018										Calendar Year 2019															
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY		JUN	JUL	AUG	SEP	
5.16) MCHH (Reserve) ⁽²²⁾																																
	36	2021	NAVY	569	0	569																										569
5.17) MCHH VIK (Reserve)																																
	37	2021	NAVY	549	0	549																										549
6) Terrestrial Wideband Transmission Systems (TWTS)																																
6.2) Next Generation Troposcatter (NGT) X and C Band																																
	38	2019	NAVY	35	0	35																										35
6.3) Line of Sight Replacement (LOS-R) Radios ⁽²⁴⁾																																
	39	2020	NAVY	102	0	102																										102
	39	2021	NAVY	47	0	47	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		

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Exhibit P-21, Production Schedule: PB 2021 Navy																							Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19										P-1 Line Item Number / Title: 4633 / Radio Systems													Aggregated Items: Radio Systems														
Items (Units in Each)							Fiscal Year 2020													Fiscal Year 2021													BALANCE				
OCO#	MFR#	FY	SERVICE	PROCQTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020													Calendar Year 2021																	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP							
5.16) MCHH (Reserve) ⁽²²⁾																																					
36		2021	NAVY	569	0	569																									A -	-	-	569			
5.17) MCHH VIK (Reserve)																																					
37		2021	NAVY	549	0	549																									A -	-	-	549			
6) Terrestrial Wideband Transmission Systems (TWTS)																																					
6.2) Next Generation Troposcatter (NGT) X and C Band																																					
38		2019	NAVY	35	0	35	A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	15	5				0							
6.3) Line of Sight Replacement (LOS-R) Radios ⁽²⁴⁾																																					
39		2020	NAVY	102	0	102														A -	-	-	-	-	-	-	-	30	30	30	12				0		
39		2021	NAVY	47	0	47														A -	-	-	-	-	-	-	-	-	-	-	-	30	17				0
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP							

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19										P-1 Line Item Number / Title: 4633 / Radio Systems										Aggregated Items: Radio Systems														
Items <i>(Units in Each)</i>						Fiscal Year 2022												Fiscal Year 2023														B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022												Calendar Year 2023															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				
2) Very Small Aperture Terminal (VSAT)																																		
2.3) MCWS-X ⁽⁵⁾																																		
	25	2020	NAVY		89	89	0																											0
	25	2021	NAVY		80	80	0																											0
5) Tactical Communications Modernization (TCM)																																		
5.3) MBR II MUOS																																		
Prior Years Deliveries: 126																																		
	26	2016	NAVY		24	24	0																											0
	26	2018	NAVY		850	850	0																											0
	26	2019	NAVY		6,977	6,977	0																											0
5.4) MUOS Antennas																																		
	27	2018	NAVY		2,165	2,165	0																											0
	27	2019	NAVY		4,352	4,352	0																											0
5.5) HFR II Manpack ⁽¹²⁾																																		
	28	2019	NAVY		4,008	4,008	0																											0
	28	2020	NAVY		611	611	0																											0
5.6) HFR II VRC ⁽¹³⁾																																		
	29	2020	NAVY		749	749	0																											0
5.7) HFR II MRC ⁽¹⁴⁾																																		
	30	2020	NAVY		1,044	1,044	0																											0
5.8) HFR II TRC ⁽¹⁵⁾																																		
	31	2020	NAVY		748	748	0																											0
5.9) MCMP ⁽¹⁶⁾																																		
	32	2020	NAVY		745	745	0																											0
	32	2021	NAVY		713	200	513	-	200	-	200	-	113																					0
5.10) MCMP VRC ⁽¹⁷⁾																																		
	33	2021	NAVY		541	230	311	-	-	311																								0
5.11) MCHH ⁽¹⁸⁾																																		
	34	2021	NAVY		3,784	0	3,784	1,100	-	-	1,100	-	-	1,100	-	-	484																	0
5.12) MCHH VIK ⁽¹⁹⁾																																		
	35	2021	NAVY		745	0	745	221	-	-	221	-	-	182	-	121																		0
								O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020												
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19										P-1 Line Item Number / Title: 4633 / Radio Systems										Aggregated Items: Radio Systems												
Items <i>(Units in Each)</i>							Fiscal Year 2022										Fiscal Year 2023														BALANCE	
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022										Calendar Year 2023															
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
5.16) MCHH (Reserve) ⁽²²⁾																																
	36	2021	NAVY	569	0	569	300	-	-	-	269																					0
5.17) MCHH VIK (Reserve)																																
	37	2021	NAVY	549	0	549	249	-	-	-	300																					0
6) Terrestrial Wideband Transmission Systems (TWTS)																																
6.2) Next Generation Troposcatter (NGT) X and C Band																																
	38	2019	NAVY	35	35	0																										0
6.3) Line of Sight Replacement (LOS-R) Radios ⁽²⁴⁾																																
	39	2020	NAVY	102	102	0																										0
	39	2021	NAVY	47	47	0																										0
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		

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Exhibit P-21, Production Schedule: PB 2021 Navy				Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19			P-1 Line Item Number / Title: 4633 / Radio Systems			Aggregated Items: Radio Systems	

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	TBD - TBD			TBD	0	0	3	3	0	0	3	3
2	Harris Corp - Rochester, NY	1,200	12,000	24,000	0	4	3	7	0	2	3	5
3	Harris Corp - Rochester, NY	1,200	4,200	7,200	0	20	3	23	0	0	0	0
4	Harris Corp - Rochester, NY			TBD	0	0	0	0	0	0	0	0
5	Harris Corp - Rochester, NY			TBD	0	0	0	0	0	0	0	0
6	Harris Corp - Rochester, NY			TBD	0	0	0	0	0	0	0	0
7	Harris Corp - Rochester, NY			TBD	0	0	0	0	0	0	0	0
8	TBD - TBD			TBD	0	0	0	0	0	0	0	0
9	TBD - TBD, United States Army, PEO C3T			TBD	0	0	0	0	0	0	0	0
10	TBD - TBD, United States Army, PEO C3T			TBD	0	0	0	0	0	0	0	0
11	TBD - TBD, United States Army, PEO C3T	1,750	2,500	3,600	0	10	3	13	0	0	0	0
12	TBD - TBD			TBD	0	0	0	0	0	0	0	0
13	TBD - TBD, United States Army, PEO C3T			TBD	0	0	0	0	0	0	0	0
14	GATR Technologies - Huntsville, AL			TBD	0	0	18	18	0	0	9	9
15	Ultra - Canada	30	45	1,000	0	0	9	9	0	0	9	9

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

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

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

Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)	P-1 Line Item Number / Title: 4634 / Comm Switching & Control Systems

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0506313M

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	500.112	31.175	23.781	40.627	0.000	40.627	57.046	39.276	39.031	39.305	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	500.112	31.175	23.781	40.627	0.000	40.627	57.046	39.276	39.031	39.305	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	500.112	31.175	23.781	40.627	0.000	40.627	57.046	39.276	39.031	39.305	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Communications Security (COMSEC): COMSEC is the USMC Commodities Management Office (CMO) providing support for installations and designated acquisition program COMSEC requirements, intermediate logistics, and configuration management. COMSEC provides support for Protected Secure Voice and Data transmissions, Key Management Infrastructure (KMI), the National Security Agency (NSA) directed Cryptographic Modernization of the COMSEC infrastructure, Installations (base, posts, and station), and platforms. COMSEC CMO ensures the protection of Marine Corps and Joint cyberspace systems from exploitation and attack. Cyberspace systems include wired and wireless telecommunications systems, Information Technology (IT) systems, and the content processed, stored, or transmitted therein. Rapid changes in the underlying commercial and government cyber infrastructures makes cyber security an increasingly complex and dynamic problem. COMSEC CMO provides the Warfighter the essential information trust characteristics of availability, confidentiality, integrity, authentication, and non-repudiation.

Joint Communications Support Element (JCSE): Joint Communications Support Element (JCSE), headquartered at MacDill Air Force Base, Fla., rapidly delivers secure, reliable, and scalable command, control, communications, and computer capabilities (C4) ranging from small mobile team missions to full Joint task force headquarters (JTF HQ) deployments.

Combat Data Network (CDN) (formerly Tactical Data Network (TDN) Data Distribution System - Modular (DDS-M)): The CDN provides the commander a modular, integrated, and interoperable Internet Protocol (IP) - based Local Area Network (LAN) and Wide Area Network (WAN) capability that forms the data communications backbone to tactical organizations within a Marine Air-Ground Task Force (MAGTF). The CDN provides an extension of the Defense Information System Network (DISN), Secret Internet Protocol Router Network (SIPRNet), Sensitive But Unclassified (SBU), Non-secure Internet Protocol Router Network (NIPRNet) as well as a coalition networking. The CDN provides Marine Corps maneuver elements with a modular and scalable IP data transport capability by providing computers, servers, routers, data switches, cabling, multiple connections to various tactical transmission devices, contains integral In-line Network Encryption (INE) device supporting IP Security (IPSec), and Virtual Private Networking (VPN). CDN also provides software support for email, telephone, and internet services while in a tactical environment. CDN is currently designated as the Common Hosting Environment (CHE) for tactical networking. CHE will consolidate like capabilities from various programs of record, primarily server capacity and network access switching, under a single program of record. CHE will simplify the equipment string and will help reduce the overall Size, Weight, and Power (SWaP) requirements for the MAGTF. In FY21 the Combat Operations Center (COC) requirements transitions into the Combat Data Network (CDN) program under the title Common Hosting Environment (CHE).

Tactical Voice Switching System (TVSS): The TVSS is a modular Integrated Services Digital Network (ISDN) circuit switch capable system that provides Voice Over Internet Protocol telecommunications, multiplexing, transmission encryption, and group modem capabilities in one system for tactical telephony voice communications. TVSS is reaching end of life and is planned to be removed from the fleet inventory by the end of FY21.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)						P-1 Line Item Number / Title: 4634 / Comm Switching & Control Systems				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206313M, 0506313M				
Line Item MDAP/MAIS Code: N/A										
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Navy	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	28.727	19.282	32.564	-	32.564	52.349	34.478	34.136	34.312
NR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	2.448	4.499	8.063	-	8.063	4.697	4.798	4.895	4.993
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	31.175	23.781	40.627	-	40.627	57.046	39.276	39.031	39.305

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)						P-1 Line Item Number / Title: 4634 / Comm Switching & Control Systems				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A			Other Related Program Elements: 0206313M, 0506313M			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Comm Switching & Control Systems				- / 500.112	- / 31.175	- / 23.781	- / 40.627	- / -	- / 40.627
P-40	Total Gross/Weapon System Cost				- / 500.112	- / 31.175	- / 23.781	- / 40.627	- / 0.000	- / 40.627
*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 2019: \$31.175M (\$28.727M Active, \$2.448M Reserves) COMSEC: \$0.324M (\$0.066M Active, \$0.258M Reserves). Funding provided for procurements of replacement COMSEC equipment and ancillary devices. JCSE: \$0.481M. Funds the Marine Corps mandated share of efforts to keep the JCSE equipped with the latest state-of-the-art equipment to accomplish its Joint Staff Mission. The specific purpose will be determined at the annual JCSE modernization review. CDN: \$30.370M (\$28.180M Active, \$2.190M Reserves). FY19 funds supported technology refresh Engineering Change Proposals (ECPs), procurement, and fielding for various CDN equipment. 3.1 Program Spt/Fielding/CLS/Training funds supported management, acquisition, logistics, manpower support, personnel, and training analysis as well as training plan development and associated support. 3.3 ECP Network Equipment funds supported procurement of the Local Area Network (LAN) Services Module (Routers). 3.4 Small Form Factor funds supported procurement of additional quantities of Small Form Factor equipment to reduce size, weight, and power (SWaP). 3.9 ECP Network Equipment funds supported procurement of the Local Area Network (LAN) Services Module (Routers) for Reserve Units. 3.10 Small Form Factor (Reserve) funds supported procurement of additional quantities of Small Form Factor equipment to reduce size, weight, and power (SWaP) for Reserve Units. FY 2020: \$23.781M (\$19.282M Active, \$4.499M Reserves) COMSEC: \$1.250M (\$0.987M Active, \$0.263M Reserves). Funding continues to procure replacement components for damaged COMSEC equipment, ancillary devices, and program support for product verification/validation testing. JCSE: \$0.491M. Funds the Marine Corps mandated share of efforts to keep the JCSE equipped with the latest state-of-the-art equipment to accomplish its Joint Staff Mission. The specific purpose will be determined at the annual JCSE modernization review. CDN: \$22.040M (\$17.804M Active, \$4.236M Reserves). FY20 funds support technology refresh Engineering Change Proposals, procurement and fielding for various parts of the CDN equipment family. The Small Form Factor activities in FY20 include the execution of material optional contract line items based on the FY19 procurement engineering effort. Additionally, Small Form Factor funds (active/reserve) support the procurement of additional quantities of Small Form Factor equipment to reduce size, weight, and power (SWaP). ECP Network Equipment funds support the procurement of routers. ECP Network Equipment (Reserves) funds support the procurement of hardware associated with the technology refresh cycle which upgrades the equipment every three to five years. FY 2021 Base Appropriation Request: \$40.627M (\$32.564M Active, \$8.063M Reserves) COMSEC: \$1.283M (\$1.031M Active, \$0.252M Reserves). The increase of \$0.047M from FY20 to FY21 supports COMSEC modernization and Engineering Change Proposal (ECP) upgrades to currently fielded assets. FY21 funds will continue to support COMSEC modernization and Engineering Change Proposal (ECP) upgrades to currently fielded assets, in support of Expeditionary Force 21 and National Security Agency guidelines. Additionally, funding will continue to procure replacements for COMSEC equipment, ancillary devices, and program support for product verification/validation testing.										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4634 / Comm Switching & Control Systems
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0506313M
Line Item MDAP/MAIS Code: N/A		
JCSE: Active, \$0.552M (\$0.501M Active, \$0.051M Reserves). The increase of \$0.0610M from FY20 to FY21 reflects the Marine Corps mandated share of efforts to keep the JCSE equipped with the latest state-of-the-art equipment to accomplish its Joint Staff Mission. The specific purpose will be determined at the annual JCSE modernization review. CDN: \$38.792M (\$31.032M Active, \$7.760M Reserves). The increase of \$16.752M from FY20 to FY21 supports the procurement of network switches. There is a more robust requirement moving forward to ensure up-to-date, effective equipment with the absorption of COC equipment and requirements into the Common Hosting Environment (CHE) underneath CDN. Specifically, FY21 funds will support technology refresh Engineering Change Proposals, procurement, and fielding for various parts of the CDN equipment family. 3.1 Program Support/Fielding/Contractor Logistics Support/Training funds will support management, acquisition, logistics, manpower support, personnel, and training analysis as well as training plan development and associated support. 3.3 ECP Network Equipment funds will support procurement of the Switches, which will be a multiple year procurement across FY21 and FY22. Switches are at the end of support in FY23 and the manufacturer will no longer provide cyber security updates. The program will procure over 3,300 switches and other critical components necessary across the procurement timeline. 3.7 ECP Network Equipment (Reserves) funds will also support a multiple year procurement across FY21 and FY22 of switches and other components necessary to support the reserve component equipment set. The program office will procure over 900 switches and other critical components.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy																Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19						P-1 Line Item Number / Title: 4634 / Comm Switching & Control Systems										Aggregated Items Title: Comm Switching & Control Systems					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total			
			Unit Cost (\$)	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)	
1) Communications Security (COMSEC)																					
1.1) Program/ Production Support	A		-	-	0.909	-	-	0.212	-	-	0.445	-	-	0.442	-	-	-	-	-	0.442	
1.2) COMSEC Hardware ⁽¹⁾	A		-	-	11.493	-	-	0.112	-	-	0.542	-	-	0.589	-	-	-	-	-	0.589	
1.3) COMSEC Hardware (Reserves)	A		-	-	0.968	-	-	-	-	-	0.263	-	-	0.252	-	-	-	-	-	0.252	
Subtotal: 1) Communications Security (COMSEC)			-	-	13.370	-	-	0.324	-	-	1.250	-	-	1.283	-	-	-	-	-	1.283	
2) Joint Communications Support Equipment (JCSE)																					
2.1) USMC Contribution to JCSE (Reserves)	A		-	-	-	-	-	-	-	-	-	-	-	0.051	-	-	-	-	-	0.051	
2.2) USMC contribution to JCSE			-	-	3.314	-	-	0.481	-	-	0.491	-	-	0.501	-	-	-	-	-	0.501	
Subtotal: 2) Joint Communications Support Equipment (JCSE)			-	-	3.314	-	-	0.481	-	-	0.491	-	-	0.552	-	-	-	-	-	0.552	
3) Combat Data Network (CDN)																					
3.1) Program Support/ Fielding/CLS/Training ⁽²⁾			-	-	41.442	-	-	6.645	-	-	5.719	-	-	4.441	-	-	-	-	-	4.441	
3.2) Network Optimization	A		-	-	30.069	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3.3) ECP Network Equipment ⁽³⁾	A		-	-	78.392	-	-	15.268	-	-	5.818	-	-	26.591	-	-	-	-	-	26.591	
3.4) ECP Small Form Factor ⁽⁴⁾	A		-	-	13.782	-	-	6.267	-	-	6.267	-	-	-	-	-	-	-	-	-	
3.6) ECP Laptops	A		-	-	0.789	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3.7) ECP Network Equipment (Reserves) ⁽⁵⁾	A		-	-	5.117	-	-	2.190	-	-	2.046	-	-	7.760	-	-	-	-	-	7.760	
3.8) Small Form Factor (Reserve) ⁽⁶⁾	A		-	-	2.185	-	-	-	-	-	2.190	-	-	-	-	-	-	-	-	-	
3.9) ECP Server Tech Refresh (Reserves)	A		-	-	3.920	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Subtotal: 3) Combat Data Network (CDN)			-	-	175.696	-	-	30.370	-	-	22.040	-	-	38.792	-	-	-	-	-	38.792	
4) Prior Year Cumulative Funding																					
4.1) Prior Year Funding			-	-	307.732	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Subtotal: 4) Prior Year Cumulative Funding			-	-	307.732	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19						P-1 Line Item Number / Title: 4634 / Comm Switching & Control Systems									Aggregated Items Title: Comm Switching & Control Systems					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
Total			-	-	500.112	-	-	31.175	-	-	23.781	-	-	40.627	-	-	-	-	-	40.627

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

Footnotes:

- (1) COMSEC Hardware - Increase of \$0.047M from FY20 to FY21 supports COMSEC modernization and Engineering Change Proposal (ECP) upgrades to currently fielded assets.
- (2) CDN: Program Spt/Fielding/CLS/Training decrease of \$1.278M from FY20 to FY21 reflects efficiencies achieved as a result of Common Hosting Environment (CHE) activities reducing the number of efforts necessary to maintain capability.
- (3) CDN: ECP Network Equipment increase of \$20.773M from FY20 to FY21 reflects procurement of switches and other components that extend the network to end user devices. This will be a multiple year procurement across FY21 and FY22. The program office will procure over 3,300 switches and other critical components necessary to provide a resilient and secure network. The increased requirement is due to the absorption of COC equipment and requirements into the CHE.
- (4) ECP Small Form Factor decrease of \$6.267M from FY20 to FY21 reflects initial procurement of the Small Form Factor systems and the transition to a refresh cycle.
- (5) CDN: ECP Network Equipment (Reserves) increase of \$5.714M from FY20 to FY21 reflects procurement of switches and other components that extend the network to end user devices, which will be a multiple year procurement across FY21 and FY22. The program office will procure over 900 switches and other critical components necessary to provide a resilient and secure network and operational environment to enable deployed Marines [by way of connectivity to every end user device] access to the tactical network.
- (6) CDN ECP Small Form Factor (Reserves) decrease of \$2.190M from FY20 to FY21 reflects initial procurement of the Small Form Factor systems and the transition to a refresh cycle.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)							P-1 Line Item Number / Title: 4635 / Comm & Elec Infrastructure Supt					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0206313M, 0605013M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	293.265	72.842	79.740	43.782	0.000	43.782	95.542	107.664	107.861	110.019	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	293.265	72.842	79.740	43.782	0.000	43.782	95.542	107.664	107.861	110.019	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	293.265	72.842	79.740	43.782	0.000	43.782	95.542	107.664	107.861	110.019	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: BASE TELECOMMUNICATIONS INFRASTRUCTURE (BTI) provides all Marine Corps installations with the base area network communications infrastructure that connects the end-user to the DISA network. BTI modernizes, sustains, upgrades and enhances the telecommunications systems infrastructure for all Marine Corps Installations in order to meet the demands required to support the 5th Element of the Marine Air Ground Task Force (MAGTF). BTI is designed to maintain current industry standards as they relate to technological capabilities for all voice, video and data services (both wired and wireless connections) and are transported via each installation's infrastructure. These data services include, support for but are not limited to, Enhanced 911 (E911), Video-Teleconferencing, Integrated Services Digital Network, Marine Corps Enterprise Network, Energy Monitoring Control Systems, Intrusion Detection Systems, Access Control Systems, Fire Alarm Control Networks and Fleet Training Systems. This includes supporting systems such as optical networks, telecommunications management systems, primary power, voice mail, teleconferencing, and outside plant infrastructure. The ongoing focus is technology refresh and standardization on DISA Unified Capabilities (UC) (voice, video, collaboration, and data) through modernization of installation infrastructure in order to maintain connection to the DISA network. This line item includes funding specified for Defense Policy Review Initiative (DPRI) within the above details. PUBLIC KEY INFRASTRUCTURE (PKI) is a framework of laws, policies, procedures, and technologies for the use of digital credentials, which provide confidentiality, integrity, authenticity, and non-repudiation in electronic communications and transactions. PKI allows secure access to IT systems. PKI has the ability to electronically sign documents, encrypt messages and documents, and to authenticate and protect web access... In compliance with DOD policy and direction, the USMC Public Key Infrastructure Program (PKI) program provides the resources, manpower and equipment (hardware and software), dedicated to the management (i.e.: generation, production, distribution, control, accounting and destruction) of keys and certificates used by public key-based security services to include NIPRNet and SIPRNet both garrison and deployed. The PKI program operates the USMC Certificate Validation Infrastructure necessary to ensure that only authorized users and server based applications are allowed to operate on the Marine Corps Enterprise Network (MCEN). These services are required for user access to all information system components on the MCEN including network accounts, applications and web sites. PKI must be operable in garrison and tactical/deployed environments. Beginning in FY20, PKI was transferred to a new procurement line item, 4645 Cyberspace Activities, in order to consolidate Marine Corps Cyberspace Procurement Activities into one LI. CONSOLIDATED EMERGENCY RESPONSE SYSTEM (CERS) is a centrally managed program to field a technology solution in support of emergency dispatch personnel that facilitates timely responses when emergency calls for service are received. CERS provides command and coordination dispatch functions for first responders to support All-Hazard missions. It standardizes Emergency Dispatch Centers to provide notification functions, resource management and situational awareness in order to increase efficient emergency and day-to-day first responder operations. CERS capability is achieved through delivery of Enhanced 911 (E911) and emergency dispatch capabilities consisting of Computer Aided Dispatch (CAD), Fire Station Alerting (FSA) and Mobile Data Computers (MDC) for first responder's vehicles.												

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4635 / Comm & Elec Infrastructure Supt
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0605013M
Line Item MDAP/MAIS Code: N/A		
ENTERPRISE LAND MOBILE RADIOS (E-LMR) is a modern, digital, Association of Public Safety Communications Officials Project 25 Trunked radio system at all Marine Corps Bases, Posts and Stations (BPS). It provides the wireless Radio Frequency (RF) communications that are required to support the Consolidated Emergency Response System and First Responders (i.e. Police, Fire, Emergency Medical Services) as part of the Emergency Management Command and Coordination initiative. Specifically, the radio system provides RF coverage to BPS populated areas and roads in-between, permitting positive command and coordination between Dispatchers and First Responders and enables their ability to respond to incidents during normal, crisis, and recovery operations. In the wake of 9/11 and the Ft. Hood incident, DoD recognized that effective emergency communications and mutual aid support operation are key elements in providing homeland security, reducing the loss of life and the preservation of property. Thus, the objective for the E-LMR acquisition is to bring forth a reliable interoperability wireless communication system with a limited data capability. This line item includes funding specified for Defense Policy Review Initiative (DPRI) within the above details. TEST, EVALUATION, & ENGINEER ENVIRONMENT (T&E) is a Marine Corps Tactical Systems Support Activity (MCTSSA) provides the only Marine Corps organic, operationally relevant, MAGTF Command, Control, Communications, Computers, and Intelligence (C4I) architecture for testing and engineering tasks. This environment is the sole organic solution in the Marine Corps for Link-16 Tactical Data Link Networks for air-to- air, ship, and shore targeting and messaging, validated at MCTSSA before Marine/Navy use in theater. The environment also provides Marine Corps organic equipment, environments, operators, and testers for Joint Communications Exercises, Joint Interoperability Testing, and Systems of System testing. Funding supports modernization and expansion of the MAGTF Systems Integration Environment at MCTSSA for non-Table of Equipment items: Communications Backbone, Test Tool/Data Collection Hardware/Software, and Computers. The environment is essential to operating forces support for fielded C4I systems, as well as evaluating USMC and Joint C4I systems in a controlled, repeatable, and re-configurable manner that reduces program risk and identifies significant deficiencies prior to fielding to the operating forces. More than forty Marine Corps C4I programs and systems rely on MCTSSA support. MARINE CORPS INFORMATION OPERATIONS PROGRAM (MCIOP) provides MAGTF commanders and the Marine Corps a responsive and effective full-spectrum information operations (IO) planning and psychological operations delivery capability by means of deployable support teams and a comprehensive general support IO reach-back capability in order to integrate IO into Marine Corps operations. Multiple classification levels require separate Information Technology (IT) infrastructure to support each classification level in accordance with National Security Agency and Defense Intelligence Agency standards. This includes equipment necessary for connecting internal MCIOC IT infrastructure (voice, video, and data) with the existing Marine Corps Base Quantico support infrastructure.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)						P-1 Line Item Number / Title: 4635 / Comm & Elec Infrastructure Supt				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206313M, 0605013M				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Comm & Elec Infrastructure Supt				- / 293.265	- / 72.842	- / 79.740	- / 43.782	- / -	- / 43.782
P-40	Total Gross/Weapon System Cost				- / 293.265	- / 72.842	- / 79.740	- / 43.782	- / 0.000	- / 43.782
*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 2019: \$72.842M Beginning in FY19, MCIOP and TEEE funding moved from BLI 4635 (COMM & ELEC INFRASTRUCTURE SUPT) to BLI 4620 (ITEMS UNDER \$5 MILLION-COMM & ELEC). Beginning in FY20, PKI funding moves to BLI 4645 (CYBERSPACE ACTIVITIES). BASE TELECOMMUNICATIONS INFRASTRUCTURE (BTI) \$44.725M: DPRI - \$21.006M FY 2019 funding, executed by Space and Naval Warfare Center (SPAWAR), procured, installed, and accredited Information Technology (IT) systems. The scope of the work supported the ongoing eight MILCON projects. There are two Japanese funded MILCON projects (J-007 Waterfront HQ and J-755 Urban Combat Trng) and six U.S. funded MILCON projects (P-250 MALS Fac, P-260 Corrosion Ctrl Hangar, P-270 ACE Gym & Dining, P-295 Ordnance Ops, P-601 Aircraft Maintenance #2, and P-715 KD Ranges). The IT systems are integral to making the facilities complete and useable. All projects are vital to supporting the relocation of Marines from Okinawa to Guam. UC/DWDM - \$23.719M supported the technology refresh and standardization of DISA Unified Capabilities (voice, video, collaboration, and data) through UC/DWDM modernization at two Marine Corps Installations. Modernization and upgrade of the network telecommunications infrastructure is necessary to ensure the delivery of voice, video, and data services that support the day-to-day operations of the Base, Post, and Station. PUBLIC KEY INFRASTRUCTURE (PKI): \$0.119M funding supported the continuation of PKI hardware and software implementation across the (NIPRNet and SIPRNet) for both garrison and deployed networks in order to meet CYBERCOM's Tasking Order requiring the use of hardware tokens for access to networks, network resources and secure email in accordance with DODI 8520.02 and DODI 8520.03. Funding will also be utilized to procure necessary tokens and equipment for SIPRNet Token issuance across the MCEN as well as implementation of the DOD PKI NIPRNet Enterprise Alternate Token Management System. CONSOLIDATED EMERGENCY RESPONSE SYSTEM (CERS): \$10.601M supported network connection, procurement, and fielding of emergency dispatch systems as well as the start of the hardware/software upgrade to support the DoD CIO Windows 10 mandate. This requirement is necessary to provide effective Public Safety Communications and notifications to emergency responders. ENTERPRISE LAND MOBILE RADIOS (E-LMR): \$11.275M supported the completion of the Western Region Infrastructure (WRI) modernization and the hardware/software upgrade to support the DoD CIO Windows 10 mandate										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4635 / Comm & Elec Infrastructure Supt
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0605013M
Line Item MDAP/MAIS Code: N/A		
DPRI \$6.122M funding supported DPRI Guam requirements for ELMR capability expansion from 10 GTR channels to 20 GTR channels in support of P-715 Live Fire Training Range Complex project for the planned build-up of USMC personnel at Northwest Field to Finegayan (future MCB Guam). It will also increase two way radio usage on the Joint Regional Marianas (JRM) ELMR System's Ritidian site and max-out the site's capacity.		
FY 2020: \$79.740M		
BASE TELECOMMUNICATIONS INFRASTRUCTURE (BTI) \$73.497M		
DPRI (Cost Element 1.1), \$0.248M funding supports DPRI Okinawa Telecom infrastructure supporting internal and external communications. Projects include MC0508: Base Communications Building, MC0512-T: Theater, MC0512-T-E: 4 BEQs.		
Unified Capabilities/Dense Wave Division Multiplexing (Cost Element 1.2) \$14.649M funding provides for the upgrade and standardization of DISA Unified Capabilities (voice, video, collaboration, and data) through UC/DWDM modernization at one Marine Corps Installation. Modernization and upgrade of the Installation's transport infrastructure is necessary to ensure the delivery of voice, video, and data services that support the day-to-day operations of the Base, Post, and Station. This modernized transport capability provides for the underlying infrastructure supporting transformational requirements identified in the Marine Corps' Assured Command and Control strategy (i.e. migration to the cloud, modernizing the network). These modernizations to the transport infrastructure are required to avoid severe degradation and potential loss of voice, video, and data services, jeopardizing Base operations, unit coordination and critical life safety services.		
Hurricane Disaster Recovery (Cost Element 1.4) \$58.6M funding provides for replacement and upgrade of communications equipment impacted by natural disasters. This procurement will replace damaged equipment and enhance existing equipment with more hurricane resilient infrastructure		
CONSOLIDATED EMERGENCY RESPONSE SYSTEM (CERS): \$1.958M		
Tech Refresh Modernization (Cost Element 2.1) \$1.000M funding provides for the modernization of the E911 system to ensure that the components in the current system do not become end of life and unsupported by the vendor. If the aging, end of life equipment is not replaced, then these aging network devices will be removed from the network as a result of not receiving cybersecurity updates which will lead to the Consolidated Emergency Response System being unable to operate which will significantly degrade the first responder's ability to respond to emergency situations in a timely manner.		
Tech Refresh Engineering (Cost Element 2.2) \$0.958M funding provides for engineering associated with the start of technical refresh modernization.		
ENTERPRISE LAND MOBILE RADIOS (E-LMR): \$4.285M		
Subscriber Units Multi-Band Radios (MBRs) Refresh (Cost Element 4.1) \$3.207M funding provides for the continued replacement of MBRs which are becoming end of life and unsupported by the vendor. If this equipment is not replaced then these antiquated end of life mobile radios would prevent USMC First Responders and Range and Training Area personnel from achieving operational mission support to protect life and property on USMC Installations.		
Fielding Activities (Cost Element 4.6) \$1.045M funding provides for the fielding activities associated with the multi-band radio (MBR) technical refresh which replaces end of life mobile radios. This cost element directly supports Cost Element 4.1.		
E-LMR DPRI (Cost Element 4.8) \$0.033M funding is required to procure equipment to expand the current ELMR network that supports JRM. JRM provides ELMR support for all DOD and Federal organizations on the island of Guam. ELMR expansion is vital to supporting the relocation of Marines from Okinawa to Guam.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4635 / Comm & Elec Infrastructure Supt
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0605013M
Line Item MDAP/MAIS Code: N/A		
FY 2021 Request: \$43.782M		
BASE TELECOMMUNICATIONS INFRASTRUCTURE (BTI) \$27.651M:		
DPRI (Cost Element 1.1) \$16.399M will support DPRI in FY 2021 funding, executed by Naval Information Warfare Systems Command (NAVWAR), and will procure, install, and accredit, Information Technology (IT) systems. BTI funding (DPRI Guam: \$11.114M) for FY21 supports the C4IT outfitting of newly constructed facilities for MCBG. Specifically, MILCON projects J-011 Base Admin Building, J-016 BEQ A, P-311 Central Fuel Station, and P-270 ACE Gym & Dining, P-735 Guam MG Range, P-804 CIF Warehouse, and Mamizu project J-030 BEQ B are scheduled for procurement and installation. Without this funding, facilities will not be complete/usable, and forces will be unable to move off of Okinawa. Any delays to force flow have both negative political and cost ramifications. The IT systems are integral to making the facilities complete and useable. BTI funding (DPRI Okinawa: \$4.941M - (Futenma Replacement Facility (FRF) (\$64K) and Okinawa Consolidation (OKICON) (\$4.877M)) for FY21 supports the scope of the work on 13 construction projects in Okinawa funded by the Government of Japan related to the Futenma Replacement Facility: MC0518T Schwab Chapel,MC2541T Schwab Waste Water Treatment Plant, and MC2579T Schwab Electrical Substation; and Okinawa Consolidation: MC4008T Hansen Fire Station, MC4201T Foster Mega Warehouse, MC4202T Foster 3rd Dental BN HQ/Warehouse, MC4203T Foster MCIPAC EOD, MC4206T Foster IPAC/Base Safety/ Licensing/ FRF, MC4209T Foster III MEF BSTF, MC4212T Foster Postal Distribution Center, MC4213T Foster III MEF Division/Wing HQ, MC4216T Foster 1st MAW HQ/MWHS-1 HQ/ Battalion/ Sq HQ of Special Sec Comm, and MC4217T Foster III MEF HQ Parking Structure. Cost Element 1.1 funding increase of \$16.151M from FY 2020 to FY 2021 is due to the alignment of the DPRI BTI installation schedule with the Guam and Okinawa construction schedule.		
Unified Capabilities/Dense Wave Division Multiplexing (Cost Element 1.2) \$11.252M. Funding decrease of \$3.397M from FY 2020 to FY 2021 is due to the decrease in scope and complexity of the modernization effort at the Installation receiving the UC/DWDM upgrade. Funding in this cost element will provide for the upgrade and standardization of DISA Unified Capabilities (voice, video, collaboration, and data) through UC/DWDM modernization at one Marine Corps Installation. Modernization and upgrade of the Installation's transport infrastructure is necessary to ensure the delivery of voice, video, and data services that support the day-to-day operations of the Base, Post, and Station. This modernized transport capability provides for the underlying infrastructure supporting transformational requirements identified in the Marine Corps' Assured Command and Control strategy (i.e. migration to the cloud, modernizing the network). These modernizations to the transport infrastructure are required to avoid severe degradation and potential loss of voice, video, and data services, jeopardizing Base operations, unit coordination and critical life safety services.		
CONSOLIDATED EMERGENCY RESPONSE SYSTEM (CERS): \$5.385M		
Tech Refresh Modernization (Cost Element 2.1) \$4.500M. Funding increase of \$3.500M from FY 2020 to FY 2021 provides for the modernization of the E911 system to ensure that the components in the current system do not become end of life and unsupported by the vendor. If the aging, end of life equipment is not replaced, then these aging network devices will be removed from the network as a result of not receiving cybersecurity updates which will lead to the Consolidated Emergency Response System being unable to operate which will significantly degrade the first responder's ability to respond to emergency situations in a timely manner. Without modernization of the E911 system, potential loss of life is increased due to late response time to emergency situations.		
Tech Refresh Engineering (Cost Element 2.2) \$0.000M. Cost Element 2.2 funding decrease of \$0.958M from FY 2020 to FY 2021 is due to the planned completion of technical refresh engineering in FY 2020 as technical refresh modernization and initial hardware procurement begins in FY 2020.		
Tech Refresh Fielding Activities (Cost Element 2.3) \$0.885M. Funding increase of \$0.885M from FY 2020 to FY 2021 supports the planned modernization efforts occurring in FY 2021.		
ENTERPRISE LAND MOBILE RADIOS (E-LMR): \$10.746M		
Subscriber Units Multi-Band Radios (MBRs) Refresh (Cost Element 4.1) \$3.336M. Funding provides for the continued replacement of MBRs which are becoming end of life and unsupported by the vendor. If this equipment is not replaced then these antiquated end of life mobile radios would prevent USMC First Responders and Range and Training Area personnel from achieving operational mission support to protect life and property on USMC Installations. Cost Element 4.1 funding increase of \$0.129M from FY 2020 is due to the ramp up of MBR refresh in FY 2021.		
Eastern Region Infrastructure (ERI) Refresh (Cost Element 4.3) funding increase of \$4.204M from FY 2020 to FY 2021 is due to the start of ERI refresh in FY 2021. This cost element will provide for the replacement of equipment that will be going end of life, if this equipment is not replaced then it will impact the first responders ability to carry out their missions. This equipment is required to ensure that First		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4635 / Comm & Elec Infrastructure Supt
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206313M, 0605013M
Line Item MDAP/MAIS Code: N/A		
Responders are able to effectively communicate and respond to emergencies in a timely manner. The program is on a 7 year refresh cycle and its current equipment is becoming obsolete and requires immediate replacement and modernization. Fielding Activities (Cost Element 4.6) \$3.070M. Funding provides for the fielding activities associated with the multi-band radio (MBR) technical refresh and the Eastern Region Infrastructure (ERI) refresh. Fielding Activities (Cost Element 4.6) increase of \$2.025M from FY 2020 to FY 2021 is due to the start of the Eastern Region Infrastructure (ERI) tech refresh. This cost element provides fielding support for the ongoing fielding efforts for ELMR. E-LMR DPRI (Cost Element 4.8) \$0.136M. Funding increased \$0.103M from FY 2020 to FY 2021, funding is required to procure equipment to expand the current ELMR network that supports JRM. JRM provides ELMR support for all DOD and Federal organizations on the island of Guam. ELMR expansion is vital to supporting the relocation of Marines from Okinawa to Guam. Funding in this line item has been reprioritized while ensuring the Marine Corps continues to evolve toward a Force that is aligned with the National Defense Strategy.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19									P-1 Line Item Number / Title: 4635 / Comm & Elec Infrastructure Supt						Aggregated Items Title: Comm & Elec Infrastructure Supt					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
1) Base Telecommunications Infrastructure (BTI)																				
1.1) BTI - Defense Policy Review Initiative Equipment ⁽¹⁾	A		-	-	24.518	-	-	21.006	-	-	0.248	-	-	16.399	-	-	-	-	-	16.399
1.2) BTI - Unified Capabilities & Dense Wave Division Multiplexing ⁽²⁾	A		-	-	119.902	-	-	23.719	-	-	14.649	-	-	11.252	-	-	-	-	-	11.252
1.3) BTI-Prior Year Cumulative Funding	A		-	-	7.773	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.4) BTI- Hurricane Disaster Recovery ⁽³⁾	A		-	-	-	-	-	-	-	-	58.600	-	-	-	-	-	-	-	-	-
Subtotal: 1) Base Telecommunications Infrastructure (BTI)			-	-	152.193	-	-	44.725	-	-	73.497	-	-	27.651	-	-	-	-	-	27.651
2) CONSOLIDATED EMERGENCY RESPONSE SYSTEM (CERS)																				
2.1) CERS - Tech Refresh Modernization ⁽⁴⁾	A		-	-	-	-	-	-	-	-	1.000	-	-	4.500	-	-	-	-	-	4.500
2.2) CERS - Tech Refresh Engineering ⁽⁵⁾	A		-	-	-	-	-	2.091	-	-	0.958	-	-	-	-	-	-	-	-	-
2.3) CERS - Tech Refresh Fielding Activities ⁽⁶⁾	A		-	-	-	-	-	-	-	-	-	-	-	0.885	-	-	-	-	-	0.885
2.4) CERS - E-911 for Marine Corps Installations	A		-	-	25.671	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.5) CERS - Engineering Change Proposal	A		-	-	1.522	-	-	8.510	-	-	-	-	-	-	-	-	-	-	-	-
2.6) CERS - Prior Year Cumulative Funding	A		-	-	53.744	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 2) CONSOLIDATED EMERGENCY RESPONSE SYSTEM (CERS)			-	-	80.937	-	-	10.601	-	-	1.958	-	-	5.385	-	-	-	-	-	5.385
3) PUBLIC KEY INFRASTRUCTURE (PKI)																				
3.1) IT Equipment (To include cables, infrastructure, storage devices, etc.) ⁽⁷⁾	A		-	-	15.805	-	-	0.119	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 3) PUBLIC KEY INFRASTRUCTURE (PKI)			-	-	15.805	-	-	0.119	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19							P-1 Line Item Number / Title: 4635 / Comm & Elec Infrastructure Supt								Aggregated Items Title: Comm & Elec Infrastructure Supt					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
4) Enterprise Land Mobile Radio (ELMR)																				
4.1) ELMR - Subscriber Units Multi-Band Radios Refresh ⁽⁸⁾	A		-	-	-	-	-	-	-	-	3.207	-	-	3.336	-	-	-	-	-	3.336
4.2) ELMR - Western Region Infrastructure	A		-	-	16.632	-	-	3.368	-	-	-	-	-	-	-	-	-	-	-	-
4.3) ELMR - Eastern Region Infrastructure Refresh ⁽⁹⁾	A		-	-	-	-	-	-	-	-	-	-	-	4.204	-	-	-	-	-	4.204
4.6) ELMR - Fielding Activities ⁽¹⁰⁾	A		-	-	1.017	-	-	1.880	-	-	1.045	-	-	3.070	-	-	-	-	-	3.070
4.7) ELMR - Engineering Change Proposal	A		-	-	2.200	-	-	6.027	-	-	-	-	-	-	-	-	-	-	-	-
4.8) ELMR - Defense Policy Review Initiative Equipment ⁽¹¹⁾	A		-	-	-	-	-	6.122	-	-	0.033	-	-	0.136	-	-	-	-	-	0.136
Subtotal: 4) Enterprise Land Mobile Radio (ELMR)			-	-	19.849	-	-	17.397	-	-	4.285	-	-	10.746	-	-	-	-	-	10.746
5) MARINE CORPS INFORMATION OPERATIONS PROGRAM (MCIOP)																				
5.1) Hardware	A		-	-	2.530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 5) MARINE CORPS INFORMATION OPERATIONS PROGRAM (MCIOP)			-	-	2.530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6) TEST, EVALUATION, & ENGINEERING ENVIRONMENT																				
6.1) Test Tools	A		-	-	0.806	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.2) Landing Forces Operations Center Integration System Test Environment	A		-	-	3.505	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.3) MCNEL Fly-Away Kits	A		-	-	0.703	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.4) CAC2S STIL Equip (Functional Equivalent)	A		-	-	0.838	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.5) VoIP-AS SIP Lab	A		-	-	2.284	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.6) Test Engineering Labs Infrastructure	A		-	-	1.943	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 6) TEST, EVALUATION, & ENGINEERING ENVIRONMENT			-	-	10.079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7) Prior Year Cumulative Funding																				

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19						P-1 Line Item Number / Title: 4635 / Comm & Elec Infrastructure Supt									Aggregated Items Title: Comm & Elec Infrastructure Supt					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
7.1) Prior Year Cumulative Funding	A		-	-	11.872	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 7) Prior Year Cumulative Funding			-	-	11.872	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	293.265	-	-	72.842	-	-	79.740	-	-	43.782	-	-	-	-	-	43.782

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

Footnotes:

- (1) Cost Element 1.1 funding increase of \$16.151 from FY 2020 to FY 2021 is due to the alignment of the DPRI BTI installation schedule with the Guam and Okinawa construction schedule.
- (2) Unified Capabilities/Dense Wave Division Multiplexing (Cost Element 1.2). Funding decrease of \$3.397M from FY 2020 to FY 2021 is due to the decrease in scope and complexity of the modernization effort at the Installation receiving the UC/DWDM upgrade.
- (3) New Cost Element 1.4 added to support Hurricane Disaster Recovery. \$58.6M decrease due to the receipt of disaster recovery funds in FY20.
- (4) Tech Refresh Modernization (Cost Element 2.1) funding increase of \$3.500M from FY 2020 to FY 2021 is due to the ramp up of technical refresh modernization across the 13 Marine Corps Base/Post/Stations. This effort provides for the modernization of the E911 system to ensure that the components in the current system do not become end of life and unsupported by the vendor.
- (5) Tech Refresh Engineering (Cost Element 2.2) funding decreased from \$0.958M in FY 2020 to \$0.000M in FY 2021 due to the completion of technical refresh engineering in FY 2020.
- (6) Tech Refresh Fielding Activities (Cost Element 2.3) \$0.885M funding increase from FY 2020 to FY 2021 is due to an increase in the fielding support that is required for the planned modernization efforts that are occurring in FY 2021.
- (7) Beginning in FY20, PKI funds were moved to LI 4645, Cost Element 1.4.
- (8) Subscriber Units Multi-Band Radios (MBRs) Refresh (Cost Element 4.1) funding increase of \$0.129M from FY 2020 to FY 2021 is due to the ramp up of MBR refresh in FY 2021.
- (9) Eastern Region Infrastructure (ERI) Refresh (Cost Element 4.3) funding increase of \$4.204M from FY 2020 to FY 2021 is due to the start of ERI refresh in FY 2021.
- (10) Fielding Activities (Cost Element 4.6) increase of \$2.025M from FY 2020 to FY 2021 is due to the start of the Eastern Region Infrastructure (ERI) tech refresh. This cost element provides fielding support for the ongoing fielding efforts for ELMR.
- (11) E-LMR DPRI (Cost Element 4.8) increase of \$0.103M is required to procure equipment to expand the current ELMR network that supports JRM. JRM provides ELMR support for all DOD and Federal organizations on the island of Guam. ELMR expansion is vital to supporting the relocation of Marines from Okinawa to Guam.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)							P-1 Line Item Number / Title: 4645 / Cyberspace Activities					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: 0206313M, 0305251M				Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	0.000	27.632	53.896	0.000	53.896	46.688	44.186	47.195	47.671	-	267.268
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	0.000	27.632	53.896	0.000	53.896	46.688	44.186	47.195	47.671	-	267.268
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	0.000	27.632	53.896	0.000	53.896	46.688	44.186	47.195	47.671	-	267.268
<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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: Beginning in FY20, efforts in this line item (LI) 4645 (Cyberspace Activities) were transferred from other LIs in order to better align resources with mission and to increase transparency to support better decisions. Specifically, U.S. Marine Forces Cyberspace Command investments were transferred from LI 4630 (Common Computer Resources) and LI 4635 (Communications and Electrical Infrastructure Support) into LI 4645 (Cyberspace Activities). ROBUST INFRASTRUCTURE (FORMERLY TITLED MARFORCYBER) directly supports U.S. Cyber Command Execute Order 19-0035: Cyber Capability to Support the Cyber Mission Force. U.S. Cyber Command Execute Order 19-0035 directs MARFORCYBER to establish and sustain a secure and effective common firing platform for offensive cyber missions. Currently used platforms are not interoperable or efficient, limiting flexibility and effectiveness of cyber mission forces. Through divesting in multiple legacy platforms and investing in a joint common access platform (JCAP) that will be established across all Joint Mission Operations Centers (JMOCs), offensive operations will be more effective and efficient, improving mobility, resiliency, collaboration, force multiplication, and scalability. SECURE, OPERATE, DEFEND AND ENABLE the Marine Corps Cyberspace Environment (MCCE)(FORMERLY TITLED MCCOG) . Marine Forces Cyberspace Command is responsible for enhancing freedom of action across the Cyberspace domain, while denying the efforts of adversaries to degrade or disrupt this advantage through cyberspace. The Marine Corps Cyberspace Operations Group (MCCOG) is a command element under Marine Corps Forces Cyberspace Command responsible for securing, operating, and defending the Marine Corps Cyberspace Environment (MCCE) - to include providing network situational awareness; command and control; and technical support to Marine Corps operating forces and supporting establishment organizations, both in garrison and while deployed. In addition to being the primary DOD Cybersecurity Service Provider (CSSP) for the U.S. Marine Corps and only certified Red Team, MCCOG performs Vulnerability Management, Malware Protection, Web Assessment, Hunt Operations, and Cyber Incident Response focused on preventing and responding to prevent and respond to security incidents. The MCCOG delivers enterprise services for the Marine Corps to include Directory, Enterprise Storage, Messaging, Application Management, Mobility, Deployed Support, Mainframe, and Unified Communication. PUBLIC KEY INFRASTRUCTURE (PKI) is a framework of laws, policies, procedures, and technologies for the use of digital credentials, which provide confidentiality, integrity, authenticity, and non-repudiation in electronic communications and transactions. PKI allows secure access to IT systems. PKI has the ability to electronically sign documents, encrypt messages and documents, and to authenticate and protect web access... In compliance with DOD policy and direction, the USMC Public Key Infrastructure Program (PKI) program provides the resources, manpower and equipment (hardware and software), dedicated to the management (i.e.: generation, production, distribution, control, accounting and destruction) of keys and certificates used by public key-based security services to include NIPRNet and SIPRNet both garrison and deployed. The PKI program operates the USMC Certificate Validation Infrastructure necessary to ensure that only authorized users and server based applications are allowed to operate on the Marine Corps Enterprise Network (MCEN). These services are required for user access to all information system components on the MCEN including network accounts, applications and web sites. PKI must be operable in garrison and tactical/deployed environments.												

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4645 / Cyberspace Activities
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0206313M, 0305251M	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
USMC MAGTF DCO-IDM Suite: The USMC Marine Corps Air Ground Task Force (MAGTF) Defensive Cyberspace Operations-Internal Defensive Measures (DCO-IDM) Suite program provides the self-contained, fly-away equipment (hardware and software) for MAGTF DCO-IDM Teams to conduct vulnerability analysis (VA), incident response (IR), and other DCO-IDM functions concurrently on classified and unclassified networks. The teams utilize the interface (a laptop), data from passive and active sensors (servers, laptops, and taps), and the analytic capability from the hardware and software in order to determine the state of the supported commander's network, host, and major weapon systems. Software includes Government Off-the-Shelf (GOTS), Commercial Off-the-Shelf (COTS), and free and open-source software (FOSS). MAGTF DCO Suites are intended to be part of a common family of systems in support of MAGTF cyberspace operations. MAGTF DCO-IDM Suites must be operable in garrison and tactical/ deployed environments.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)						P-1 Line Item Number / Title: 4645 / Cyberspace Activities				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: 0206313M, 0305251M			Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Cyberspace Activities				- / 0.000	- / -	- / 27.632	- / 53.896	- / -	- / 53.896
P-40	Total Gross/Weapon System Cost				- / 0.000	- / 0.000	- / 27.632	- / 53.896	- / 0.000	- / 53.896
*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: \$27.632M Active; \$0.0M Reserve MARINE CORPS CYBERSPACE OPERATIONS GROUP (MCCOG): FY20 Base Appropriation Request: \$7.841M procures hardware and software for Defensive Cyber Operations Support, remote forensics solutions, and Hunt Deployable suites and provides technical refresh for the USMC Unified Communications project items such as Distributed Computing Equipment, Video Teleconferencing and Multi-Media Equipment, Network Hardware, Telephone Equipment, and Telepresence Content Server. Prior to FY20 this program was aligned to LI 4630. MARFORCYBER: FY20 Base Appropriation Request: \$14.289M procures hardware and software for Deployable Mission Support Systems (DMSS). DMSS kits are required in order for MARFORCYBER to provide Marine Corps units all across the globe with cyberspace activity support. Procures tools, platforms, infrastructure, and sustainment for various Offensive Cyberspace Operations (OCO) requirements to encourage an appropriate Service-Level analysis for the Joint Mission Operations Center (JMOC) Meade requirement in support of United States Cyberspace Command (USCC) and Joint Forces Headquarters Cyber (JFHQ-c) mission, and procures a Defensive Cyberspace Operations War room, Commercial Solutions for Classified (CSfC), engineering, tools, platforms, OCO, DCO infrastructure, and sustainment requirements. Prior to FY20 this program was aligned to LI 4630. PUBLIC KEY INFRASTRUCTURE (PKI): FY20 Appropriation Request: \$0.502M funding supports the continuation of PKI hardware and software implementation across the (NIPRNet and SIPRNet) for both garrison and deployed networks in order to meet DOD CIO requirement. The CVI is required in order for end users to authenticate themselves when signing onto Marine Corps Enterprise Network (MCEN) accounts. These services are required for user access to all information system components on the MCEN including network accounts, applications and web sites. PKI must be operable in garrison and tactical/deployed environments. Prior to FY20 this program was aligned to LI 4635. USMC MAGTF DCO-IDM Suite: \$5.000M procures MAGTF DCO-IDM Suites for fielding to I, II, & III MEF DCO-IDM Companies and Marine Corps Communications-Electronics School. Previously the Operating Forces utilized the DMSS kits for Defensive Cyberspace Operations. This is a new start in FY20. FY 2021 Base Appropriation: \$53.896M Active; \$0.0M Reserve ROBUST INFRASTRUCTURE (FORMERLY TITLED MARFORCYBER) (\$38.110 million): Supports Commander, U.S. Cyber Command Executive Order 19-0035: Cyber Capability to Support the Cyber Mission Forces. Specifically, the increase of \$23.821M from FY20 to FY21 will procure a cyber attack platform that will improve cyberspace operations by increasing the capacity for offensive cyber missions; increasing resiliency of the offensive cyber platform; increasing the availability of the offensive cyber platform and associated weapons/targets for the conduct of missions; increasing automation in order to decrease manpower requirements and delays in setup/disassembly to execute operations.										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 04: Communications and Electronics Equipment / BSA 19: Other Support (Non-Tel)		P-1 Line Item Number / Title: 4645 / Cyberspace Activities
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0206313M, 0305251M	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
These investment will enable consolidation, convergence, and configuration of cyber infrastructure into a common firing platform to enable operations based on cyber tasking orders as well as providing operable hardware and workstations for cyber mission forces to conduct operations. Robust Infrastructure will increase the capacity for offensive cyber missions by 66% and will increase the availability of the offensive cyberspace platforms and associated weapons by 300%. SECURE, OPERATE, DEFEND AND ENABLE (FORMERLY TITLED MCCOG) (\$7.994 million): The increase of \$0.153M from FY20 to FY21 will cover the increased costs and inflation of hardware and software required to refresh outdated hardware and software that is vulnerable to attacks from adversaries. These resources will procure hardware and software to refresh outdated hardware and software that is vulnerable to attacks from adversaries. In addition, the hardware and software increases system performance to improve network operational availability for warfighters and commanders. DEFENSIVE CYBER OPERATIONS - INTERNAL DEFENSIVE MEASURES (DCO-IDM) (\$6.324 million): The \$1.324M increase from FY20 to FY21 due to requirement for additional 3 DCO-IDM's in FY21 to defend against increased sophistication from near peer adversaries. \$6.324M in FY21 will procure 13 DCO-IDM for fielding to First, Second, and Third Marine Expeditionary Forces. Also, \$0.789M funding supports procurement of Cyber Immersive Training Environment (CITE 2.0), which enables cyber mission forces to conduct training, and mission rehearsal that increase the knowledge, skills, and abilities of Marines defending the Marine Corps Cyberspace Environment (MCCE). PUBLIC KEY INFRASTRUCTURE (PKI) (\$1.468 million): Funding will support the continuation of PKI hardware and software implementation across the (NIPRNet and SIPRNet) for both garrison and deployed networks in order to meet national requirements for the use of hardware tokens for access to networks, network resources, and secure email. Funding will also be utilized to procure necessary equipment and tokens for SIPRNet Token issuance across the MCEN as well as implementation of the DOD PKI NIPRNet Enterprise Alternate Token Management System. The increase of \$0.966M from FY20 to FY21 is due to the technical refresh cycle of equipment scheduled in FY21.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 04 / 19						P-1 Line Item Number / Title: 4645 / Cyberspace Activities									Aggregated Items Title: Cyberspace Activities					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
1) Cyberspace Activities																				
1.1) DEFENSIVE CYBER OPERATIONS - INTERNAL DEFENSIVE MEASURES ⁽¹⁾	A		-	-	-	-	-	-	-	-	5.000	-	-	6.324	-	-	-	-	-	6.324
1.2) ROBUST INFRASTRUCTURE ⁽²⁾	A		-	-	-	-	-	-	-	-	14.289	-	-	38.110	-	-	-	-	-	38.110
1.3) SECURE, OPERATE, DEFEND AND ENABLE	A		-	-	-	-	-	-	-	-	7.841	-	-	7.994	-	-	-	-	-	7.994
1.4) PKI ⁽³⁾	A		-	-	-	-	-	-	-	-	0.502	-	-	1.468	-	-	-	-	-	1.468
Subtotal: 1) Cyberspace Activities			-	-	0.000	-	-	-	-	-	27.632	-	-	53.896	-	-	-	-	-	53.896
Total			-	-	0.000	-	-	-	-	-	27.632	-	-	53.896	-	-	-	-	-	53.896

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

Footnotes:

⁽¹⁾ The \$1.324M increase from FY20 to FY21 results from requiring an additional 3 DCO-IDM suites in FY21 to defend against increased sophistication from near peer adversaries.

⁽²⁾ The \$23.821M increase from FY20 to FY21 is due to the procurement of software and hardware that form a common cyber firing attack platform. USCYBERCOM Executive Order (EXORD) 19-0035 directs MARFORCYBER to establish and sustain a secure and effective common firing platform for offensive cyber missions. Currently used platforms are not interoperable or efficient, limiting flexibility and effectiveness of cyber mission forces.

⁽³⁾ Prior to FY20, PKI funds were requested in LI 4635, Cost Element 3.1. The increase of \$0.966M from FY20 to FY21 is due to the technical refresh cycle of equipment scheduled in FY21.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 05: Support Vehicles / BSA 1: Administrative Vehicles							P-1 Line Item Number / Title: 5006 / Commercial Cargo Vehicles					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0206624M, 0708542M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity <i>(Units in Each)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	237.300	22.464	28.913	22.460	0.000	22.460	33.624	32.854	32.203	32.847	Continuing	Continuing
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	237.300	22.464	28.913	22.460	0.000	22.460	33.624	32.854	32.203	32.847	Continuing	Continuing
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	237.300	22.464	28.913	22.460	0.000	22.460	33.624	32.854	32.203	32.847	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Commercial Cargo Vehicles - The Commercial Cargo Vehicles program is a centrally managed program for procurement of commercially-available and general purpose vehicles such as heavy and light trucks, special purpose trucks, certain fire department trucks, refuse collection trucks, tanker trucks and all types of trailers. Additionally, the program supports Defense Policy Review Initiative (DPRI) requirements.

Emergency Response Vehicles (ERV) - Replaces firefighting apparatuses for maintaining the minimal installations ERV requirements for structural and airfield operations capabilities throughout the Marine Corps. Additionally, the program supports DPRI requirements to outfit the new Government of Japan funded J-008 Fire Station for the future Marine Corps Base Guam. Specifically, this funding will procure the Command Vehicle, Aerial Ladder Truck, Fire Engine, HAZMAT Rescue Vehicle, and Water Tender.

Commercial Passenger Vehicles (CPV) - CPV is a centrally managed program for the procurement of commercially available vehicles, such as sedans, vans and buses of various sizes. These vehicles are primarily used for passenger transportation on Marine Corps Base Japan, where leases are rarely economical.

Marine Security Guard (Vehicles) - Funds the procurement of commercial vehicles for the Marine Security Guard based on the requirements of the particular command and country embassies.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 05: Support Vehicles / BSA 1: Administrative Vehicles						P-1 Line Item Number / Title: 5006 / Commercial Cargo Vehicles				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206624M, 0708542M				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Commercial Cargo Vehicles	P-5a			- / 237.300	- / 22.464	- / 28.913	- / 22.460	- / -	- / 22.460
P-40	Total Gross/Weapon System Cost				- / 237.300	- / 22.464	- / 28.913	- / 22.460	- / 0.000	- / 22.460
*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 2019: \$22.464M Commercial Passenger Vehicles - \$3.643M: Funds continued to procure buses capable of transporting 33-60 passengers to replace the over-aged buses currently being used to provide intra shuttle services for Marine Corps bases in Okinawa. Additionally, vans capable of seating 7-8 passengers, sedans and law enforcement sedans will be procured to replace over-aged vehicles to better support the operation and mission of Marine Corps Installations Pacific (MCIPAC). This operating force support provides quality of life transportation for service-members and families stationed on Marine Corps Installations. Funds will also be used for the procurement of mission critical passenger vehicles (pickup trucks and passenger vans capable of transporting 7-8 passengers) needed for the recent transition of Townsend Bombing Range from the Georgia Air National Guard to the Marine Corps. The aging vehicles are increasingly unreliable and are costly to maintain and negatively impact mission capability. Commercial Cargo Vehicles - \$8.469M: Funds continued to procure low speed electric vehicles, various types of trailers (specialty, lowbed & flatbed) and trucks (fuel, stake-bed, nurse unit, semi-tractor, sewer maintenance & pickup) necessary for Installations support and to provide support for operating forces' critical training and logistics missions. Additionally, provide lift for combat readiness training, the transportation of equipment in support of deployments and the return of deployed forces. Vehicles being procured for California Bases will comply with California Air Resource Board (CARB) to reduce greenhouse gas emissions over the coming decade while improving air quality. Non-compliance results in fines of \$10k per day, per vehicle. Funds will also be used to procure mission critical commercial cargo vehicles (tractor trucks, low-boy trailers, etc.) used to move equipment needed to operate and maintain ranges, training areas, facilities, and fight wild land fires on Marine Corps Installations. Commercial Cargo Vehicles Defense Policy Review Initiative (DPRI) Guam - \$1.826M procured (4) JP-5 fuel trucks required to support Marine Corps aviation operations on the North ramp of Naval Support Activity Andersen Air Force Base. Emergency Response Vehicles - \$3.492M: Funds procured fire trucks (pumpers/aerial), rescue trucks, and ambulances for Marine Corps activities and commands. The funds will also procure brush trucks and water extenders to maintain ranges, training areas and facilities on Marine Corps Installations. Marine Security Guard (Vehicles) - \$5.034M - Funded the procurement of commercial vehicles for the Marine Security Guard based on the requirements of the particular command and country embassies. FY 2020: \$28.913M Commercial Passenger Vehicles - \$4.411M: Funding continues to recapitalize over-aged buses capable of transporting 33-60 passengers in order to provide safe intra shuttle services for Marine Corps bases in Okinawa. Additionally, vans capable of seating 7-8 passengers, sedans and law enforcement sedans will be procured to replace over-aged vehicles to better support the operation and mission of Marine Corps Installations Pacific (MCIPAC) and provide vehicle transportation primarily used for operational forces on Marine Corps Bases Japan, where the Marine Corps cannot lease these vehicles economically. Replacing these vehicles provide a "right-type" and "right-size" solution to support the operation and mission of the USMC OCONUS (Japan) commands by making it possible to safely move operational forces for home station training and deployments. The aged vehicles are increasingly unreliable and are costly to maintain and negatively impact mission capability.										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 05: Support Vehicles / BSA 1: Administrative Vehicles		P-1 Line Item Number / Title: 5006 / Commercial Cargo Vehicles
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206624M, 0708542M
Line Item MDAP/MAIS Code: N/A		
Funds in the amount of \$0.136M are for the procurement of mission critical passenger vehicles (pickup trucks, vans, etc.) that is essential to the continuity of operating and maintaining 35K acres of Townsend Bombing Range (TBR) to accommodate air-to-ground delivery of precision guided munitions (PGM).		
Commercial Cargo Vehicles - \$10.444M: Funds recapitalizes a portfolio of non-tactical vehicles such as low speed electric vehicles, various types of trailers (specialty, lowbed & flatbed) and trucks (fuel, stake-bed, nurse unit, semi-tractor, sewer maintenance & pickup). Recapitalization of over-aged vehicles provide safer non-tactical cargo vehicle support for transportation of things (TOT) necessary to move operational forces for home station training and deployment movements and to support operations and maintenance of Marine Corps Installations. On/off-road vehicles being procured for California Bases must comply with California Air Resource Board (CARB) to reduce greenhouse gas emissions over the coming decade while improving air quality. Non-compliance results in fines of \$10k per day, per vehicle.		
Funds in the amount of \$0.370M of the \$10.444M procures mission critical commercial cargo vehicles (tractor trucks, low-boy trailers, etc.) to operate and maintain 35K acres of Townsend Bombing Range (TBR) to accommodate air-to-ground delivery of precision guided munitions (PGM).		
Emergency Response Vehicles - \$5.820M: Funds procures fire trucks (pumpers/aerial), rescue trucks, and ambulances for Marine Corps activities and commands. The funds will also procure brush trucks and water extenders to maintain ranges, training areas and facilities on Marine Corps Installations.		
Funds in the amount of \$1.711M of the \$5.820M procures an aerial ladder truck for the Government of Japan funded J-008 Fire Station for future Marine Corps Base Guam (DPRI-Guam). Funding will also be used to procure one type 6 brush truck for the P-715 training ranges for future MCBG.		
Marine Security Guard (Vehicles) - \$8.238M - Funds the procurement of commercial vehicles for the Marine Security Guard based on the requirements of the particular command and country embassies.		
FY 2021 Base Appropriation Request: \$22.460M		
Funding in this budget line item has been reprioritized while ensuring the Marine Corps continues to evolve toward a Force that is aligned with the National Defense Strategy.		
The FY 2021 funding request was reduced by \$4.000M to account for the availability of prior year execution balances.		
Commercial Passenger Vehicles - \$1.796M: Funding will continue to recapitalize over aged buses, in order to transport passengers to meet mission of providing safe intra shuttle services for Marine Corps bases in Okinawa. Vans with the capability of transporting 7-8 passengers will also be procured to cover any gaps. Funding will continue to provide relief for over-aged units (sedans/law enforcement), in order to assist in keeping reliable vehicles on the roads for Marine Corps Installations Pacific (MCIPAC), since vehicles are not available for lease Outside Continental United States (OCONUS).		
Decrease of \$2.615M from FY20 to FY21 due to an anticipated reduction in commercial passenger vehicle requirements in accordance with the planned life-cycle replacement schedule.		
Commercial Cargo Vehicles - \$9.437M: Funds will recapitalize non-tactical vehicle portfolio of over-aged vehicles, in order to provide a safe way of transporting people and things. The necessity to move operational forces for home station training and deployments, require provisions of reliable non-tactical cargo vehicles to support this mission. On/off road vehicles will continue to be procured to meet California Air Resources Board (CARB) mandates. This will help avoid non-compliance fines of \$10k per day, per vehicle. As such, vehicles included are low speed electric vehicles, various types of trailers (specialty, lowbed & flatbed) and trucks (fuel, stake bed, nurse unit, semi-tractor, sewer maintenance & pickup). In support of DPRI Guam, \$1.826M of funding will procure commercial cargo vehicles for future Marine Corps Base Guam. Commercial Cargo Vehicles Defense Policy Review Initiative (DPRI) Guam -to procure (4) JP-5 fuel trucks required to support Marine Corps aviation operations on the North ramp of Naval Support Activity Andersen Air Force Base.		
Decrease \$1.007M from FY20 to FY21 due to an anticipated reduction in commercial cargo vehicle requirements in accordance with the planned life-cycle replacement schedule.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 05: Support Vehicles / BSA 1: Administrative Vehicles		P-1 Line Item Number / Title: 5006 / Commercial Cargo Vehicles
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206624M, 0708542M
Line Item MDAP/MAIS Code: N/A		
Emergency Response Vehicles - \$4.818M: Funds will procure fire trucks (pumpers/aerial), rescue trucks, and ambulances for Marine Corps activities and commands. The funds will also procure brush trucks and water extenders to maintain ranges, training areas and facilities on Marine Corps Installations. In support of DPRI Guam, \$1.481M of funding will procure emergency response vehicles for future Marine Corps Base Guam: a fire (engine) truck and a Response, Special (HAZMAT/Rescue) Vehicle. Decrease of \$1.002M from FY20 to FY21 due to an anticipated reduction in emergency response vehicles for DPRI Guam and additional support for installation. Marine Security Guard (Vehicles) - \$6.409M - Funds the procurement of commercial vehicles for the Marine Security Guard based on the requirements of the particular command and country embassies. Decrease of \$1.829M from FY20 to FY21 due to a decrease in the procurement requirement of new Armored and Unarmored passenger vehicles.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 1								P-1 Line Item Number / Title: 5006 / Commercial Cargo Vehicles							Aggregated Items Title: Commercial Cargo Vehicles				

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	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) Commercial Cargo Vehicles ⁽¹⁾																				
1.1) Commercial Passenger Vehicles ⁽²⁾	A		-	-	8.808	-	-	3.643	-	-	4.411	-	-	1.796	-	-	-	-	-	1.796
1.2) Emergency Response Vehicles ⁽³⁾	A		-	-	28.111	-	-	3.492	-	-	5.820	-	-	4.818	-	-	-	-	-	4.818
1.3) Commercial Cargo Vehicles ⁽⁴⁾	A		-	-	185.101	-	-	10.295	-	-	10.444	-	-	9.437	-	-	-	-	-	9.437
Subtotal: 1) Commercial Cargo Vehicles			-	-	222.020	-	-	17.430	-	-	20.675	-	-	16.051	-	-	-	-	-	16.051
2) Marine Security Guard																				
2.1) UnArmored ^{(5)(†)}	A		0.057	121	6.900	0.059	38	2.234	0.085	47	3.981	0.096	32	3.068	-	-	-	0.096	32	3.068
2.2) Armored ^{(6)(†)}	A		0.097	86	8.380	0.078	36	2.800	0.099	43	4.257	0.093	36	3.341	-	-	-	0.093	36	3.341
Subtotal: 2) Marine Security Guard			-	-	15.280	-	-	5.034	-	-	8.238	-	-	6.409	-	-	-	-	-	6.409
Total			-	-	237.300	-	-	22.464	-	-	28.913	-	-	22.460	-	-	-	-	-	22.460

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

(†) indicates the presence of a P-5a

Footnotes:

- ⁽¹⁾ Funding in this budget line item has been reprioritized while ensuring the Marine Corps continues to evolve toward a Force that is aligned with the National Defense Strategy.
- ⁽²⁾ Decrease of \$2.615M from FY20 to FY21 due to an anticipated reduction in commercial passenger vehicle requirements in accordance with the planned life-cycle replacement schedule.
- ⁽³⁾ Decrease of \$1.002M from FY20 to FY21 due to an anticipated reduction in emergency response vehicles for DPRI Guam and additional support for installation.
- ⁽⁴⁾ Decrease \$1.007M from FY20 to FY21 due to an anticipated reduction in commercial cargo vehicle requirements in accordance with the planned life-cycle replacement schedule.
- ⁽⁵⁾ Increase in unit cost is due to change in vendor. Decrease of \$0.913M from FY20 to FY21 due to a decrease in the procurement requirement of new Unarmored passenger vehicles
- ⁽⁶⁾ Decrease of \$0.916M from FY20 to FY21 due to a decrease in the procurement requirement of new Armored passenger vehicles.

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 1				P-1 Line Item Number / Title: 5006 / Commercial Cargo Vehicles					Aggregated Items: Commercial Cargo Vehicles			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ M)	Specs Avail Now?	Date Revision Available	RFP Issue Date
2) Marine Security Guard												
2.1) UnArmored ⁽⁵⁾		2017	Various Vendors / Various	Various	Arlington VA	Jun 2017	Jun 2017	65	0.058	Y		
2.1) UnArmored ⁽⁵⁾		2018	Various Vendors / Various	Various	Arlington VA	Jun 2018	Jun 2018	56	0.056	Y		
2.1) UnArmored ⁽⁵⁾		2019	Various Vendors / Various	Various	Arlington VA	Jun 2019	Jun 2019	38	0.059	N	Oct 2018	
2.1) UnArmored ⁽⁵⁾		2020	Various Vendors / Various	Various	Arlington VA	Jun 2020	Jun 2020	47	0.085	N	Oct 2018	
2.1) UnArmored ⁽⁵⁾		2021	Various Vendors / Various	Various	Arlington VA	Jun 2021	Jun 2021	32	0.096	N		
2.2) Armored ⁽⁶⁾		2017	Various / Various	Various	Arlington VA	Jun 2017	Jun 2017	44	0.092	Y		
2.2) Armored ⁽⁶⁾		2018	Various / Various	Various	Arlington VA	Jun 2018	Jun 2018	42	0.103	Y		
2.2) Armored ⁽⁶⁾		2019	Various / Various	Various	Arlington VA	Jun 2019	Jun 2019	36	0.078	N	Oct 2018	
2.2) Armored ⁽⁶⁾		2020	Various / Various	Various	Arlington VA	Jun 2020	Jun 2020	43	0.099	N	Oct 2018	
2.2) Armored ⁽⁶⁾		2021	Various / Various	Various	Arlington VA	Jun 2021	Jun 2021	36	0.093	N		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 05: Support Vehicles / BSA 2: Tactical Vehicles							P-1 Line Item Number / Title: 5050 / Motor Transport Modifications					
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: N/A				Other Related Program Elements: 0206624M					
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	166.537	55.653	19.234	10.739	16.183	26.922	13.977	14.999	14.602	26.166	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	166.537	55.653	19.234	10.739	16.183	26.922	13.977	14.999	14.602	26.166	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	166.537	55.653	19.234	10.739	16.183	26.922	13.977	14.999	14.602	26.166	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Motor Transport Modifications funds numerous essential modifications, initiatives, and new vehicle procurements that are required to address operational priorities, engineering change proposals, safety concerns, support equipment inefficiencies, tool malfunctions, product quality deficiencies, and other issues that affect vehicle reliability, safety, availability, and readiness. A proactive and focused approach ensures proper vehicle sustainment and life-cycle management and allows USMC to develop and implement improvements, as needed, to respond to the evolving requirements of the Marine Corps and sustain the fleet.

Medium Tactical Vehicle Replacement (MTVR) - The MTVR is the Marine Corps' medium ground lift capability supporting all elements of the Marine Air-Ground Task Force (MAGTF). With its 70% off-road mission profile and the addition of a highly survivable armor package, the MTVR is heavily used in contingency operations as well as missions supporting humanitarian operations. It has a payload of 7.1 tons off-road and 15 tons on-road, a high-performance suspension, traction control, central tire inflation system, and automatic transmission, to transport personnel, ammunition, bulk cargo, and/or bulk fuel and water in a variety of environments. The MTVR family of vehicles includes a cargo variant (both standard and extended wheel base configurations), a dump truck, a wrecker, a tractor and a High Mobility Artillery Rocket System (HIMARS) Rocket Resupply System Vehicle. This program funds numerous product improvements to the MTVR via engineering change proposals (ECPs), resulting from post-production requirements in force protection, communications, on-board situational awareness, and improved fuel efficiency required across the range of military operations, as well as addressing product quality deficiencies and other issues that impact vehicle safety, reliability, availability and readiness. The requirements capability change to improve fuel efficiency for the MTVR is part of the program's initiatives to lower fuel consumption and extend the vehicle's cruising range, while lowering operating costs over the life of the MTVR.

The Family of Mine Resistant Ambush Protected (MRAP) Family of Vehicles (FoV): Provides Warfighters multi-mission platforms capable of mitigating Improvised Explosive Devices (IEDs), underbody mines, and small arms fire threats. Multiple MRAP vehicle Categories (CATs) have been procured, fielded, and are now being sustained, such as the MRAP-All Terrain Vehicle (M-ATV), with combat operations (OPS) in rural, mountainous, and urban terrain. Category I - Urban combat operations, ambulance. Category II - Multi-mission ops-convoy lead, troop transport, ambulance, utility vehicle. Category III - Mine/IED clearance ops, explosive ordnance disposal. Funding includes required Government Furnished Equipment (GFE)/subsystems and ECP/Capability Insertion in response to an Urgent Universal Needs Statements (UUNS) and Warfighter safety and survivability requirements.

The Family of P-19 Replacement (P-19R): Vehicles replace the obsolete A/S32P-19A Crash Fire Rescue fleet in support of expeditionary airfield operations and the supporting establishment. The vehicle is outfitted with advanced fire suppression equipment. It provides rescue and aircraft fire fighting capabilities to permanent and expeditionary airfields throughout the Marine Corps. The P-19R may also be employed to fight structural fires in support of base camps and as firefighting support to other elements of the Marine Air-Ground Task Force (MAGTF), such as ammunition supply points, Petroleum, Oil, and Lubricant (POL) distribution points, or hazardous material storage facilities.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 05: Support Vehicles / BSA 2: Tactical Vehicles		P-1 Line Item Number / Title: 5050 / Motor Transport Modifications
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206624M
Line Item MDAP/MAIS Code: N/A		

The Family of Logistics Vehicle System Replacement (LVSr) Modification: The LVSr is the Marine Air-Ground Task Force Heavy Lift Capability system. The LVSr is built on the Oshkosh TAC-4 fully independent suspension, allowing it to traverse a variety of challenging terrain while carrying a payload of up to 22.5 tons. The LVSr accomplishes a variety of tactical logistics missions using armored and unarmored cargo, tractor and recovery variants. Funding provides for modifications required for the LVSr fleet of vehicles, such as updated brackets and cables for warfighter systems (e.g., jammers) as they are upgraded. These modifications also include critical safety upgrades and improved blast seats that reduce occupant injury during IED strikes. Finally, modifications include life cycle issues such as cab reconditioning, parts obsolescence and life cycle cost reductions.

Light Tactical Vehicle Modification (LTVM) - Light Tactical Family of Vehicles (FoV) - Modification program funds numerous essential modifications and initiatives that are required to address operational priorities, engineering change proposals, safety concerns, support equipment inefficiencies, tool malfunctions, product quality deficiencies, and other issues that affect vehicle reliability, availability and readiness. A proactive and focused approach ensures proper sustainment and life-cycle management of the light tactical vehicle fleet and allows the program office to develop and implement improvements, as needed, to respond to the evolving requirements of the Marine Corps.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Navy	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	55.416	18.819	10.318	16.183	26.501	13.546	14.559	14.153	14.434
NR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.237	0.415	0.421	-	0.421	0.431	0.440	0.449	11.732
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	55.653	19.234	10.739	16.183	26.922	13.977	14.999	14.602	26.166

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 05: Support Vehicles / BSA 2: Tactical Vehicles						P-1 Line Item Number / Title: 5050 / Motor Transport Modifications				
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206624M				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Motor Transport Modifications				- / 166.537	- / 55.653	- / 19.234	- / 10.739	- / 16.183	- / 26.922
P-40	Total Gross/Weapon System Cost				- / 166.537	- / 55.653	- / 19.234	- / 10.739	- / 16.183	- / 26.922
*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 2019: \$11.215M Medium Tactical Vehicle Replacement (MTVR) Modification: \$7.147M; In FY19, MTVR funding provided for the three-tier integration effort that spanned across Marine Corps Expeditionary Forces (MEFs), Marine Augmentation Program-Kuwait (MAP-K) and the Marine Forces-Reserve (MFR), for procuring and installing several required modifications. These modification upgrades improved the ability of the Marine to "shoot, move, and communicate" by prioritizing the installation of the C4I (command, control, communications, computers, and intelligence) systems, upgrading the weapons mount kit, as well as the front and rear cab axle mounts that are required due to the addition of heavy armor. Additionally, installation of the Turret Gunner Restraint System (TGRS) provides rollover protection for the Marine in the turret using a full-body, six-point harness; previously there was no restraint system in the turret. The Family of Logistics Vehicle System Replacement (LVSr) Modification: \$2.520M; \$2.305M Active; \$.215M Reserve. Provided for modifications required for the LVSr fleet of vehicles, such as updated brackets and cables for warfighter systems such jammer upgrades. These modifications also included critical safety upgrades, which included the brake corrosion modification, which prevents brake failure due to submersion in water during fording, boat and bridge operations, and improved blast seats, that reduce occupant injury during IED strikes. Finally, modifications included life cycle issues such as cab reconditioning, parts obsolescence and life cycle cost reductions. The Family of P-19 Replacement: \$1.470M; \$1.448M Active; \$.022M Reserves. Funding provided initial support, training, Spares and FSRs for Reserves' vehicles. The Family of Mine Resistant Ambush Protected (MRAP) Family of vehicles (FoV): \$.076M Funded ECP upgrades/modifications for the enduring MRAP vehicle requirement. ECP upgrades and modifications maintain vehicle relevancy in meeting force protection threats, such as blast, rollover or water submersion events, and responding to operational needs. FY 2020: \$19.234M Light Tactical Vehicle Modification (LTVM) \$.542M; Funding provides for limited quality deficiency resolutions and safety and reliability modifications/ECPs and technical manual updates. The program continues to address deficiencies of HMMWV vehicles due to up armoring and age degradation of the fleet. Medium Tactical Vehicle Replacement (MTVR) Modification: \$14.501M; In FY20, MTVR's continue to have a three-tier integration effort to meet approved operational requirements that span across Marine Corps Expeditionary Forces (MEFs), Marine Augmentation Program-Kuwait (MAP-K) and the Marine Forces-Reserve (MFR), for procuring and installing several types of modification kits. These modification upgrades improve the ability of the crew to "shoot, move, and communicate" by prioritizing the installation of the C4I (command, control, communications, computers, and intelligence) systems, upgrading the weapons mount kit to enable the employment of heavy machine guns, as well as the front and rear cab axle mounts that are required due to the addition of heavy armor. C4I kits enable the platform to accept Radios, Intercoms, Jammers and Blue Force Situational Awareness capabilities. Additionally, installation of the Turret Gunner Restraint System (TGRS) provides rollover protection for the Marine in the turret using a full-body, six-point harness.										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 05: Support Vehicles / BSA 2: Tactical Vehicles		P-1 Line Item Number / Title: 5050 / Motor Transport Modifications
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206624M
Line Item MDAP/MAIS Code: N/A		
The Family of Mine Resistant Ambush Protected (MRAP) \$.742M. Procures ECP upgrades/modifications for the enduring MRAP vehicle requirement. Continues ECP upgrades and Modifications to maintain relevancy in meeting force protection threats, such as blast, rollover or water submersion events, and responding to operational needs.		
The Family of P-19 Replacement (P-19R) \$.362M; \$.179M Active; \$.183M Reserve. Supports the newly fielded vehicles with DMSMS issues and storage maintenance of electronic configuration data.		
The Family of Logistics Vehicle System Replacement (LVSr) \$.3.087M; \$.2.855M Active; \$.232M Reserve. Procures modified cabs, which prevents dead lining the vehicle due to corrosion and modified seats to sustain the current level of performance of LVSr during IED strikes.		
FY 2021 Base Appropriation Request: \$10.739M		
Medium Tactical Vehicle Replacement (MTVR) Modification: \$.7.966M; In FY21, MTVR's will continue to have a three-tier integration effort to meet approved operational requirements that span across Marine Corps Expeditionary Forces (MEFs), for procuring and installing several types of modification kits. These modification upgrades improve the ability of the crew to "shoot, move, and communicate" by prioritizing the installation of the C4I (command, control, communications, computers, and intelligence) systems, upgrading the weapons mount kit to enable the employment of heavy machine guns, as well as the front and rear cab axle mounts that are required due to the addition of heavy armor. C4I kits enable the platform to accept Radios, Intercoms, Jammers and Blue Force Situational Awareness capabilities. Additionally, installation of the Turret Gunner Restraint System (TGRS) provides rollover protection for the Marine in the turret using a full-body, six-point harness. Installation costs account for over half the total cost of each ECP. These ECP's are part of a continual effort to upgrade the MTVR as the item exit date has been extended from 2024 to 2042. Fuel Efficient upgrades will continue to be installed on the entire MTVR fleet of vehicles. FE upgrades will provide reduced fuel consumption, which will lead to significant cost savings in the out years. Higher fuel economy will improve our warfighter's combat effectiveness by reducing the logistical footprint, increasing expeditionary capability and extending the operational range of fuel-powered equipment. The decrease of \$.6.535M from FY20 to FY21 is due to reduced number of MTVR Safety ECPs procured and installed in FY21; Fleet Marine Forces and support establishment will continue to rotate vehicles in for ECP installs thru the FYDP.		
The Family of Mine Resistant Ambush Protected (MRAP) \$.1.096M. Will continue to procure ECP upgrades/modifications for the enduring MRAP vehicle requirement. Continues ECP upgrades and modifications to maintain relevancy in meeting force protection threats, such as blast, rollover or water submersion events, and responding to operational needs. The increase of \$.354M from FY20 to FY21 is the result of ECP upgrade support.		
The Family of P-19 Replacement (P-19R) \$.367M; \$.181M Active; \$.0.186M Reserve. Will continue to support the newly fielded vehicles with DMSMS issues such as storage maintenance of electronic configuration data. The increase of \$.005M from FY20 to FY21 is the result of ECPs to the new vehicle.		
The Family of Logistics Vehicle System Replacement (LVSr) \$.814M; \$.579M Active; \$.235M Reserve. Will continue to procure modified cabs, which prevents dead-lining the vehicle due to corrosion and modified seats to sustain the current level of performance of LVSr during IED strikes. The net decrease of \$.2.276M from FY20 to FY21 is due to reduced rate of ECP procurement.		
Light Tactical Vehicle Modification (LTVM) \$.496M; Funding will provide for limited quality deficiency resolutions, safety initiatives, and environmental/state transportation mandated vehicle changes. Provides support for ECP integration to include changes such as addressing deficiencies of HMMWV vehicles due to up armoring and age degradation of the fleet, energy storage enhancements and other critical changes required to ensure the vehicles are a viable transportation capability for the Marine Corps Operating Forces. Technical manual updates will occur to capture the Engineering Changes to the vehicles. Funding decrease from FY20 to FY21 of \$.046M is due to reduced amount of safety and reliability modifications/ECPs.		
OCO: FY 2019 OCO: \$44.440M		
Medium Tactical Vehicle Replacement (MTVR) Modification: \$21.731M; OCO funded procurement and installation of various ECP kits required for the MTVRs located in the Marine Expeditionary Unit (MEU) Augmentation Program-Kuwait (MAP-K), and other Marine units. The ECP Kits included the C4ISR kits which provide cabling and bracketry for the Joint Battle Command Platform (JBC-P) and Counter IED Systems (CVRJ); Rear Cab Mounts, Front Cab Mounts, the Automatic Fire Extinguishing System (AFES) and the Emergency Egress Window (EEW). These kits increase the overall survivability, safety and the Command, Control, Communication, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) capabilities of the MTVR Armored Family of Vehicles.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 05: Support Vehicles / BSA 2: Tactical Vehicles		P-1 Line Item Number / Title: 5050 / Motor Transport Modifications
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206624M
Line Item MDAP/MAIS Code: N/A		
The Family of Logistics Vehicle System Replacement (LVSR): \$.439M OCO. Funded procurement and installation of Engineering Change Proposals (ECP), such as brake safety, JBC-P and counter IED Systems, CVRJs needed for the LVSRs located in the MAP-K. These kits increase force protection of all LVSR variants by ensuring the vehicles have updated ECPs to increase braking capability, navigation and counter IED threats. The Family of Mine Resistant Ambush Protected (MRAP) Family of Vehicles (FoV): \$22.270M OCO. Funded the installation of Egress kits procured in response to UUNS 08275UC and 10215UC; MARCENT Enduring requirements. The Egress kit increases force protection on all Cougar CAT I and CAT II variants (quantity of 197) by ensuring that vehicle occupants can safely exit the vehicle after blast, rollover or water submersion events. FY 2021 OCO Appropriation Request: \$16.183M The Medium Tactical Vehicle Replacement (MTVR) requires \$15.6M of FY21 OCO to complete the ongoing integration effort to install critical combat-enabling and force protection modifications on 130 deployed vehicles at unit cost of \$0.120M per vehicle. Modifications include the installation of brackets to convert from the Crew Vehicle Receiver/Jammer (CVRJ-2) to the MODi Vehicle Power Amplifier (MVPA-2), the Turret Gunner Restraint System, the Automatic Fire Extinguisher System (AFES), and the TOCNET communications suite. The MVPA-2 enables the vehicle to block frequencies of IEDs; the Turret Gunner Restraint System installs a six point harness for the gunner in the turret (currently no restraint system in place); the AFES ensures Marines do not incur life threatening burns; and the TOCNET kit enables the driver, turret gunner, and troops in troop carrier to have sufficient communications instead of the current method of voice commands, which is ineffective in combat operations. Due to heavy use in severe conditions, many of the vehicles scheduled for installation needed repairs or were missing prior modifications (such as unique brackets), and were returned to service without the most recent modifications. This funding ensures both the (86) vehicles at the Marine Expeditionary Unit Augmentation Program Kuwait (MAP-K) and the (44) vehicles at Special Purpose Marine Air-Ground Task Force (SPMAGTF) are the highest configuration and have received all combat-enabling modifications. These vehicles support Freedom's Sentinel Afghanistan. Without adequate funding to install the combat-enabling modifications, the vehicles operating in theater will remain ill-equipped for Fleet Marine Force missions. The Family of Logistics Vehicle System Replacement (LVSR) requires \$.583M of FY21 OCO to modify and install brackets to convert from Crew Vehicle Receiver/Jammer (CVRJ-2) to the MODi Vehicle Power Amplifier (MVPA-2). This modification includes development of a production level technical data package (TDP), development of modification instructions, production verification and engineering support for installation. Installation of the MVPA-2 will allow for the LVSR to continue to have the ability to counter IED threats.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2									P-1 Line Item Number / Title: 5050 / Motor Transport Modifications						Aggregated Items Title: Motor Transport Modifications					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
1) Medium Tactical Vehicle Replacement (MTVR) Modifications																				
1.1) Vehicle Safety Modifications/ Upgrades Proc & Installs ⁽¹⁾	A		-	-	4.280	-	-	14.626	-	-	3.982	-	-	0.533	-	-	-	-	-	0.533
1.2) Vehicle ECP Integration Equipment & Installs ⁽²⁾	A		-	-	46.434	-	-	7.881	-	-	3.825	-	-	0.503	-	-	15.600	-	-	16.103
1.3) Energy Efficiency Initiative ⁽³⁾	B		-	-	9.607	-	-	5.545	-	-	5.598	-	-	5.716	-	-	-	-	-	5.716
1.4) Energy Initiative Program Support ⁽⁴⁾	A		-	-	1.150	-	-	0.826	-	-	1.096	-	-	1.214	-	-	-	-	-	1.214
1.5) Prior Years Cumulative Funding	A		-	-	10.042	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 1) Medium Tactical Vehicle Replacement (MTVR) Modifications			-	-	71.513	-	-	28.878	-	-	14.501	-	-	7.966	-	-	15.600	-	-	23.566
2) LVSR Mods																				
2.1) LVSR Systems Integrations Equip & Installs (GFE, TOCNET, etc) ⁽⁵⁾	A		-	-	24.458	-	-	-	-	-	-	-	-	0.000	-	-	0.583	-	-	0.583
2.2) Vehicle Safety Mods/Upgrades	A		-	-	13.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.3) LVSR Modification Kits (ECPs) ⁽⁶⁾	A		-	-	32.732	-	-	2.744	-	-	2.855	-	-	0.579	-	-	-	-	-	0.579
2.4) LVSR Reserves (ECP, Safety & Integration)			-	-	3.909	-	-	0.215	-	-	0.232	-	-	0.235	-	-	-	-	-	0.235
2.5) Prior Years Cumulative Funding	A		-	-	12.532	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 2) LVSR Mods			-	-	86.681	-	-	2.959	-	-	3.087	-	-	0.814	-	-	0.583	-	-	1.397
3) Light Tactical Vehicle Modifications (LTVM)																				
3.1) Safety & Reliability Modifications	B		-	-	5.787	-	-	-	-	-	0.507	-	-	0.459	-	-	-	-	-	0.459
3.2) Program Integration	B		-	-	2.026	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.3) Technical Manual updates	A		-	-	0.085	-	-	-	-	-	0.035	-	-	0.037	-	-	-	-	-	0.037
3.4) Prior Year Cumulative Funding	A		-	-	0.445	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 3) Light Tactical Vehicle Modifications (LTVM)			-	-	8.343	-	-	-	-	-	0.542	-	-	0.496	-	-	-	-	-	0.496

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020								
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2									P-1 Line Item Number / Title: 5050 / Motor Transport Modifications						Aggregated Items Title: Motor Transport Modifications								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total					
			Unit Cost (\$)	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)			
4) P-19R																							
4.1) Engineering Change Proposals/ Modernization/ Upgrade Kits		A		-	-	-	-	-	1.448	-	-	-	0.179	-	-	-	0.181	-	-	-	-	-	0.181
4.2) Reserves Engineering Change Proposals/ Modernization/ Upgrade Kits		A		-	-	-	-	-	0.022	-	-	-	0.183	-	-	-	0.186	-	-	-	-	-	0.186
Subtotal: 4) P-19R			-	-	0.000	-	-	-	1.470	-	-	-	0.362	-	-	-	0.367	-	-	-	-	-	0.367
5) Mine Resistant Ambush Protected (MRAP)																							
5.1) Cougar Egress Installation		A		-	-	-	-	-	22.270	-	-	-	-	-	-	-	-	-	-	-	-	-	
5.2) ECP Upgrades ⁽⁷⁾		A		-	-	-	-	-	0.076	-	-	-	0.742	-	-	-	1.096	-	-	-	-	-	1.096
Subtotal: 5) Mine Resistant Ambush Protected (MRAP)			-	-	0.000	-	-	-	22.346	-	-	-	0.742	-	-	-	1.096	-	-	-	-	-	1.096
Total			-	-	166.537	-	-	-	55.653	-	-	-	19.234	-	-	-	10.739	-	-	-	16.183	-	26.922
Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.																							
Footnotes:																							
⁽¹⁾ FY20 to FY21 decrease of \$3.449M is due to reduced number of MTRV Safety ECPs procured and installed in FY21. Operating forces and support establishment will continue to rotate vehicles in for ECP installs thru the FYDP.																							
⁽²⁾ FY20 to FY21 decrease of \$3.322M is due to reduced number of MTRV ECPs procured and installed in FY21. Operating forces and support establishment will continue to rotate vehicles in for ECP installs thru the FYDP. MTRV increase of \$15.6M OCO from FY20 to FY21 is to complete the ongoing integration effort to install critical combat-enabling and force protection modifications on 130 deployed vehicles at unit cost of \$0.120M per vehicle.																							
⁽³⁾ Increase from FY20 to FY21 of \$0.118M is for additional scheduled installations of the FE software kits on various tactical vehicles in the fleet during FY21; initial technical support for those SW kits included in cost.																							
⁽⁴⁾ FY20 to FY21 increase of \$0.118M is due to additional support to process/analyze MTRV FE data as upgrades to fleet are completed.																							
⁽⁵⁾ LVSR increase of \$0.583 OCO from FY20 to FY21 is to modify and install brackets to convert from Crew Vehicle Receiver/Jammer (CVRJ-2) to the MODi Vehicle Power Amplifier (MVPA-2). This modification includes development of a production level technical data package (TDP), development of modification instructions, production verification and engineering support for installation.																							
⁽⁶⁾ The decrease of \$2.276M from FY20 to FY21 is due to reduced rate of procurement of ECPs, such as the brake ECP.																							
⁽⁷⁾ FY20 - FY21 increase of \$0.354M is the result of support of ECP safety upgrades.																							

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 05: Support Vehicles / BSA 2: Tactical Vehicles							P-1 Line Item Number / Title: 5095 / Joint Light Tactical Vehicle					
ID Code (A=Service Ready, B=Not Service Ready): B				Program Elements for Code B Items: 0605812M, 0605813M				Other Related Program Elements: 0603635M, 0605812M, 0605813M				
Line Item MDAP/MAIS Code: 279												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	873	1,642	1,264	752	-	752	645	589	878	916	-	7,559
Gross/Weapon System Cost (<i>\$ in Millions</i>)	402.198	572.774	555.648	381.675	0.000	381.675	322.743	300.711	415.470	424.338	3,740.736	7,116.293
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	402.198	572.774	555.648	381.675	0.000	381.675	322.743	300.711	415.470	424.338	3,740.736	7,116.293
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	402.198	572.774	555.648	381.675	0.000	381.675	322.743	300.711	415.470	424.338	3,740.736	7,116.293
<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 Dollars</i>)	266,240.55	255,369.06	267,878.16	284,535.90	-	284,535.90	308,041.86	307,237.69	311,905.47	317,883.19	-	620,904.09
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	460,707.90	348,827.04	439,594.94	507,546.54	-	507,546.54	500,376.74	510,544.99	473,200.46	463,251.09	-	941,433.13
Description: Joint Light Tactical Vehicle (JLTV) Family of Vehicles (FoV) is a joint U.S. Army and U.S. Marine Corps program, with the Army as lead service. JLTV is a FoV capable of performing multiple mission roles that provide protected, sustained, networked mobility for personnel and payloads across the full Range of Military Operations (ROMO). JLTV features include increased protection and performance over the current fleet; minimizing ownership costs by maximizing commonality, fuel efficiency, reliability, and maintaining effective competition throughout the life cycle. Commonality of components, maintenance procedures, training, etc., among vehicles are inherent in FoV solutions across mission variants to minimize total ownership cost. Unique service requirements have been minimized. The approved Full Rate Production (FRP) joint cost position incorporates validated requirements identified during Multi-Service Operational Test and Evaluation (MOT&E) as well as other mission critical requirements identified by the warfighter and supported in the FY21 budget request. JLTV achieved a successful FRP decision in June 2019. The FRP decision documented the requirement for improved situational awareness and external noise reduction. These requirements were identified during MOT&E and documented in the DOT&E report. The program will procure and install new rear doors with larger windows, an external forward facing camera, and mufflers. Also, the Marine Corps will procure Troop Seats to provide Fleet Marine Forces with the ability to move troops in utility vehicles when tactical conditions allow unprotected troop transport. This requirement was codified in a Capability Requirement Change (CRC) letter for the JLTV program. A LRIP fixed price contract was awarded to Oshkosh Defense LLC on 25 August 2015. This contract consists of a three year LRIP period with options for five additional years of FRP deliveries. JPO JLTV procured the Technical Data Package (TDP) with appropriate data rights to allow for possible future competition for production vehicles and spares. Current contract options may be exercised through 30 November 2023 assuming contractual quantity headspace is still available. Current funding indicates headspace quantity of 16,901 may be achieved in FY 2021, with competitive follow on contract award anticipated in FY 2022.												

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 05: Support Vehicles / BSA 2: Tactical Vehicles						P-1 Line Item Number / Title: 5095 / Joint Light Tactical Vehicle				
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: 0605812M, 0605813M			Other Related Program Elements: 0603635M, 0605812M, 0605813M				
Line Item MDAP/MAIS Code: 279										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Joint Light Tactical Vehicle	P-5a, P-21			873 / 402.198	1,642 / 572.774	1,264 / 555.648	752 / 381.675	- / 0.000	752 / 381.675
P-40	Total Gross/Weapon System Cost				873 / 402.198	1,642 / 572.774	1,264 / 555.648	752 / 381.675	- / 0.000	752 / 381.675
*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: FY 2019: \$572.774M Procured 1,642 LRIP vehicles, kit procurement, System Technical Support, Engineering Change Orders, Vehicle Retrofits, Production Systems Engineering Program Management (SEPM), Fielding support, Interim Contractor Support and Program Management support. The kits supported the baseline vehicle by providing the warfighter the ability to augment the vehicle's configuration to meet required vehicle capabilities such as fording, survivability, hot and cold weather operations, communications/C4I, combat bumpers, winches, and troop seats, etc, in order to respond to environmental conditions or threat situations. FY 2020: \$555.648M Includes the procurement of 1,264 vehicles and kit procurement, Total Package Fielding (TPF) to include Support Equipment, Initial Spares, First Destination Transportation and vehicle storage, Performance Verification Testing (PVT), System Technical Support (STS), Production Systems Engineering Program Management (SEPM), Engineering Change Orders (ECO)s and Retrofits and Interim Contractor Support (ICS). Fielding cost increased from the FY20 request due to the addition of support equipment and special tool kits to provide the units with the additional tools necessary to maintain the vehicles. Fielding includes increased support for harvesting existing communications, C4I, and Gun Protection Kits from HMMWVs to JLTVs. Also the Marine Corps requirement for B-Kit armor at 100% of vehicles requires retrofit of a number of procured vehicles leading to increased support for installation during the fielding process FY 2021 Base Appropriation Request: \$381.675M Projects will include the procurement of 752 vehicles; various kits associated with mission and vehicle variant; fielding to include Total Package Fielding (TPF) which consists of travel and labor for multiple fielding teams to conduct concurrent fielding events at USMC bases and stations in Okinawa, Hawaii, North Carolina, and California, Support Equipment, Initial Spares, First Destination Transportation (FDT) and vehicle storage; Performance Verification Testing (PVT); System Technical Support (STS); Contractor Systems Engineering Program Management (SEPM); Engineering Change Orders (ECO)s and Retrofits necessary to incorporate changes identified during manufacture on the production line and through operational assessments; and Interim Contractor Support (ICS) which provides vendor support for maintenance and repair of JLTVs between initial fielding and the transition of sustainment to an organic capability; procure 74 JLTV companion trailers and associated kits, Initial Issue Provisioning (IIP) and First Destination Transportation. Kits will consist of mission essential equipment specific to each vehicle and variant and provide the warfighter the ability to augment the vehicle's configuration to meet required vehicle capabilities such as fording, survivability, hot and cold weather operations, communications/C4I winches, etc, in order to respond to environmental conditions or threat situations. Kit procurement includes up to 75 individual kits options for each vehicle. Funding in this line has been reprioritized while ensuring the Marine Corps continues to evolve toward a Force that is aligned with the National Defense Strategy.										

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Exhibit P-5, Cost Analysis: PB 2021 Navy												Date: February 2020						
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2						P-1 Line Item Number / Title: 5095 / Joint Light Tactical Vehicle						Item Number / Title [DODIC]: 1 / Joint Light Tactical Vehicle						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total				
Procurement Quantity <i>(Units in Each)</i>				873		1,642		1,264		752		-		752				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				402.198		572.774		555.648		381.675		0.000		381.675				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				402.198		572.774		555.648		381.675		0.000		381.675				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				402.198		572.774		555.648		381.675		0.000		381.675				
(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 Dollars)</i>				460,707.90		348,827.04		439,594.94		507,546.54		-		507,546.54				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Flyaway - JLTV Cost																		
Recurring Cost																		
1.1.1) Heavy Guns Carrier ^(†)	255,463.20	231	59.012	247,705.00	532	131.779	262,571.00	699	183.537	272,667.00	504	137.424	-	-	-	272,667.00	504	137.424
1.1.2) General Purpose ^(†) ⁽¹⁾	261,948.39	155	40.602	246,885.00	385	95.051	261,737.00	402	105.218	271,617.00	143	38.841	-	-	-	271,617.00	143	38.841
1.1.3) Close Combat Weapons Carrier ^(†)	275,000.00	135	37.125	262,405.00	200	52.481	278,270.00	16	4.452	288,600.00	16	4.618	-	-	-	288,600.00	16	4.618
1.1.4) Utility ^(†)	249,906.25	352	87.967	237,013.00	525	124.432	251,225.00	147	36.930	259,751.00	89	23.118	-	-	-	259,751.00	89	23.118
1.1.5) Engineering Change Orders (ECO) ⁽²⁾	-	-	7.722	-	-	15.573	-	-	8.461	-	-	9.970	-	-	-	-	-	9.970
Subtotal: Recurring Cost	-	-	232.428	-	-	419.316	-	-	338.598	-	-	213.971	-	-	-	-	-	213.971
Subtotal: Flyaway - JLTV Cost	-	-	232.428	-	-	419.316	-	-	338.598	-	-	213.971	-	-	-	-	-	213.971
Hardware Cost																		
Recurring Cost																		
2.1.1) Kits ⁽³⁾	-	-	57.909	-	-	114.705	-	-	125.257	-	-	85.954	-	-	-	-	-	85.954
2.1.2) Trailers ⁽⁴⁾	-	-	-	-	-	-	-	-	0.160	-	-	4.281	-	-	-	-	-	4.281
Subtotal: Recurring Cost	-	-	57.909	-	-	114.705	-	-	125.417	-	-	90.235	-	-	-	-	-	90.235
Subtotal: Hardware Cost	-	-	57.909	-	-	114.705	-	-	125.417	-	-	90.235	-	-	-	-	-	90.235
Support - Support Costs Cost																		

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Exhibit P-5, Cost Analysis: PB 2021 Navy													Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2						P-1 Line Item Number / Title: 5095 / Joint Light Tactical Vehicle							Item Number / Title [DODIC]: 1 / Joint Light Tactical Vehicle					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$)	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)
3.1) Interim Contractor Support (ICS) ⁽⁵⁾	-	-	-	-	-	2.466	-	-	8.159	-	-	9.292	-	-	-	-	-	9.292
3.2) Program Management ⁽⁶⁾	-	-	18.817	-	-	10.353	-	-	9.466	-	-	9.530	-	-	-	-	-	9.530
3.3) Contractor SEPM ⁽⁷⁾	-	-	16.404	-	-	2.538	-	-	2.765	-	-	4.868	-	-	-	-	-	4.868
3.4) System Technical Support (STS)	-	-	26.282	-	-	3.500	-	-	11.161	-	-	11.564	-	-	-	-	-	11.564
3.5) Test Support ⁽⁸⁾	-	-	30.619	-	-	1.208	-	-	3.066	-	-	3.974	-	-	-	-	-	3.974
3.6) Publications/ Technical Data	-	-	1.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.7) Fielding ⁽⁹⁾	-	-	14.958	-	-	18.460	-	-	56.644	-	-	38.241	-	-	-	-	-	38.241
3.8) Training Aids, Devices, Simulators and Simulations (TADSS)	-	-	3.781	-	-	0.228	-	-	0.372	-	-	-	-	-	-	-	-	-
Subtotal: Support - Support Costs Cost	-	-	111.861	-	-	38.753	-	-	91.633	-	-	77.469	-	-	-	-	-	77.469
Gross/Weapon System Cost	460,707.90	873	402.198	348,827.04	1,642	572.774	439,594.94	1,264	555.648	507,546.54	752	381.675	-	-	0.000	507,546.54	752	381.675

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

Footnotes:

⁽¹⁾ The JLTV LRIP and FRP production contract was competitively awarded to Oshkosh Defense in 2015. The contract between the Government and Oshkosh includes priced option years through the end of the first contract period (Base plus 8 options). These contracted prices are not negotiable on a year to year basis. Vehicle and kit costs are based on the firm fixed price contract cost, quantity ranges, and option year. These ranges are dependent on total quantities procured across all Services based on both platform and variant. The unit costs are based on contract pricing of the manufacturers projected overhead and commodities forecast (i.e. raw materials, petroleum, and forward pricing rate agreements with labor unions) and are reflected in the contract. The Government agreed to these fixed and non-negotiable prices at the time of the competitively awarded JLTV production contract. The production rates provided in this exhibit are annual estimates. Oshkosh's main production line is not wholly JLTV and has been set up to run multiple other Military Tactical and Commercial Business vehicles on the same line during the same shift. As such they do not have a unique JLTV 1-8-5. The FY 2020 total vehicle quantity cost decreased from the FY20 request due to the documented requirement for improved situational awareness (new rear doors with larger windows and an external forward facing camera) and external noise reduction (addition of muffler). These requirements were identified during MOT&E and documented in the DOT&E report. The program will also procure Troops seats and mission critical special tools. Funding decrease from FY 2020 to FY 2021 of \$126.136M is due to the reduction of 512 vehicles in FY21 based on available budget. The unit cost increases from FY 2020 to FY 2021 based on the fixed and non-negotiable prices on the JLTV production contract. Vehicle variant mix and final quantities of all services will affect the unit cost based on range pricing; as well as approved changes to the base vehicle.

⁽²⁾ Engineering Change Orders (ECOs) and retrofit of design changes to vehicles produced and delivered are based on results from observations during manufacture on the production line and through operational assessments, such as MOT&E and others. The funding increase from FY 2020 to FY 2021 of \$1.509M is to incorporate vehicle changes identified during manufacture on the production line and through operational assessments.

⁽³⁾ Kits consist of mission essential equipment specific to each vehicle and variant and are necessary for the various operational requirements. Procurement includes up to 75 individual kit options for each individual vehicle. Kits may include, but are not limited to, armor kits required for force protection and survivability, tactical communications kits, which provide net-ready capabilities, and operational kits that

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Exhibit P-5, Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2	P-1 Line Item Number / Title: 5095 / Joint Light Tactical Vehicle	Item Number / Title [DODIC]: 1 / Joint Light Tactical Vehicle
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
complement base vehicle functionality to achieve requirements for tactical employment and mobility. Final kit procurement density is subject to change and based on operational and mission profile at time of award. A vehicle to kit ratio will not accurately capture kit cost as they are dependent on varying factors and are tied to unit and operational requirement. The FY 2020 kit cost increased from the FY20 request due to the requirement to procure Troop Seats to provide Fleet Marine Forces with the ability to move troops in utility vehicles when tactical conditions allow unprotected troop transport. Funding decrease from FY 2020 to FY 2021 of \$39.303M is due to the vehicle quantity reduction in FY21 and the fielding requirements of each individual unit. (4) JLTV companion trailer is purpose built to comply with JLTV requirements for mobility and payload. Infantry battalion expeditionary mobility will be improved by pairing JLTV with its companion trailer, enabling the unit to keep pace with vehicle formations. The increase of \$4.121M in FY21 procures 74 trailers and associated kits, Initial Issue Provisioning (IIP) and First Destination Transportation. (5) ICS provides vendor support for maintenance and repair of JLTVs between initial fielding in FY19 and the transition of sustainment to an organic capability planned to begin in FY22. ICS continues in support of Operator New Equipment Training (OPNET) into FY23. Funding increase from FY20 to FY21 of \$1.133M is due to the increase of Interim Contract Support (ICS) to support the cumulatively fielded JLTV vehicles. (6) Program management includes the Government Systems Integration Laboratory operations in support of fielding requirements and the addition of Liaison Officers on-site at each MEF providing support for MEF mission readiness, and the resolution of maintenance related issues. The Liaison Officers coordinate between OPFORs, the JLTV program office, logistics managers and the vehicle manufacturer. There is a minimal funding increase from FY 2020 to FY 2021 of \$.064M due to increased program management and travel required to support ongoing fielding. (7) Funding increase for Contractor SEPM costs from FY 2020 and FY 2021 of \$2.103M is the result of increases in the transition of HMMWV based capabilities to JLTV. This cost element provides for additional Original Equipment Manufacturer (OEM) engineering to conduct the necessary analysis to ensure required existing capabilities that reside on the operational HMMWV fleet are transitioned to the JLTV platform. (8) Production Verification Testing (PVT) which is limited reliability and performance testing conducted yearly to verify consistent design and manufacturing; testing related to ECP change to evaluate the successful integration on the vehicle and provide data for decision makers; Continued Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) testing necessary for the integration of various weapons platforms. Funding increase from FY 2020 to FY 2021 of \$.908M is for testing to validate vehicle performance for weapons platforms planned for integration in the FY21 timeframe. (9) Total Package Fielding (TPF) of JLTVs to Fleet Marine Forces includes the First Destination Transportation (FDT) for vehicles and kits, and all ancillary equipment required to conduct initial fielding and training to receiving units. Costs also include travel and labor for 3 fielding teams to conduct concurrent fielding events at multiple USMC bases and stations around the globe. The FY20 fielding cost increased \$22.047M from the FY20 request to the FY21 request is due to the increase of manpower and resources required to stand up fielding sites at I MEF and II MEF. Fielding includes support for harvesting existing communications, C4I, and Gun Protection Kits from HMMWVs to JLTVs. Also the Marine Corps requirement for B-Kit armor to 100% of vehicles requires increased support for installation during the fielding process. Funding decrease from FY 2020 to FY 2021 of \$18.403M is due to the reduction in the support equipment and special tools. The program applies a horizontal fielding strategy that requires common support equipment and tools upon receipt of vehicles. Based on the simultaneous fielding schedule, in FY21 the need for special tools and support equipment declines.		

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy								Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2				P-1 Line Item Number / Title: 5095 / Joint Light Tactical Vehicle				Item Number / Title [DODIC]: 1 / Joint Light Tactical Vehicle				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) Heavy Guns Carrier ^(†)		2016	Oshkosh Defense LLC / Oshkosh, WI	C / FFP	TACOM	Mar 2016	Jan 2017	66	249,970.00	Y		
1.1.1) Heavy Guns Carrier ^(†)		2017	Oshkosh Defense LLC / Oshkosh, WI	C / FFP	TACOM	Dec 2016	Oct 2017	132	257,012.12	Y		
1.1.1) Heavy Guns Carrier ^(†)		2018	Oshkosh Defense LLC / Oshkosh, WI	C / FFP	TACOM	Dec 2017	Oct 2018	33	260,242.42	Y		
1.1.1) Heavy Guns Carrier ^(†)		2019	Oshkosh Defense LLC / Oshkosh, WI	C / FFP	TACOM	Nov 2018	Sep 2019	532	247,705.00	Y		
1.1.1) Heavy Guns Carrier ^(†)		2020	Oshkosh Defense LLC / Oshkosh, WI	C / FFP	TACOM	Dec 2019	Oct 2020	699	262,571.00	Y		
1.1.1) Heavy Guns Carrier ^(†)		2021	Oshkosh Defense LLC / Oshkosh, WI	C / FFP	TACOM	Dec 2020	Oct 2021	504	272,667.00	Y		
1.1.2) General Purpose ^(†)		2015	Oshkosh Defense LLC ⁽¹⁰⁾ / Oshkosh WI	C / FFP	TACOM	Aug 2015	Sep 2016	6	332,000.00	Y		Dec 2014
1.1.2) General Purpose ^(†)		2016	Oshkosh Defense LLC ⁽¹⁰⁾ / Oshkosh WI	C / FFP	TACOM	Mar 2016	Jan 2017	24	258,721.00	Y		
1.1.2) General Purpose ^(†)		2017 ⁽¹¹⁾	Oshkosh Defense LLC ⁽¹⁰⁾ / Oshkosh WI	C / FFP	TACOM	Dec 2016	Oct 2017	10	257,012.12	Y		
1.1.2) General Purpose ^(†)		2018 ⁽¹²⁾	Oshkosh Defense LLC ⁽¹⁰⁾ / Oshkosh WI	C / FFP	TACOM	Dec 2017	Oct 2018	115	259,400.00	Y		
1.1.2) General Purpose ^(†)		2019	Oshkosh Defense LLC ⁽¹⁰⁾ / Oshkosh WI	C / FFP	TACOM	Nov 2018	Sep 2019	385	246,885.00	Y		
1.1.2) General Purpose ^(†)		2020 ⁽¹³⁾	Oshkosh Defense LLC ⁽¹⁰⁾ / Oshkosh WI	C / FFP	TACOM	Dec 2019	Oct 2020	402	261,737.00	Y		
1.1.2) General Purpose ^(†)		2021	Oshkosh Defense LLC ⁽¹⁰⁾ / Oshkosh WI	C / FFP	TACOM	Dec 2020	Oct 2021	143	271,617.00	Y		
1.1.3) Close Combat Weapons Carrier ^(†)		2016	Oshkosh Defense LLC / Oshkosh, WI	C / FFP	TACOM	Mar 2016	Jan 2017	23	286,944.00	Y		
1.1.3) Close Combat Weapons Carrier ^(†)		2017	Oshkosh Defense LLC / Oshkosh, WI	C / FFP	TACOM	Dec 2016	Oct 2017	24	261,109.05	Y		
1.1.3) Close Combat Weapons Carrier ^(†)		2018	Oshkosh Defense LLC / Oshkosh, WI	C / FFP	TACOM	Dec 2017	Oct 2018	88	275,659.09	Y		
1.1.3) Close Combat Weapons Carrier ^(†)		2019	Oshkosh Defense LLC / Oshkosh, WI	C / FFP	TACOM	Nov 2018	Sep 2019	200	262,405.00	Y		
1.1.3) Close Combat Weapons Carrier ^(†)		2020	Oshkosh Defense LLC / Oshkosh, WI	C / FFP	TACOM	Dec 2019	Oct 2020	16	278,270.00	Y		
1.1.3) Close Combat Weapons Carrier ^(†)		2021	Oshkosh Defense LLC / Oshkosh, WI	C / FFP	TACOM	Dec 2020	Oct 2021	16	288,600.00	Y		
1.1.4) Utility ^(†)		2016	Oshkosh Defense LLC / Oshkosh, WI	C / FFP	TACOM	Mar 2016	Jan 2017	15	281,014.00	Y		

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy			Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2	P-1 Line Item Number / Title: 5095 / Joint Light Tactical Vehicle	Item Number / Title [DODIC]: 1 / Joint Light Tactical Vehicle	

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.4) Utility ^(†)		2017	Oshkosh Defense LLC / Oshkosh, WI	C / FFP	TACOM	Dec 2016	Oct 2017	46	246,576.80	Y		
1.1.4) Utility ^(†)		2018	Oshkosh Defense LLC / Oshkosh, WI	C / FFP	TACOM	Dec 2017	Oct 2018	291	248,828.18	Y		
1.1.4) Utility ^(†)		2019	Oshkosh Defense LLC / Oshkosh, WI	C / FFP	TACOM	Nov 2018	Sep 2019	525	237,013.00	Y		
1.1.4) Utility ^(†)		2020	Oshkosh Defense LLC / Oshkosh, WI	C / FFP	TACOM	Dec 2019	Oct 2020	147	251,225.00	Y		
1.1.4) Utility ^(†)		2021	Oshkosh Defense LLC / Oshkosh, WI	C / FFP	TACOM	Dec 2020	Oct 2021	89	259,751.00	Y		

^(†) indicates the presence of a P-21

Footnotes:

⁽¹⁰⁾ MS C and contract award occurred on 25 August 2015. Production rates for the JLTV variants are shown as annual rates.

⁽¹¹⁾ Due to quantity and budget limitation of the Continuing Resolution, JLTV quantities were procured in multiple contract awards.. 106 vehicles were procured in Dec 2016 and 106 vehicles were procured in Jul 2017.

⁽¹²⁾ Due to quantity and budget limitation of the Continuing Resolution, JLTV quantities were procured in multiple contract awards.. 192 vehicles were procured in Dec 2017. The balance of 335 vehicles procured in June 2018.

⁽¹³⁾ Due to quantity and budget limitation of the Continuing Resolution, JLTV quantities were procured in multiple contract awards.. 53 vehicles were procured in Dec 2019. The remaining will be procured in Feb 2020 (1151) and in June 2020 (60).

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Exhibit P-21, Production Schedule: PB 2021 Navy																			Date: February 2020												
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2										P-1 Line Item Number / Title: 5095 / Joint Light Tactical Vehicle										Item Number / Title [DODIC]: 1 / Joint Light Tactical Vehicle											
Cost Elements (Units in Each)							Fiscal Year 2015										Fiscal Year 2016										B A L A N C E				
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 4	BAL DUE AS OF 1 OCT	Calendar Year 2015										Calendar Year 2016														
							O C T	N O V	D E C	J A N	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
	2	2018	Total	1,033	0	1,033																					1,033				
	2	2019	NAVY	385	0	385																					385				
	2	2019	ARMY (‡)	2,184	0	2,184																					2,184				
	2	2019	Total	2,569	0	2,569																					2,569				
	2	2020	NAVY	402	0	402																					402				
	2	2020	ARMY (‡)	948	0	948																					948				
	2	2020	Total	1,350	0	1,350																					1,350				
	2	2021	NAVY	143	0	143																					143				
	2	2021	ARMY (‡)	636	0	636																					636				
	2	2021	Total	779	0	779																					779				
1.1.3) Close Combat Weapons Carrier																															
	3	2016	NAVY	23	0	23											A - - - - - - -										23				
	3	2016	ARMY (‡)	42	0	42											A - - - - - - -										42				
	3	2016	Total	65	0	65											- - - - - - -										65				
	3	2017	NAVY	24	0	24																					24				
	3	2017	ARMY (‡)	52	0	52																					52				
	3	2017	Total	76	0	76																					76				
	3	2018	NAVY	88	0	88																					88				
	3	2019	NAVY	200	0	200																					200				
	3	2020	NAVY	16	0	16																					16				
	3	2021	NAVY	16	0	16																					16				
1.1.4) Utility																															
	4	2016	NAVY	15	0	15											A - - - - - - -										15				
	4	2016	ARMY (‡)	165	0	165											A - - - - - - -										165				
	4	2016	Total	180	0	180											- - - - - - -										180				
	4	2017	NAVY	46	0	46																					46				
	4	2017	ARMY (‡)	649	0	649																					649				
	4	2017	Total	695	0	695																					695				
	4	2018	NAVY	291	0	291																					291				
	4	2018	ARMY (‡)	803	0	803																					803				
	4	2018	Total	1,094	0	1,094																					1,094				
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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Exhibit P-21, Production Schedule: PB 2021 Navy																			Date: February 2020																
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2							P-1 Line Item Number / Title: 5095 / Joint Light Tactical Vehicle													Item Number / Title [DODIC]: 1 / Joint Light Tactical Vehicle															
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2015													Fiscal Year 2016													B A L A N C E		
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2014	BAL DUE AS OF 1 OCT	Calendar Year 2015													Calendar Year 2016															
							O C T	N O V	D E C	J A N	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					
	4	2019	NAVY	525	0	525																													525
	4	2019	ARMY (‡)	612	0	612																													612
	4	2019	Total	1,137	0	1,137																													1,137
	4	2020	NAVY	147	0	147																													147
	4	2020	ARMY (‡)	444	0	444																													444
	4	2020	Total	591	0	591																													591
	4	2021	NAVY	89	0	89																													89
	4	2021	ARMY (‡)	480	0	480																													480
	4	2021	Total	569	0	569																													569
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2021 Navy																			Date: February 2020													
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2									P-1 Line Item Number / Title: 5095 / Joint Light Tactical Vehicle										Item Number / Title [DODIC]: 1 / Joint Light Tactical Vehicle													
Cost Elements (Units in Each)							Fiscal Year 2017										Fiscal Year 2018										B A L A N C E					
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 6	BAL D U E A S O F 1 O C T	Calendar Year 2017										Calendar Year 2018															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y		J U N	J U L	A U G	S E P	
1.1.1) Heavy Guns Carrier																																
	1	2016	NAVY	66	0	66	-	-	-	5	5	5	5	5	5	6	6	6	6	6	6											0
	1	2016	ARMY (‡)	69	0	69	-	-	-	5	5	5	6	6	6	6	6	6	6	6	6											0
	1	2016	Total	135	0	135	-	-	-	10	10	10	11	11	11	12	12	12	12	12	12	-	-	-	-	-	-	-	-	-	-	0
	1	2017	NAVY	132	0	132			A -	-	-	-	-	-	-	-	-	-	11	11	11	11	11	11	11	11	11	11	11	11	0	
	1	2017	ARMY (‡)	279	0	279			A -	-	-	-	-	-	-	-	-	-	23	23	23	23	23	23	23	23	23	24	24	24	0	
	1	2017	Total	411	0	411			-	-	-	-	-	-	-	-	-	-	34	34	34	34	34	34	34	34	34	35	35	35	0	
	1	2018	NAVY	33	0	33														A -	-	-	-	-	-	-	-	-	-	-	33	
	1	2018	ARMY (‡)	265	0	265														A -	-	-	-	-	-	-	-	-	-	-	265	
	1	2018	Total	298	0	298														-	-	-	-	-	-	-	-	-	-	-	298	
	1	2019	NAVY	532	0	532																									532	
	1	2019	ARMY (‡)	780	0	780																									780	
	1	2019	Total	1,312	0	1,312																									1,312	
	1	2020	NAVY	699	0	699																									699	
	1	2020	ARMY (‡)	816	0	816																									816	
	1	2020	Total	1,515	0	1,515																									1,515	
	1	2021	NAVY	504	0	504																									504	
	1	2021	ARMY (‡)	804	0	804																									804	
	1	2021	Total	1,308	0	1,308																									1,308	
1.1.2) General Purpose (1)																																
	2	2015	NAVY	6	1	5	1	1	1	1	1	-	-	-	-	-	-														0	
	2	2015	ARMY (‡)	126	10	116	10	10	10	10	10	11	11	11	11	11	11															0
	2	2015	Total	132	11	121	11	11	11	11	11	11	11	11	11	11	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
	2	2016	NAVY	24	0	24	-	-	-	1	2	2	2	2	2	2	2	2	2	2	3											0
	2	2016	ARMY (‡)	377	0	377	-	-	-	31	31	31	31	31	31	31	32	32	32	32	32											0
	2	2016	Total	401	0	401	-	-	-	32	33	33	33	33	33	33	34	34	34	34	35	-	-	-	-	-	-	-	-	-	-	0
	2	2017	NAVY	10	0	10			A -	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	-	-	0	
	2	2017	ARMY (‡)	607	0	607			A -	-	-	-	-	-	-	-	-	-	50	50	50	50	50	51	51	51	51	51	51	51	0	
	2	2017	Total	617	0	617			-	-	-	-	-	-	-	-	-	-	51	51	51	51	51	52	52	52	52	52	51	51	0	
	2	2018	NAVY	115	0	115														A -	-	-	-	-	-	-	-	-	-	-	115	
	2	2018	ARMY (‡)	918	0	918														A -	-	-	-	-	-	-	-	-	-	-	918	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020																					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2										P-1 Line Item Number / Title: 5095 / Joint Light Tactical Vehicle										Item Number / Title [DODIC]: 1 / Joint Light Tactical Vehicle																					
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2017										Fiscal Year 2018														B A L A N C E										
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 6	BAL D U E A S O F 1 O C T	Calendar Year 2017										Calendar Year 2018																								
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P											
	2	2018	Total	1,033	0	1,033																									1,033										
	2	2019	NAVY	385	0	385																									385										
	2	2019	ARMY (‡)	2,184	0	2,184																									2,184										
	2	2019	Total	2,569	0	2,569																									2,569										
	2	2020	NAVY	402	0	402																									402										
	2	2020	ARMY (‡)	948	0	948																									948										
	2	2020	Total	1,350	0	1,350																									1,350										
	2	2021	NAVY	143	0	143																									143										
	2	2021	ARMY (‡)	636	0	636																									636										
	2	2021	Total	779	0	779																									779										
1.1.3) Close Combat Weapons Carrier																																									
	3	2016	NAVY	23	0	23	-	-	-	1	2	2	2	2	2	2	2	2	2	2													0								
	3	2016	ARMY (‡)	42	0	42	-	-	-	3	3	3	3	3	3	4	4	4	4	4													0								
	3	2016	Total	65	0	65	-	-	-	4	5	5	5	5	5	6	6	6	6	6	6	-	-	-	-	-	-	-	-	-	-	0									
	3	2017	NAVY	24	0	24			A -	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2	2	2	2	0										
	3	2017	ARMY (‡)	52	0	52			A -	-	-	-	-	-	-	-	-	-	4	4	4	4	4	4	4	4	5	5	5	5	0										
	3	2017	Total	76	0	76			-	-	-	-	-	-	-	-	-	-	6	6	6	6	6	6	6	6	7	7	7	7	0										
	3	2018	NAVY	88	0	88											A -												-	-	-	-	-	-	-	-	-	-	88		
	3	2019	NAVY	200	0	200																																			200
	3	2020	NAVY	16	0	16																																			16
	3	2021	NAVY	16	0	16																																			16
1.1.4) Utility																																									
	4	2016	NAVY	15	0	15	-	-	-	1	1	1	1	1	1	1	1	1	2	2	2													0							
	4	2016	ARMY (‡)	165	0	165	-	-	-	13	13	13	14	14	14	14	14	14	14	14													0								
	4	2016	Total	180	0	180	-	-	-	14	14	14	15	15	15	15	15	15	16	16	16	-	-	-	-	-	-	-	-	-	-	0									
	4	2017	NAVY	46	0	46			A -	-	-	-	-	-	-	-	-	-	3	3	4	4	4	4	4	4	4	4	4	4	0										
	4	2017	ARMY (‡)	649	0	649			A -	-	-	-	-	-	-	-	-	-	54	54	54	54	54	54	54	54	54	54	55	0											
	4	2017	Total	695	0	695			-	-	-	-	-	-	-	-	-	-	57	57	58	58	58	58	58	58	58	58	58	59	0										
	4	2018	NAVY	291	0	291											A -												-	-	-	-	-	-	-	-	-	-	291		
	4	2018	ARMY (‡)	803	0	803											A -												-	-	-	-	-	-	-	-	-	-	803		
	4	2018	Total	1,094	0	1,094											-												-	-	-	-	-	-	-	-	-	-	-	1,094	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P											

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Exhibit P-21, Production Schedule: PB 2021 Navy																			Date: February 2020																
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2							P-1 Line Item Number / Title: 5095 / Joint Light Tactical Vehicle													Item Number / Title [DODIC]: 1 / Joint Light Tactical Vehicle															
Cost Elements (Units in Each)							Fiscal Year 2017													Fiscal Year 2018													B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017													Calendar Year 2018															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
	4	2019	NAVY	525	0	525																													525
	4	2019	ARMY (‡)	612	0	612																													612
	4	2019	Total	1,137	0	1,137																													1,137
	4	2020	NAVY	147	0	147																													147
	4	2020	ARMY (‡)	444	0	444																													444
	4	2020	Total	591	0	591																													591
	4	2021	NAVY	89	0	89																													89
	4	2021	ARMY (‡)	480	0	480																													480
	4	2021	Total	569	0	569																													569
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2021 Navy																							Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity:										P-1 Line Item Number / Title:													Item Number / Title [DODIC]:														
1109N / 05 / 2										5095 / Joint Light Tactical Vehicle													1 / Joint Light Tactical Vehicle														
Cost Elements (Units in Each)							Fiscal Year 2019											Fiscal Year 2020														B A L A N C E					
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019																	Calendar Year 2020													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							
1.1.1) Heavy Guns Carrier																																					
	1	2016	NAVY	66	66	0																										0					
	1	2016	ARMY (‡)	69	69	0																										0					
	1	2016	Total	135	135	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0						
	1	2017	NAVY	132	132	0																										0					
	1	2017	ARMY (‡)	279	279	0																										0					
	1	2017	Total	411	411	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0						
	1	2018	NAVY	33	0	33	2	2	2	3	3	3	3	3	3	3	3												0								
	1	2018	ARMY (‡)	265	0	265	22	22	22	22	22	22	22	22	22	23												0									
	1	2018	Total	298	0	298	24	24	24	25	25	25	25	25	25	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0						
	1	2019	NAVY	532	0	532		A	-	-	-	-	-	-	-	-	44	44	44	44	44	44	44	44	45	45	45	45		0							
	1	2019	ARMY (‡)	780	0	780		A	-	-	-	-	-	-	-	-	65	65	65	65	65	65	65	65	65	65	65	65		0							
	1	2019	Total	1,312	0	1,312		-	-	-	-	-	-	-	-	-	109	109	109	109	109	109	109	109	110	110	110	110	-	0							
	1	2020	NAVY	699	0	699																		A	-	-	-	-	-	-	-	-	-	-	-	699	
	1	2020	ARMY (‡)	816	0	816																		A	-	-	-	-	-	-	-	-	-	-	-	-	816
	1	2020	Total	1,515	0	1,515																		-	-	-	-	-	-	-	-	-	-	-	-	-	1,515
	1	2021	NAVY	504	0	504																										504					
	1	2021	ARMY (‡)	804	0	804																										804					
	1	2021	Total	1,308	0	1,308																										1,308					
1.1.2) General Purpose ⁽¹⁾																																					
	2	2015	NAVY	6	6	0																										0					
	2	2015	ARMY (‡)	126	126	0																										0					
	2	2015	Total	132	132	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0						
	2	2016	NAVY	24	24	0																										0					
	2	2016	ARMY (‡)	377	377	0																										0					
	2	2016	Total	401	401	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0						
	2	2017	NAVY	10	10	0																										0					
	2	2017	ARMY (‡)	607	607	0																										0					
	2	2017	Total	617	617	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0						
	2	2018	NAVY	115	0	115	9	9	9	9	9	10	10	10	10	10	10												0								
	2	2018	ARMY (‡)	918	0	918	76	76	76	76	76	76	77	77	77	77	77												0								
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							

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Exhibit P-21, Production Schedule: PB 2021 Navy																			Date: February 2020																
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2							P-1 Line Item Number / Title: 5095 / Joint Light Tactical Vehicle												Item Number / Title [DODIC]: 1 / Joint Light Tactical Vehicle																
Cost Elements (Units in Each)							Fiscal Year 2019										Fiscal Year 2020										BALANCE								
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019										Calendar Year 2020																		
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY		JUN	JUL	AUG	SEP				
	2	2018	Total	1,033	0	1,033	85	85	85	85	85	86	87	87	87	87	87	-	-	-	-	-	-	-	-	-	-	-	-	0					
	2	2019	NAVY	385	0	385		A -	-	-	-	-	-	-	-	-	32	32	32	32	32	32	32	32	32	32	33		0						
	2	2019	ARMY (‡)	2,184	0	2,184		A -	-	-	-	-	-	-	-	-	182	182	182	182	182	182	182	182	182	182	182		0						
	2	2019	Total	2,569	0	2,569		-	-	-	-	-	-	-	-	-	214	214	214	214	214	214	214	214	214	214	215	-	0						
	2	2020	NAVY	402	0	402												A -	-	-	-	-	-	-	-	-	-	-	-	-	402				
	2	2020	ARMY (‡)	948	0	948												A -	-	-	-	-	-	-	-	-	-	-	-	-	948				
	2	2020	Total	1,350	0	1,350												-	-	-	-	-	-	-	-	-	-	-	-	-	1,350				
	2	2021	NAVY	143	0	143																													143
	2	2021	ARMY (‡)	636	0	636																													636
	2	2021	Total	779	0	779																													779
1.1.3) Close Combat Weapons Carrier																																			
	3	2016	NAVY	23	23	0																										0			
	3	2016	ARMY (‡)	42	42	0																										0			
	3	2016	Total	65	65	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0						
	3	2017	NAVY	24	24	0																										0			
	3	2017	ARMY (‡)	52	52	0																										0			
	3	2017	Total	76	76	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0						
	3	2018	NAVY	88	0	88	7	7	7	7	7	7	7	7	8	8	8	8											0						
	3	2019	NAVY	200	0	200		A -	-	-	-	-	-	-	-	-	17	17	17	17	17	17	17	17	16	16	16	16		0					
	3	2020	NAVY	16	0	16												A -	-	-	-	-	-	-	-	-	-	-	-	-	16				
	3	2021	NAVY	16	0	16																										16			
1.1.4) Utility																																			
	4	2016	NAVY	15	15	0																										0			
	4	2016	ARMY (‡)	165	165	0																										0			
	4	2016	Total	180	180	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0						
	4	2017	NAVY	46	46	0																										0			
	4	2017	ARMY (‡)	649	649	0																										0			
	4	2017	Total	695	695	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0						
	4	2018	NAVY	291	0	291	24	24	24	24	24	24	24	24	25	25	25											0							
	4	2018	ARMY (‡)	803	0	803	66	67	67	67	67	67	67	67	67	67	67											0							
	4	2018	Total	1,094	0	1,094	90	91	91	91	91	91	91	91	91	92	92	92	-	-	-	-	-	-	-	-	-	-	0						
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					

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Exhibit P-21, Production Schedule: PB 2021 Navy																			Date: February 2020															
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2							P-1 Line Item Number / Title: 5095 / Joint Light Tactical Vehicle												Item Number / Title [DODIC]: 1 / Joint Light Tactical Vehicle															
Cost Elements (Units in Each)							Fiscal Year 2019												Fiscal Year 2020												B A L A N C E			
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019												Calendar Year 2020															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				
	4	2019	NAVY	525	0	525		A -	-	-	-	-	-	-	-	-	43	43	43	44	44	44	44	44	44	44	44	44		0				
	4	2019	ARMY (‡)	612	0	612		A -	-	-	-	-	-	-	-	-	51	51	51	51	51	51	51	51	51	51	51	51		0				
	4	2019	Total	1,137	0	1,137		-	-	-	-	-	-	-	-	-	94	94	94	95	95	95	95	95	95	95	95	-	0					
	4	2020	NAVY	147	0	147																A -	-	-	-	-	-	-	-	-	-	-	-	147
	4	2020	ARMY (‡)	444	0	444																A -	-	-	-	-	-	-	-	-	-	-	-	444
	4	2020	Total	591	0	591																-	-	-	-	-	-	-	-	-	-	-	-	591
	4	2021	NAVY	89	0	89																					89							
	4	2021	ARMY (‡)	480	0	480																					480							
	4	2021	Total	569	0	569																					569							
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2										P-1 Line Item Number / Title: 5095 / Joint Light Tactical Vehicle										Item Number / Title [DODIC]: 1 / Joint Light Tactical Vehicle														
Cost Elements (Units in Each)							Fiscal Year 2021										Fiscal Year 2022														BALANCE			
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT				Calendar Year 2021										Calendar Year 2022														
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				
1.1.1) Heavy Guns Carrier																																		
	1	2016	NAVY	66	66	0																											0	
	1	2016	ARMY (‡)	69	69	0																											0	
	1	2016	Total	135	135	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
	1	2017	NAVY	132	132	0																											0	
	1	2017	ARMY (‡)	279	279	0																											0	
	1	2017	Total	411	411	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
	1	2018	NAVY	33	33	0																											0	
	1	2018	ARMY (‡)	265	265	0																											0	
	1	2018	Total	298	298	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
	1	2019	NAVY	532	532	0																											0	
	1	2019	ARMY (‡)	780	780	0																											0	
	1	2019	Total	1,312	1,312	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
	1	2020	NAVY	699	0	699	58	58	58	58	58	58	58	58	58	59	59	59															0	
	1	2020	ARMY (‡)	816	0	816	68	68	68	68	68	68	68	68	68	68	68	68															0	
	1	2020	Total	1,515	0	1,515	126	126	126	126	126	126	126	126	126	127	127	127	-	-	-	-	-	-	-	-	-	-	-	-	-	0		
	1	2021	NAVY	504	0	504	A -			-	-	-	-	-	-	-	-	-	42	42	42	42	42	42	42	42	42	42	42	42	0			
	1	2021	ARMY (‡)	804	0	804	A -			-	-	-	-	-	-	-	-	-	67	67	67	67	67	67	67	67	67	67	67	67	0			
	1	2021	Total	1,308	0	1,308				-	-	-	-	-	-	-	-	109	109	109	109	109	109	109	109	109	109	109	109	109	0			
1.1.2) General Purpose (1)																																		
	2	2015	NAVY	6	6	0																											0	
	2	2015	ARMY (‡)	126	126	0																											0	
	2	2015	Total	132	132	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
	2	2016	NAVY	24	24	0																											0	
	2	2016	ARMY (‡)	377	377	0																											0	
	2	2016	Total	401	401	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
	2	2017	NAVY	10	10	0																											0	
	2	2017	ARMY (‡)	607	607	0																											0	
	2	2017	Total	617	617	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
	2	2018	NAVY	115	115	0																											0	
	2	2018	ARMY (‡)	918	918	0																											0	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				

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Exhibit P-21, Production Schedule: PB 2021 Navy																		Date: February 2020																	
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2							P-1 Line Item Number / Title: 5095 / Joint Light Tactical Vehicle											Item Number / Title [DODIC]: 1 / Joint Light Tactical Vehicle																	
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2021											Fiscal Year 2022													BALANCE				
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021											Calendar Year 2022																	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					
2	2018		Total	1,033	1,033	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0					
2	2019		NAVY	385	385	0																													0
	2	2019	ARMY ^(‡)	2,184	2,184	0																													0
	2	2019	Total	2,569	2,569	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0					
2	2020		NAVY	402	0	402	33	33	33	33	33	33	34	34	34	34	34											0							
2	2020		ARMY ^(‡)	948	0	948	79	79	79	79	79	79	79	79	79	79											0								
	2	2020	Total	1,350	0	1,350	112	112	112	112	112	112	113	113	113	113	-	-	-	-	-	-	-	-	-	-	-	-	-	0					
2	2021		NAVY	143	0	143			A	-	-	-	-	-	-	-	-	11	12	12	12	12	12	12	12	12	12	12	12	0					
2	2021		ARMY ^(‡)	636	0	636			A	-	-	-	-	-	-	-	-	53	53	53	53	53	53	53	53	53	53	53	53	0					
	2	2021	Total	779	0	779			-	-	-	-	-	-	-	-	-	64	65	65	65	65	65	65	65	65	65	65	65	0					
1.1.3) Close Combat Weapons Carrier																																			
	3	2016	NAVY	23	23	0																													0
	3	2016	ARMY ^(‡)	42	42	0																													0
	3	2016	Total	65	65	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0					
	3	2017	NAVY	24	24	0																													0
	3	2017	ARMY ^(‡)	52	52	0																													0
	3	2017	Total	76	76	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0					
	3	2018	NAVY	88	88	0																													0
	3	2019	NAVY	200	200	0																													0
	3	2020	NAVY	16	0	16	1	1	1	1	1	1	1	1	2	2	2	2													0				
	3	2021	NAVY	16	0	16			A	-	-	-	-	-	-	-	-	1	1	1	1	1	2	2	2	2	1	1	1	0					
1.1.4) Utility																																			
	4	2016	NAVY	15	15	0																													0
	4	2016	ARMY ^(‡)	165	165	0																													0
	4	2016	Total	180	180	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0					
	4	2017	NAVY	46	46	0																													0
	4	2017	ARMY ^(‡)	649	649	0																													0
	4	2017	Total	695	695	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0					
	4	2018	NAVY	291	291	0																													0
	4	2018	ARMY ^(‡)	803	803	0																													0
	4	2018	Total	1,094	1,094	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0					
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					

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Exhibit P-21, Production Schedule: PB 2021 Navy																		Date: February 2020																	
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2							P-1 Line Item Number / Title: 5095 / Joint Light Tactical Vehicle											Item Number / Title [DODIC]: 1 / Joint Light Tactical Vehicle																	
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2021											Fiscal Year 2022											BALANCE						
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021											Calendar Year 2022																	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL		AUG	SEP				
	4	2019	NAVY	525	525	0																													0
	4	2019	ARMY (‡)	612	612	0																													0
	4	2019	Total	1,137	1,137	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0					
	4	2020	NAVY	147	0	147	12	12	12	12	12	12	12	12	13	13	13												0						
	4	2020	ARMY (‡)	444	0	444	37	37	37	37	37	37	37	37	37	37	37												0						
	4	2020	Total	591	0	591	49	49	49	49	49	49	49	49	50	50	50	-	-	-	-	-	-	-	-	-	-	-	-	0					
	4	2021	NAVY	89	0	89			A -	-	-	-	-	-	-	-	-	7	7	7	8	8	8	8	8	8	7	7	7	7	0				
	4	2021	ARMY (‡)	480	0	480			A -	-	-	-	-	-	-	-	-	40	40	40	40	40	40	40	40	40	40	40	40	0					
	4	2021	Total	569	0	569			-	-	-	-	-	-	-	-	-	47	47	47	48	48	48	48	48	48	47	47	47	47	0				
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					

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Exhibit P-21, Production Schedule: PB 2021 Navy								Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2				P-1 Line Item Number / Title: 5095 / Joint Light Tactical Vehicle					Item Number / Title [DODIC]: 1 / Joint Light Tactical Vehicle		

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Oshkosh Defense LLC - Oshkosh, WI	12	696	2,820	0	10	10	20	0	3	10	13
2	Oshkosh Defense LLC ⁽¹⁰⁾ - Oshkosh WI	12	696	2,820	0	10	10	20	0	3	10	13
3	Oshkosh Defense LLC - Oshkosh, WI	12	696	2,820	0	10	10	20	0	3	10	13
4	Oshkosh Defense LLC - Oshkosh, WI	12	696	2,820	0	10	10	20	0	3	10	13

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

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

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

Footnotes:

⁽¹⁰⁾ MS C and contract award occurred on 25 August 2015. Production rates for the JLTV variants are shown as annual rates.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 05: Support Vehicles / BSA 2: Tactical Vehicles							P-1 Line Item Number / Title: 5097 / Family of Tactical Trailers					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0206624M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	151.324	2.493	2.693	2.963	0.000	2.963	9.673	3.280	3.346	3.413	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	151.324	2.493	2.693	2.963	0.000	2.963	9.673	3.280	3.346	3.413	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	151.324	2.493	2.693	2.963	0.000	2.963	9.673	3.280	3.346	3.413	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description:												
The Family of Trailers and Ancillary Equipment (FT&AE) encompasses equipment upgrades and changes made to fielded trailers.												
Family of Tactical Trailers primarily provides for the procurement and support of trailers in the medium and heavy fleet to enhance Marine Corps tactical vehicle mobility capability. This program primarily supports various medium and heavy trailers as well as light, to include the M1076 PLS (Palletized Load System) Trailer, the MK1077 Flatrack for the PLS Trailer and Logistics Vehicle System Replacement (LVSr); MK593 Medium Tactical Vehicle Replacement (MTVR) Trailer; M870 40/50 Ton Low Bed, MK970 Tactical Refueler, M149A2 400 Gallon Water Tank Trailer, MK38 High Mobility Artillery Rocket System (HIMARS) Re-Supply Trailer, MK970 5,000 Gallon Semitrailer, and the Flatrack Refueler Capability (FRC).												
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025		
Navy	Quantity	-	-	-	-	-	-	-	-	-		
	Total Obligation Authority	1.825	2.010	2.265	-	2.265	8.961	2.553	2.604	2.656		
NR	Quantity	-	-	-	-	-	-	-	-	-		
	Total Obligation Authority	0.668	0.683	0.698	-	0.698	0.712	0.727	0.742	0.757		
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-		
	Total Obligation Authority	2.493	2.693	2.963	-	2.963	9.673	3.280	3.346	3.413		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 05: Support Vehicles / BSA 2: Tactical Vehicles						P-1 Line Item Number / Title: 5097 / Family of Tactical Trailers				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206624M				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Family of Tactical Trailers				- / 151.324	- / 2.493	- / 2.693	- / 2.963	- / -	- / 2.963
P-40	Total Gross/Weapon System Cost				- / 151.324	- / 2.493	- / 2.693	- / 2.963	- / 0.000	- / 2.963
*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: FY 2019: \$2.493M (\$1.825 Active; \$0.668M Reserve) Funds in the amount of \$2.493M supported procurement and installation of safety and performance Engineering Change Proposals (ECPs) to modify the Medium and Heavy Tactical Trailer fleet of vehicles, including the Palletized Load System Trailer (PLST), M870 (40 & 50 ton trailers), MK1077 (Flatrack), MK970, MTVR MK593 Trailer and Flatrack Refueling Capability (FRC) to enable the operating forces to tow required bulk and liquid cargo within the mission profile of the MTVR and LVSR prime movers. FY 2020: \$2.693M (\$2.010M Active; \$0.683M Reserve) Funds in the amount of \$2.693M supports procurement and installation of safety and performance Engineering Change Proposals (ECPs) to modify the Medium and Heavy Tactical Trailer Fleets, including the Palletized Load System Trailer (PLST), M870 (40 & 50 ton trailers), MK1077 (Flatrack), MK970, MTVR MK593 Trailer and Flatrack Refueling Capability (FRC). Many of these trailer systems were procured prior to or separate of the MTVR and LVSR, do not match the off-road capabilities of those prime movers, but can be improved with modification. Funding also supports procuring various ECPs, such as those addressing corrosion and safety changes by incorporating drain holes, corrosion resistant materials, and improved safety chains. FY 2021 Base Appropriation Request: \$2.963M (\$2.265M Active; \$0.698M Reserve) Funds in the amount of \$2.963M will support procurement and installation of safety and performance Engineering Change Proposals (ECPs) to modify the Medium and Heavy Tactical Trailer Fleets, including the Palletized Load System Trailer (PLST), M870 (40 & 50 ton trailers), MK1077 (Flatrack), MK970, MTVR MK593 Trailer and Flatrack Refueling Capability (FRC). Many of these trailer systems were procured prior to or separate of the MTVR and LVSR, do not match the off-road capabilities of those prime movers, but can be improved with modification. Funding will also support procuring various ECPs, such as those addressing corrosion and safety changes by incorporating drain holes, corrosion resistant materials, and improved safety chains. Modifications can span multiple years to outfit a fleet, such as the ECP for the M870, which began in FY19 and will take five (5) years to complete upgrades to all M870 trailers. The increase in funding of \$0.270M from FY 2020 to FY 2021 reflects a reprioritization by the Marine Corps towards these modification efforts, particularly for an ECP to address ground clearance issues for the M870 Heavy Lift trailer. The ECPs will provide the M870 with improved off-road mobility and increased reliability.										

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2						P-1 Line Item Number / Title: 5097 / Family of Tactical Trailers									Aggregated Items Title: Family of Tactical Trailers					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
1) Family of Tactical Trailers (FTT)																				
1.1) Heavy Trailer (ECP) ⁽¹⁾			-	-	5.345	-	-	1.309	-	-	1.138	-	-	1.573	-	-	-	-	-	1.573
1.2) Medium Trailer (ECP) ⁽²⁾			-	-	1.648	-	-	0.516	-	-	0.872	-	-	0.692	-	-	-	-	-	0.692
1.3) Family of Tactical Trailer Modification-Reserves ⁽³⁾	A		-	-	2.570	-	-	0.668	-	-	0.683	-	-	0.698	-	-	-	-	-	0.698
1.4) Prior Year Cum Funding	A		-	-	46.854	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 1) Family of Tactical Trailers (FTT)			-	-	56.417	-	-	2.493	-	-	2.693	-	-	2.963	-	-	-	-	-	2.963
2) MTRV Trailer																				
2.1) Prior Year Cum Funding	A		-	-	94.907	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 2) MTRV Trailer			-	-	94.907	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	151.324	-	-	2.493	-	-	2.693	-	-	2.963	-	-	-	-	-	2.963

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

Footnotes:

- ⁽¹⁾ FY20 to FY21 increase of \$0.435M will fund additional ECP's, such as those for resolving trailer ground clearance deficiencies for M870. Based on available funding, the M870 ground clearance ECP is projected to be a 5 year procurement beginning in 4th Quarter FY19.
- ⁽²⁾ FY20 to FY21 decrease of \$0.180M is due to funds redirected to higher Service priorities.
- ⁽³⁾ FY20 to FY21 increase of \$0.015M will fund additional ECP's, such as those for resolving trailer ground clearance deficiencies for the M870.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 05: Support Vehicles / BSA 2: Tactical Vehicles							P-1 Line Item Number / Title: 5132 / Trailers					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	0.000	14.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	14.000
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	0.000	14.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	14.000
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	0.000	14.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	14.000
<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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: Funding is for unfunded priority requirement as part of the Hurricane Florence and Michael recovery efforts for trailers which includes temporary facilities such as interim relocatable trailers and temporary shelters.												

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 05: Support Vehicles / BSA 2: Tactical Vehicles						P-1 Line Item Number / Title: 5132 / Trailers				
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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Trailers	P-5a, P-21			- / 0.000	- / -	- / 14.000	- / -	- / -	- / -
P-40	Total Gross/Weapon System Cost				- / 0.000	- / 0.000	- / 14.000	- / 0.000	- / 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. 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:

OCO:

FY 2020 Funding in the amount of \$14.000M will replace sprung shelters destroyed at Marine Corps Logistics Base, Albany, GA as part of the disaster recovery efforts for Hurricanes Michael and Florence. Processing and Storing Military Equipment in a climate controlled environment has proven to be cost effective in maintaining equipment for long term storage. This interim relocatable facility will be used as a storage bridge solution for 5-7 years until MILCON permanent facilities are procured and constructed.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2						P-1 Line Item Number / Title: 5132 / Trailers						Aggregated Items Title: Trailers								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
1) Trailers																				
1) Sprung Shelter ^(†)		A	-	-	-	-	-	-	14,000K	1	14.000	-	-	-	-	-	-	-	-	-
Subtotal: 1) Trailers			-	-	0.000	-	-	-	-	-	14.000	-	-	-	-	-	-	-	-	-
Total			-	-	0.000	-	-	-	-	-	14.000	-	-	-	-	-	-	-	-	-

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

(†) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2				P-1 Line Item Number / Title: 5132 / Trailers					Aggregated Items: Trailers			
Item Number / Title [DODIC]	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
1) Trailers												
1) Sprung Shelter ^(†)		2020	BIG TOP / Perry, FL	C / TBD	DLA, Philadelphia, PA	Apr 2020	Aug 2020	1	14,000K	N		

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2										P-1 Line Item Number / Title: 5132 / Trailers										Aggregated Items: Trailers														
Items <i>(Units in Each)</i>							Fiscal Year 2020										Fiscal Year 2021														BALANCE			
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020										Calendar Year 2021																	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				
1) Trailers																																		
1) Sprung Shelter																																		
	40	2020	NAVY		1	0	1							A	-	-	-	-	1															0
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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Exhibit P-21, Production Schedule: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 05 / 2					P-1 Line Item Number / Title: 5132 / Trailers				Aggregated Items: Trailers			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	BIG TOP - Perry, FL			1	0	0	4	4	0	0	0	0

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

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

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

Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 1: Engineer and Other Equipment	P-1 Line Item Number / Title: 6054 / Env Cntrl Equip Assorted

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206624M

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	88.785	0.595	0.495	0.385	0.000	0.385	2.968	3.431	3.500	6.070	-	106.229
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	88.785	0.595	0.495	0.385	0.000	0.385	2.968	3.431	3.500	6.070	-	106.229
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	88.785	0.595	0.495	0.385	0.000	0.385	2.968	3.431	3.500	6.070	-	106.229
(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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Environmental Control Equipment:

The Family of Environmental Control Equipment (ECE) consists of Environmental Control Units (ECU), Field Refrigeration Systems (FRS), and Cooling and Refrigeration Expeditionary Tool Kits (CREK). These systems provide required heating, cooling, storage, and servicing for systems throughout the Marine Corps. Current efforts seek to replace all legacy ECE with systems of higher reliability and higher efficiency using Environmental Protection Agency (EPA) approved refrigerants, which offer more energy efficiency, enhanced mobility, are easier to repair, and quieter than their predecessors. With environmental control systems consuming 50-70% of tactical electric power in theater, these savings will be a significant contribution to reducing the USMC fuel demand, and lightening the Marine Air-Ground Task Force (MAGTF). The Warfighter benefit includes a decreased logistics footprint, less reliance on petroleum-derived fuels, increased local energy security, and reduced tanker losses (fewer on the road). The operational imperative to reduce fuel usage will consequently reduce refueling operations and exposing Marines to hazardous fuel convoy operations.

Efforts include the procurement of the following principal end items and ancillary equipment:

- (1) Additional 60,000 BTU/hr ECUs to sustain Authorized Acquisition Objective (AAO) due to the disposition of ECU variants utilizing R-22 refrigerant, which has been banned by the EPA.
- (2) Small Field Refrigeration Systems (SFRS) replacement. This effort seeks to replace legacy SFRSs to comply with restricting EPA regulations while increasing efficiency, thus reducing overall power requirements/demands.

Inflatable Maritime Structures:

A fuel bladder designed for autonomous movement under the water's surface that will increase operational persistence and flexibility for distributed operations in contested and uncertain environments, while increasing sustainability, survivability, and maneuverability.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Navy	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.595	0.377	0.274	-	0.274	0.002	0.404	0.412	2.920
NR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	0.118	0.111	-	0.111	2.966	3.027	3.088	3.150
Total:	Quantity	-	-	-	-	-	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 1: Engineer and Other Equipment					P-1 Line Item Number / Title: 6054 / Env Cntrl Equip Assorted					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206624M				
Line Item MDAP/MAIS Code: N/A										
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Secondary Distribution	Total Obligation Authority	0.595	0.495	0.385	-	0.385	2.968	3.431	3.500	6.070

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 1: Engineer and Other Equipment						P-1 Line Item Number / Title: 6054 / Env Cntrl Equip Assorted				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A			Other Related Program Elements: 0206624M			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Env Cntrl Equip Assorted	P-5a, P-21			- / 88.785	- / 0.595	- / 0.495	- / 0.385	- / 0.000	- / 0.385
P-40	Total Gross/Weapon System Cost				- / 88.785	- / 0.595	- / 0.495	- / 0.385	- / 0.000	- / 0.385
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
Justification: FY 2019: \$0.595M (ACTIVE: \$0.595M/RESERVE: \$0.000M) Funds purchased 5-Ton 60,000 BTU/hr ECUs as a result of the disposition of ECU variants utilizing R-22 refrigerant which is banned by the United States Environmental Protection Agency (EPA). FY 2020: \$0.495M (ACTIVE: \$0.377M/RESERVE: \$0.118M) Funds purchase 60,000 BTU/hr ECUs due to an increase in the Authorized Acquisition Objective (AAO). The AAO increase is a result of the disposition of ECU variants utilizing R-22 refrigerant which is banned by the United States Environmental Protection Agency (EPA). FY 2021 Base Appropriation Request: \$0.385M (ACTIVE: \$0.274M/RESERVE: \$0.111M) Funds will continue purchasing 5-Ton 60,000 BTU/hr ECUs as a result of the disposition of ECU variants utilizing R-22 refrigerant which is banned by the United States Environmental Protection Agency (EPA). Funding decreased from FY20 to FY21 by \$0.110M due to this line item has been reprioritized while ensuring the Marine Corps continues to evolve toward a Force that is aligned with the National Defense Strategy. OCO: FY 2019 Overseas Contingency Operations (OCO) Request: N/A FY 2020 Overseas Contingency Operations (OCO) Request: N/A FY 2021 Overseas Contingency Operations (OCO) Request: N/A										

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Exhibit P-5, Cost Analysis: PB 2021 Navy													Date: February 2020								
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 1							P-1 Line Item Number / Title: 6054 / Env Cntrl Equip Assorted						Item Number / Title [DODIC]: 1 / Env Cntrl Equip Assorted								
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
Procurement Quantity <i>(Units in Each)</i>				-			-			-			-			-			-		
Gross/Weapon System Cost <i>(\$ in Millions)</i>				88.785			0.595			0.495			0.385			0.000			0.385		
Less PY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Net Procurement (P-1) <i>(\$ in Millions)</i>				88.785			0.595			0.495			0.385			0.000			0.385		
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-			-			-			-			-			-		
Total Obligation Authority <i>(\$ in Millions)</i>				88.785			0.595			0.495			0.385			0.000			0.385		
(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 Dollars)</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 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 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)			
Flyaway Cost																					
Recurring Cost																					
1.1.3) 5-Ton Environmental Control Units (ECUs) ^(†)	20,544.12	68	1.397	20,517.24	29	0.595	-	-	-	21,076.00	13	0.274	-	-	-	21,076.00	13	0.274			
1.1.4) 5-Ton Environmental Control Units (ECUs) Reserves ^(†)	-	-	-	-	-	-	-	-	-	21,076.00	5	0.105	-	-	-	21,076.00	5	0.105			
Subtotal: Recurring Cost	-	-	1.397	-	-	0.595	-	-	-	-	-	0.379	-	-	-	-	-	0.379			
Subtotal: Flyaway Cost	-	-	1.397	-	-	0.595	-	-	-	-	-	0.379	-	-	-	-	-	0.379			
Support Cost																					
2.1) Warranties, ILS/CLS Support	-	-	7.673	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
2.2) Environmental Control Equipment Assorted Reserves	-	-	9.569	-	-	-	-	-	0.118	-	-	0.006	-	-	-	-	-	0.006			
2.3) Environmental Control Equipment Assorted	-	-	-	-	-	-	-	-	0.377	-	-	-	-	-	-	-	-	-			
2.4) Prior Year Cum Funding	-	-	70.146	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Subtotal: Support Cost	-	-	87.388	-	-	-	-	-	0.495	-	-	0.006	-	-	-	-	-	0.006			
Gross/Weapon System Cost	-	-	88.785	-	-	0.595	-	-	0.495	-	-	0.385	-	-	0.000	-	-	0.385			

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Exhibit P-5, Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 1	P-1 Line Item Number / Title: 6054 / Env Cntrl Equip Assorted	Item Number / Title [DODIC]: 1 / Env Cntrl Equip Assorted
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
(†) indicates the presence of a P-5a		

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy								Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 1				P-1 Line Item Number / Title: 6054 / Env Cntrl Equip Assorted				Item Number / Title [DODIC]: 1 / Env Cntrl Equip Assorted			

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.3) 5-Ton Environmental Control Units (ECUs) ^(†)		2019	HDT Expeditionary Systems, Inc. / Solon, OH	SS / BPA	Quantico, VA	Feb 2019	Aug 2019	29	20,517.24	Y		
1.1.3) 5-Ton Environmental Control Units (ECUs) ^(†)		2021	HDT Expeditionary Systems, Inc. / Solon, OH	SS / BPA	Quantico, VA	Feb 2021	Aug 2021	13	21,076.00	Y		
1.1.4) 5-Ton Environmental Control Units (ECUs) Reserves ^(†)		2021	HDT Expeditionary Systems, Inc. / Solon, OH	SS / BPA	Quantico, VA	Feb 2021	Aug 2021	5	21,076.00	Y		

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020															
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 1										P-1 Line Item Number / Title: 6054 / Env Cntrl Equip Assorted										Item Number / Title [DODIC]: 1 / Env Cntrl Equip Assorted															
Cost Elements (Units in Each)							Fiscal Year 2019													Fiscal Year 2020													B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019													Calendar Year 2020															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
1.1.3) 5-Ton Environmental Control Units (ECUs)																																			
Prior Years Deliveries: 68																																			
	1	2019	NAVY	29	0	29						A	-	-	-	-	-	-	29																0
	1	2021	NAVY	13	0	13																													13
1.1.4) 5-Ton Environmental Control Units (ECUs) Reserves																																			
	2	2021	NAVY	5	0	5																												5	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2021 Navy																				Date: February 2020																			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 1										P-1 Line Item Number / Title: 6054 / Env Cntrl Equip Assorted										Item Number / Title [DODIC]: 1 / Env Cntrl Equip Assorted																			
Cost Elements <i>(Units in Each)</i>								Fiscal Year 2021												Fiscal Year 2022												BALANCE							
OCO	MFR#	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021												Calendar Year 2022																				
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP									
1.1.3) 5-Ton Environmental Control Units (ECUs)																																							
Prior Years Deliveries: 68																																							
	1	2019	NAVY	29	29	0																												0					
	1	2021	NAVY	13	0	13											A -	-	-	-	-	-	13											0					
1.1.4) 5-Ton Environmental Control Units (ECUs) Reserves																																							
	2	2021	NAVY	5	0	5											A -	-	-	-	-	-	5																0
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP									

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Exhibit P-21, Production Schedule: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 1					P-1 Line Item Number / Title: 6054 / Env Cntrl Equip Assorted				Item Number / Title [DODIC]: 1 / Env Cntrl Equip Assorted			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	HDT Expeditionary Systems, Inc. - Solon, OH			TBD	0	0	6	6	0	0	6	6
2	HDT Expeditionary Systems, Inc. - Solon, OH			TBD	0	0	6	6	0	0	6	6

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

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

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

Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 1: Engineer and Other Equipment	P-1 Line Item Number / Title: 6277 / Tactical Fuel Systems

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

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	336.581	0.054	0.052	0.501	0.000	0.501	1.145	6.245	14.491	24.561	-	383.630
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	336.581	0.054	0.052	0.501	0.000	0.501	1.145	6.245	14.491	24.561	-	383.630
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	336.581	0.054	0.052	0.501	0.000	0.501	1.145	6.245	14.491	24.561	-	383.630

(The following Resource Summary 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:

Family of Expeditionary Fuel Systems (FEFS) is a family of systems line that contains highly versatile fuel systems designed to receive, test, store, transfer and dispense fuel in support of Marine Air Ground Tactical Force (MAGTF) operations. The family contains individual Table of Allowance Material Control Numbers which support MAGTF operations by providing all aspects of land-based fuel support to include analysis, receipt, storage, transfer and dispensing including all various components.

The future operating environment requires the ability to provide bulk fuel systems that are capable of rapid emplacement and displacement with the right amount of storage capacity and flow rate. The Helicopter Expedient Refueling System (HERS) legacy systems have insufficient capacity, mobility and dispensing rates and therefore do not support Marine Corps Operating Concept (MOC), Littoral Operations in Contested Environments (LOCE), and Expeditionary Advance Base Operations (EABO). The Tactical Air Ground Refueling System (TAGRS) will be a replacement of the HERS. The Expeditionary Mobile Fuel Additive Capability (EMFAC) provides the capability to inject additives for accommodating foraged fuel. The Petroleum Expeditionary Analysis Kit (PEAK) provides testing capability of local fuel sources. The Portable Fuel Analyzer (PFA) provides the capability for any MOS, particularly Infantry or SOF, to test captured fuel on the forward edge of the battlefield which can then be used to extend convoys and possibly refuel aircraft.

This line also supports the Tactical Airfield Fuel Distribution System (TAFDS), Amphibious Assault Fuel System (AAFS), SIXCON Fuel Storage and Pump Module, Fire Suppression System (FSS), Expedient Refueling System (ERS), Ground Refueling System (GERS) (small and medium), 600 Gallons Per Minute (GPM) Fuel Pump Assembly, 150 GPM Fuel Pump Assembly, Hose Reel System - Fuel (HRS-F), Berm Liners, Tanks/Pods (500 Gallon to 50K), Petroleum Quality Analysis System-Enhanced as well as various elastomeric fuel systems components and equipment. Procurement supports centrally managed items with lifecycles, preplanned product improvements, and obsolescence mitigation via newer components and subsystems supported by industry. Procurement also supports repacking current systems into smaller modular packages for scalability and mission tailoring which may require additional subsystems for certain packages to be complete as new TAMCNs and tables of allowances are authorized.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Navy	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	0.052	0.501	-	0.501	1.145	6.245	14.491	24.561
NR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.054	-	-	-	-	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 1: Engineer and Other Equipment					P-1 Line Item Number / Title: 6277 / Tactical Fuel Systems					
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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	0.054	0.052	0.501	-	0.501	1.145	6.245	14.491	24.561

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 1: Engineer and Other Equipment						P-1 Line Item Number / Title: 6277 / Tactical Fuel Systems				
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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Tactical Fuel Systems				- / 336.581	- / 0.054	- / 0.052	- / 0.501	- / 0.000	- / 0.501
P-40	Total Gross/Weapon System Cost				- / 336.581	- / 0.054	- / 0.052	- / 0.501	- / 0.000	- / 0.501
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
Justification: FY 2019: \$0.054M (Reserve: \$0.054M) Family of Expeditionary Fuel Systems funds purchased various centrally managed Fuel Components (Fuel Pods and 3K/20K/50K), Digital Free Water Detectors (DFWD) (replacing legacy Combined Contaminated Fuel Detector (CCFDs)), Solar Pulse Chargers, and a critical 600 GPM Engineering Change Proposal (ECP). FY 2020: \$0.052M (Active: \$0.052M) Family of Expeditionary Fuel Systems funds purchase various Collapsible Fabric Tanks. FY 2021 Base Appropriation Request: \$0.501M (Active: \$0.501M) The increase from FY20 to FY21 of \$0.449M will procure various Family of Expeditionary Fuel Systems and Equipment such as Expeditionary Fuel Systems (Small/Medium/Large), Tactical Air Ground Refueling System (TAGRS), Petroleum Expeditionary Analysis Kit (PEAK), Expeditionary Mobile Fuel Additization Capability (EMFAC) and Portable Fuel Analyzer (PFA).										

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Exhibit P-5, Cost Analysis: PB 2021 Navy												Date: February 2020						
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 1						P-1 Line Item Number / Title: 6277 / Tactical Fuel Systems						Item Number / Title [DODIC]: 1 / Tactical Fuel Systems						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				336.581		0.054		0.052		0.501		0.000		0.501				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				336.581		0.054		0.052		0.501		0.000		0.501				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				336.581		0.054		0.052		0.501		0.000		0.501				
(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 Dollars)</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 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 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)
Flyaway Cost																		
Recurring Cost																		
1.1.1) Fuel System Components and Equipment (ACTIVE) (1)	-	-	0.677	-	-	-	-	-	0.052	-	-	0.501	-	-	-	-	-	0.501
1.1.2) Fuel System Components and Equipment (RESERVES)	-	-	0.886	-	-	0.054	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	1.563	-	-	0.054	-	-	0.052	-	-	0.501	-	-	-	-	-	0.501
Subtotal: Flyaway Cost	-	-	1.563	-	-	0.054	-	-	0.052	-	-	0.501	-	-	-	-	-	0.501
Support - Support Cost																		
2.1) Integrated Logistics Support (ACTIVE)	-	-	0.294	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.2) Integrated Logistics Support (RESERVES)	-	-	1.065	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.3) Prior Years Cumulative Funding	-	-	333.659	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - Support Cost	-	-	335.018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	336.581	-	-	0.054	-	-	0.052	-	-	0.501	-	-	0.000	-	-	0.501
Footnotes:																		

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Exhibit P-5, Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 1	P-1 Line Item Number / Title: 6277 / Tactical Fuel Systems	Item Number / Title [DODIC]: 1 / Tactical Fuel Systems
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
(1) FY2021 budget request will procure various Family of Expeditionary Fuel Systems and Equipment such as Expeditionary Fuel Systems (Small/Medium/Large), Tactical Air Ground Refueling System (TAGRS), Petroleum Expeditionary Analysis Kit (PEAK), Expeditionary Mobile Fuel Additization Capability (EMFAC) and Portable Fuel Analyzer (PFA).		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 1: Engineer and Other Equipment							P-1 Line Item Number / Title: 6366 / Power Equipment Assorted					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0206624M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	393.086	14.683	22.441	23.430	0.000	23.430	24.019	26.419	26.946	27.486	-	558.510
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	393.086	14.683	22.441	23.430	0.000	23.430	24.019	26.419	26.946	27.486	-	558.510
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	393.086	14.683	22.441	23.430	0.000	23.430	24.019	26.419	26.946	27.486	-	558.510
<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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

FAMILY OF MOBILE POWER EQUIPMENT - The Family of Mobile Electric Power Equipment consists of command and control systems for power management and distribution (intelligent power management), tactical generators ranging from 2 to 100 kilowatts, power distribution systems, energy storage systems, load banks, floodlights, cabling, and electrician tool kits. This equipment is procured and fielded to manage and provide electricity on the battlefield. Systems may be mounted on prime movers, skids or trailers. Systems support maneuver, combat support, and combat service support units requiring tactical power to operate weapons systems, Command, Control, Communications, Computers and Intelligence (C4I) systems, medical and messing facilities, environmental control equipment, and water purification systems. With over 10,000 generators and using diesel engines in the Operating Forces, improving their fuel efficiency and reliability will be a significant contribution to reducing the USMC fuel demand, and lightening the Marine Air-Ground Task Force (MAGTF). The Warfighter benefit includes a decreased logistics footprint, less reliance on petroleum derived fuels, increased local energy security, and reduced tanker losses (fewer on the road). The operational imperative to reduce fuel usage will consequently reduce refueling operations and exposing Marines to hazardous fuel convoy operations.

Efforts encompass procurements of the following principal end items and ancillary equipment:
Intelligent Power Management Systems (IPMS) provide a robust, modular, and scalable solution to interconnect, control, store and distribute power from various sources. As a result, the power requirements will be met in a more efficient manner by matching power production to load demand, reducing spinning reserve, extending maintenance cycle times, and reducing fuel consumption. The IPMS will consist of a micro-gridding capability which will consist of the Advance Digital Control System, which is a product improvement for the Advance Medium Mobile Power Source generators, an Intelligent Power Distribution (IPD) system, an Energy Storage Unit (ESU), a Metering and Monitoring capability, and it will eventually integrate renewables.

FAMILY OF ADVANCED POWER SOURCES (APS) - This family consists of multiple suites of devices, grouped into sub-families, that are used to provide highly expeditionary power (hand-carried or vehicle mounted) to operate and power communications equipment, computers and peripheral equipment in place of disposable batteries, and for scenarios where fuel powered generators are too large, too heavy, unsuitable for use, or provide undue logistics burden due to refueling needs

Efforts encompass procurements of the following principal end items and ancillary equipment:
Devices encompass renewable and hybrid energy based systems, and includes the man-portable Ground Renewable Expeditionary Energy Network System (GREENS) that supports a company level operations center and Forward Operating Base, the man-packable Solar Portable Alternative Communications Energy Systems (SPACES) that supports Combat Outposts and Observation Points, and the Mobile Electric Hybrid Power Source (MEHPS) that provides up to 10kW to power mission command and control, information networks, communications, environmental control, life support, sustainment and illumination at the battalion level. All of these exploit the use of solar energy and power management technologies to recharge batteries and directly power electronic equipment without a need, or with a reduced need for re-fueling generators.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 1: Engineer and Other Equipment					P-1 Line Item Number / Title: 6366 / Power Equipment Assorted					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A				Other Related Program Elements: 0206624M			
Line Item MDAP/MAIS Code: N/A										
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Navy	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	14.683	20.573	21.521	-	21.521	22.072	24.431	24.918	25.417
NR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	1.868	1.909	-	1.909	1.947	1.988	2.028	2.069
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	14.683	22.441	23.430	-	23.430	24.019	26.419	26.946	27.486

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 1: Engineer and Other Equipment					P-1 Line Item Number / Title: 6366 / Power Equipment Assorted					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A				Other Related Program Elements: 0206624M			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Power Equipment Assorted				- / 393.086	- / 14.683	- / 22.441	- / 23.430	- / 0.000	- / 23.430
P-40	Total Gross/Weapon System Cost				- / 393.086	- / 14.683	- / 22.441	- / 23.430	- / 0.000	- / 23.430
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
Justification: FY 2019: \$14.683M (Active: \$14.683M/Reserve: \$0.000M) MOBILE POWER EQUIPMENT \$8.122M (ACTIVE: \$8.122M/RESERVE: \$0.000M) Funded the procurement of IPMS subsystems Advanced Medium Mobile Power Source (AMMPS) Advanced AMMPS Digital Control System (ADCS), AMMPS generators, and various logistics support. Legacy equipment is fueled by fossil fuels. Intelligent Power Management System and micro-gridding serve to decrease the size of diesel-fueled generators required by networking equipment. The "brains" of the system, the controller (Advanced Digital Control System), tells the system when to run off the generator, and when to run off energy storage systems (batteries). The phases of this IPMS system will first acquire IPD, and in a later phase, Energy Storage Units (batteries) that will reduce reliance on fossil fuel, and reduce the volume and frequency of resupply missions required to provide consumable items for corrective or preventive maintenance activities, reducing logistics footprint and lightening the load. The Approved Acquisition Objective (AAO) for Micro-grid Advanced Digital Control System (MADCS), formerly titled AMMPS DCS Kits in the FY 2019 request, increased from 179 to 328 units. This increase is largely being supported by the budget originally identified for Large Advanced Mobile Power System (LAMPS) Program which cancelled in FY18, and IPMS Energy Storage Unit (ESU), formerly titled Micro-grid Storage/IPM in the FY 2019 request, which experienced programmatic adjustments also in FY 2018. ADVANCED POWER SOURCES \$6.561M (Active: \$6.561M/Reserve: \$0.000M) Continues to fund the procurement and fielding of Advanced Battery Chargers. FY 2020: \$22.441M (Active: \$20.573M/Reserve: \$1.868M) MOBILE POWER EQUIPMENT \$12.058M (Active: \$12.058M/Reserve: \$0.000M) Funds the procurement of (AMMPS, Advanced Digital Control System (ADCS), Advance Medium Mobile Power System (AMMPS) generators, and logistics support. ADVANCED POWER SOURCES \$10.383M (Active: \$8.515M/Reserve: \$1.868M) Continues to fund the procurement and fielding of Advanced Battery Charger as well as awarding the MEHPS production contract. FY 2021 Base Appropriation Request: \$23.430M (Active: \$21.521M/Reserve: \$1.909M) MOBILE POWER EQUIPMENT \$7.670M (Active: \$7.670M/Reserve: \$0.000M) Funds will continue the procurement of the Intelligent Power Management System (IPMS) Intelligent Power Distribution (IPD) Panels. Funding decreased from FY20 to FY21 by \$4.388M due to non-recurring costs absorbed in FY20 with the full rate production of IPDs. Funding in this line item has been reprioritized while ensuring the Marine Corps continues to evolve toward a Force that is aligned with the National Defense Strategy. ADVANCED POWER SOURCES \$15.760M (Active: \$13.851M/Reserve: \$1.909M)										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 1: Engineer and Other Equipment		P-1 Line Item Number / Title: 6366 / Power Equipment Assorted
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206624M
Line Item MDAP/MAIS Code: N/A		
Continues to fund the procurement and fielding of MEHPS. The increase in Advanced Power Sources funding of \$5.377M from FY20 to FY21 is due to the production and fielding of MEHPS. OCO: FY 2019 Overseas Contingency Operations (OCO) Request: N/A FY 2020 Overseas Contingency Operations (OCO) Request: N/A FY 2021 Overseas Contingency Operations (OCO) Request: N/A		

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Exhibit P-5, Cost Analysis: PB 2021 Navy												Date: February 2020							
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 1						P-1 Line Item Number / Title: 6366 / Power Equipment Assorted						Item Number / Title [DODIC]: 1 / Power Equipment Assorted							
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:										
Resource Summary				Prior Years		FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total					
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-					
Gross/Weapon System Cost <i>(\$ in Millions)</i>				393.086		14.683		22.441		23.430		0.000		23.430					
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-					
Net Procurement (P-1) <i>(\$ in Millions)</i>				393.086		14.683		22.441		23.430		0.000		23.430					
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-					
Total Obligation Authority <i>(\$ in Millions)</i>				393.086		14.683		22.441		23.430		0.000		23.430					
(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 Dollars)</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 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 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 - Mobile Power Equipment Cost																			
Recurring Cost																			
1.1.1) Advanced Medium Mobile Power Systems (AMMPS)		-	-	171.751	-	-	3.846	-	-	-	-	-	-	-	-	-	-	-	
1.1.2) Micro-grid ADCS (MADCS)		-	-	2.849	-	-	4.276	-	-	-	-	-	-	-	-	-	-	-	
1.1.3) IPMS Intelligent Power Distribution (IPD)		-	-	-	-	-	-	-	12.058	-	-	7.670	-	-	-	-	-	7.670	
Subtotal: Recurring Cost		-	-	174.600	-	-	8.122	-	-	12.058	-	-	7.670	-	-	-	-	7.670	
Subtotal: Hardware - Mobile Power Equipment Cost		-	-	174.600	-	-	8.122	-	-	12.058	-	-	7.670	-	-	-	-	7.670	
Hardware - Advanced Power Sources Cost																			
Recurring Cost																			
2.1.1) Mobile Electric Hybrid Power Source (MEHPS)		-	-	-	-	-	-	-	-	-	-	13.851	-	-	-	-	-	13.851	
2.1.2) Mobile Electric Hybrid Power Source (MEHPS) Reserves		-	-	-	-	-	-	-	-	-	-	1.909	-	-	-	-	-	1.909	
2.1.3) Advanced Power Sources (APS)		-	-	115.382	-	-	6.561	-	-	8.515	-	-	-	-	-	-	-	-	
2.1.4) Advanced Power Sources (APS) Reserves		-	-	11.274	-	-	-	-	-	1.868	-	-	-	-	-	-	-	-	

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Exhibit P-5, Cost Analysis: PB 2021 Navy												Date: February 2020						
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 1						P-1 Line Item Number / Title: 6366 / Power Equipment Assorted						Item Number / Title [DODIC]: 1 / Power Equipment Assorted						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$)	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)
Subtotal: Recurring Cost	-	-	126.656	-	-	6.561	-	-	10.383	-	-	15.760	-	-	-	-	-	15.760
Subtotal: Hardware - Advanced Power Sources Cost	-	-	126.656	-	-	6.561	-	-	10.383	-	-	15.760	-	-	-	-	-	15.760
Support Cost																		
3.1) Prior Year Cumulative Funding	-	-	91.830	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support Cost	-	-	91.830	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	393.086	-	-	14.683	-	-	22.441	-	-	23.430	-	-	0.000	-	-	23.430

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

Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 1: Engineer and Other Equipment	P-1 Line Item Number / Title: 6518 / Amphibious Support Equipment

ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206623M

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	189.881	14.890	7.101	5.752	0.000	5.752	10.049	52.710	45.631	46.545	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	189.881	14.890	7.101	5.752	0.000	5.752	10.049	52.710	45.631	46.545	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	189.881	14.890	7.101	5.752	0.000	5.752	10.049	52.710	45.631	46.545	Continuing	Continuing
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Reconnaissance Support Equipment supports multiple capabilities, enhancements, life cycle replacements, and personnel equipment shortfalls when required and as needed by reconnaissance units throughout operating forces for airborne/parachuting programs, specialized reconnaissance programs and underwater reconnaissance capability programs. Programs such as: Airborne Reconnaissance Equipment (ARE) program -- a roll-up line with multiple specialized raid projects, such as, parachuting equipment used for reconnaissance in support of Marine Air Ground Task Force (MAGTF) operations; Aerial Delivery and Autonomous Distribution (A2D2) Family of Systems (formerly Joint Precision Air Drop System (JPADS)) program -- provides capability for increased air carrier survivability, ground accuracy, standoff delivery, and improved effectiveness and assessment feedback for airdrop missions with procurement of parachute delivery systems consisting of a decelerator (parachute) guided by an Autonomous Guidance Unit attached to a Container Delivery System that interfaces with cargo aircraft for autonomous delivery of airborne cargo from high altitudes and lateral separation to predetermined small drop zones; Amphibious Reconnaissance Capability program (formerly Underwater Reconnaissance Capability (URC))-- an overarching Family of Systems which sustains/enhances/supports capabilities of current and future combatant diving systems and small craft as needed and when required by the fleet such as Enhanced Combat Rubber Reconnaissance Craft (ECRRC), Autonomous Hydrographic Coastal Survey (AHCS), Open Water Safety Craft (OWSC), Underwater Breathing Apparatus (UBA), Combatant Diver Full Face Mask (CDFFM), Combatant Diver Vest (CDV), Expeditionary Hyperbaric Chamber System (EHCS), Transportable recompression Chamber System (TRCS), Combat Dry Diver Suit (CDDS), Maritime Operations Suit (MOS), Portable Compressor Diesel Driven (PCDD), Rapid Deployable Oxygen Transfer Pump System (RDOTPS), Non-gasoline Burning Outboard Engine (NBOE), and the Diver Reconnaissance Vehicle (DRV), Diver Propulsion Device (DPD), Enhanced Diver Propulsion Device (E-DPD), Marine Individual Assault Kit (MIAK), Marine Assault Breacher's Kit (MABK)in support of MAGTF expeditionary operations. LRUSV program is an autonomous 11 meter boat, which has the capability for Unmanned Aerial Vehicle (UAV), Unmanned Undersea Vehicle (UUV) and Unmanned Surface Vehicle (USV). Aerial Delivery and Autonomous Distribution (A2D2) is a level of effort program that will provide increased capability and survivability for airborne cargo.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Navy	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	14.691	6.897	5.544	-	5.544	9.837	52.494	45.411	46.321
NR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.199	0.204	0.208	-	0.208	0.212	0.216	0.220	0.224
Total:	Quantity	-	-	-	-	-	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 1: Engineer and Other Equipment					P-1 Line Item Number / Title: 6518 / Amphibious Support Equipment					
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206623M				
Line Item MDAP/MAIS Code: N/A										
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Secondary Distribution	Total Obligation Authority	14.890	7.101	5.752	-	5.752	10.049	52.710	45.631	46.545

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 1: Engineer and Other Equipment					P-1 Line Item Number / Title: 6518 / Amphibious Support Equipment					
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: N/A				Other Related Program Elements: 0206623M			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Amphibious Support Equipment	P-5a			- / 189.881	- / 14.890	- / 7.101	- / 5.752	- / -	- / 5.752
P-40	Total Gross/Weapon System Cost				- / 189.881	- / 14.890	- / 7.101	- / 5.752	- / 0.000	- / 5.752
*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 2019: \$14.890M

Airborne Reconnaissance Equipment: \$3.606M (Active - \$3.407, Reserves - \$0.199M) - Funding supported the procurement of the Enhanced Multi Mission Parachute Systems (E-MMPS).

Amphibious Reconnaissance Capability: \$11.284M (Active - \$11.284M, Reserves - \$0.000M) - Funding supported the procurement of Combat Rubber Reconnaissance Craft. Congressional Plus-Up funding of \$9.600M supports Enhanced Diver Propulsion Device.

FY 2020: \$7.101M

Airborne Reconnaissance Equipment: \$2.921M (Active - \$2.717M, Reserves - \$0.204M) - Funding supports the procurement of the Enhanced Multi Mission Parachute Systems (E-MMPS).

Aerial and Autonomous Distribution: \$1.479M (Active - \$1.479, Reserves - \$0.000M) - Funding provides for the initial procurement of the Aerial Delivery and Autonomous Distribution (A2D2)/Advanced Cargo Parachute Release System (ACPRS) to include upgrading/refreshing parachute oxygen system, cybernetic parachute release replacement, and high-altitude high-opening navigation system. ACPRS is a replacement for the obsolete M-1 release inside the Heavy Equipment Aerial Delivery System. The decrease in funding from FY20 to FY21 of \$1.479M is due to Marine Corps decision to further support the development of Unmanned Logistic Systems - Air Autonomy(ULSA).

Amphibious Reconnaissance Capability: \$2.701M (Active - \$2.701M, Reserves - \$0.000M) - Funding supports the procurement of Combat Rubber Reconnaissance Craft and procurement of Amphibious Reconnaissance Capability Family of Systems equipment such as, the Marine Assault Breacher's Kit and the Marine Individual Assault Kit for diving configuration and to sustain, enhance, and support capabilities of current and future combatant diving systems and small craft.

FY 2021 Base Appropriations Request: \$5.752M

Airborne Reconnaissance Equipment: \$3.016M (Active - \$2.808M, Reserves - \$0.208M) - Funding will continue to support the procurement of the Enhanced Multi Mission Parachute Systems (E-MMPS).

Amphibious Reconnaissance Capability: \$2.736M (Active - \$2.736M, Reserves - \$0.000M) - Funding will support procurement of Enhanced Diver Propulsion Device (E-DPD) and procurement of Amphibious Reconnaissance Capability Family of Systems equipment such as, the Marine Assault Breacher's Kit and the Marine Individual Assault Kit for diving configuration and to sustain, enhance, and support capabilities of current and future combatant diving systems and small craft.

The decrease in funding from FY20 to FY21 of \$1.349M is to further ULS-A prototyping efforts to inform development and fielding in FY22-FY25.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 1							P-1 Line Item Number / Title: 6518 / Amphibious Support Equipment								Aggregated Items Title: Amphibious Support Equipment					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
1) Airborne and Recon Equipment (ARE)																				
1.1) Enhanced Multi-Mission Parachute System (EMMPS) ^(†)	A		333,414.01	157	52.346	22,500.00	151	3.398	22,900.00	118	2.702	23,100.00	121	2.795	-	-	-	23,100.00	121	2.795
1.2) EMMPS (PS2) Support	A		-	-	-	-	-	0.009	-	-	0.015	-	-	0.013	-	-	-	-	-	0.013
1.3) EMMPS (Reserves) ^(†)	A		82,083.33	12	0.985	22,500.00	8	0.180	22,900.00	8	0.183	23,100.00	9	0.208	-	-	-	23,100.00	9	0.208
1.4) EMMPS (Reserves) Support	A		-	-	0.009	-	-	0.019	-	-	0.021	-	-	-	-	-	-	-	-	-
Subtotal: 1) Airborne and Recon Equipment (ARE)			-	-	53.340	-	-	3.606	-	-	2.921	-	-	3.016	-	-	-	-	-	3.016
2) A2D2/Advanced Cargo Parachute Release System																				
2.1) A2D2/Advanced Cargo Parachute Release System ⁽¹⁾	A		-	-	-	-	-	-	-	-	1.479	-	-	-	-	-	-	-	-	-
Subtotal: 2) A2D2/Advanced Cargo Parachute Release System			-	-	0.000	-	-	-	-	-	1.479	-	-	-	-	-	-	-	-	-
3) Amphibious Reconnaissance Capability - formerly Underwater Reconnaissance Capability (URC)																				
3.1) Combat Rubberized Reconnaissance Craft (2)	A		-	-	36.621	-	-	1.684	-	-	1.701	-	-	-	-	-	-	-	-	-
3.2) Enhanced - Diver Propulsion Device	A		-	-	-	-	-	9.600	-	-	-	-	-	1.736	-	-	-	-	-	1.736
3.3) Marine Assault Breacher's Kit	A		-	-	-	-	-	-	-	-	0.500	-	-	0.500	-	-	-	-	-	0.500
3.4) Marine Individual Assault Kit	A		-	-	-	-	-	-	-	-	0.500	-	-	0.500	-	-	-	-	-	0.500
Subtotal: 3) Amphibious Reconnaissance Capability - formerly Underwater Reconnaissance Capability (URC)			-	-	36.621	-	-	11.284	-	-	2.701	-	-	2.736	-	-	-	-	-	2.736
4) Prior Years Cumulative Funding																				
4.1) Prior Years Cumulative Funding	A		-	-	99.920	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 4) Prior Years Cumulative Funding			-	-	99.920	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	189.881	-	-	14.890	-	-	7.101	-	-	5.752	-	-	-	-	-	5.752
Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.																				
(†) indicates the presence of a P-5a																				
Footnotes:																				

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 1	P-1 Line Item Number / Title: 6518 / Amphibious Support Equipment	Aggregated Items Title: Amphibious Support Equipment

(1) Advanced Cargo Parachute Release System (ACPRS) is a replacement for the obsolete M-1 release inside the Heavy Equipment Aerial Delivery System. The decrease in funding from FY20 to FY21 of \$1.479M is due to Marine Corps decision to further support the development of Unmanned Logistic Systems - Air Autonomy(ULSA).

(2) Overarching family of systems line includes various quantities of multiple dive and boat systems, components, and ancillary equipment as needed to sustain/enhance amphibious capability. Funding is used to support legacy items with known and unknown modifications identified during the year of execution.

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 1				P-1 Line Item Number / Title: 6518 / Amphibious Support Equipment					Aggregated Items: Amphibious Support Equipment			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1) Airborne and Recon Equipement (ARE)												
1.1) Enhanced Multi-Mission Parachute System (EMMPS)		2018	Airborne Systems / Pennsauken, NJ	C / FFP	MCSC	Jan 2018	Apr 2018	157	22,064.00	N	Apr 2018	
1.1) Enhanced Multi-Mission Parachute System (EMMPS)		2019	Airborne Systems / Pennsauken, NJ	C / FFP	MCSC	Jan 2019	Apr 2019	151	22,500.00	N	Apr 2019	
1.1) Enhanced Multi-Mission Parachute System (EMMPS)		2020	Airborne Systems / Pennsauken, NJ	C / FFP	MCSC	Jan 2020	Apr 2020	118	22,900.00	N	Apr 2020	
1.1) Enhanced Multi-Mission Parachute System (EMMPS)		2021	Airborne Systems / Pennsauken, NJ	C / FFP	MCSC	Jan 2021	Apr 2021	121	23,100.00	N	Apr 2021	
1.3) EMMPS (Reserves)		2018	Airborne Systems / Pennsauken, NJ	C / FFP	** NO PCO **	Jan 2018	Apr 2018	12	22,064.00	N	Apr 2018	
1.3) EMMPS (Reserves)		2019	Airborne Systems / Pennsauken, NJ	C / FFP	** NO PCO **	Jan 2019	Apr 2019	8	22,500.00	N	Apr 2019	
1.3) EMMPS (Reserves)		2020	Airborne Systems / Pennsauken, NJ	C / FFP	** NO PCO **	Jan 2020	Apr 2020	8	22,900.00	N	Apr 2020	
1.3) EMMPS (Reserves)		2021	Airborne Systems / Pennsauken, NJ	C / FFP	** NO PCO **	Jan 2021	Apr 2021	9	23,100.00	N	Apr 2021	

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 1: Engineer and Other Equipment							P-1 Line Item Number / Title: 6520 / EOD Systems					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0206211M, 0206313M, 0206623M, 0206315M, 0502511M, 0206624M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	6,826.964	55.114	48.370	20.939	0.000	20.939	27.153	56.212	102.123	104.166	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	6,826.964	55.114	48.370	20.939	0.000	20.939	27.153	56.212	102.123	104.166	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	6,826.964	55.114	48.370	20.939	0.000	20.939	27.153	56.212	102.123	104.166	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: ASSAULT BREACHER VEHICLE (ABV) is a tracked, armored combat engineer vehicle designed to breach minefields and complex obstacles and provide a deliberate and in-stride breaching capability. ABV consists of a rebuilt and upgraded M1A1 Tank chassis with the integration of Non-Developmental Items (NDI), which includes a Full-Width Mine Plow, a Dozer Blade, a Surface Mine Plow, a Rapid Ordnance Removal System, two M58 Linear Demolition Charges, a lane marking system and a self-defense weapon system. The ABV will provide crew protection and vehicle survivability while having the speed and mobility to keep pace with the maneuver force. The M1A1 Tank Chassis will provide economic supportability of the system through its commonality with the tank fleet and armor protection for survivability. FAMILY OF EOD EQUIPMENT (FEOD) is comprised of over forty Table of Authorized Material Control Numbers (TAMCNs) providing the required tools and capabilities to detect, locate, access, identify, triage, diagnose, stabilize, render safe, neutralize, recover, exploit, and dispose of unexploded explosive ordnance (UXO), improvised explosive devices (IED), and weapons of mass destruction (WMD). The portfolio includes specialized diagnostic equipment, robotics and energetically actuated tools, which enable EOD to provide the Marine air-ground task force (MAGTF) and Marine Special Operations Forces with critical enabling capabilities that deliver responsive, scalable, strategic depth for special operations, crisis response, and littoral access. MARINE ELECTRONIC WARFARE GROUND FAMILY OF SYSTEMS (MEGFoS) provides interconnected electronic warfare systems for use at fixed sites, on tactical vehicles, and dismounted that will operate across a range of frequencies in order to provide the Marine Corps that ability to maneuver efficiently inside the electromagnetic spectrum. MEGFOS provides the ability to protect friendly use of spectrum, sense all spectrum usage in an area of responsibility, and to target adversaries inside spectrum with the intent to deny, delay or degrade an adversary's decision making cycle. MEGFOS also includes the ability to use spectrum for force protection to counter Radio Controlled Improvised Explosive Devices (RCIED) and Unmanned Aerial Systems. MEGFOS is the follow on capability to MFEW and will begin developmental efforts in FY20 with production efforts beginning FY23. FAMILY OF COUNTER-IMPROVISED EXPLOSIVE DEVICE (C-IED) CAPABILITIES (F2C) provides capabilities not found in the current Joint land force structure to defeat explosive hazards and protect Marines and equipment while conducting route and area clearance operations. The Family of Counter-Improvised Explosive Device (C-IED) Capabilities (F2C) will enable Commanders to deliberately operate in explosive hazards environments by detecting and marking explosive hazards, enabling the Commanders to make timely and informed decisions to avoid the explosive hazards, or, if necessary, neutralize explosive hazards that impede their missions. Multiple detection and marking capabilities will detect a broader spectrum of explosive hazards and achieve higher overall effectiveness rates. Standoff and remote-controlled detection and marking capabilities will remove Joint forces from direct contact with explosive hazards and enhance force protection and the vehicles' system survivability. Operational speeds and rates will increase and better support the operational tempo (OPTEMPO) of the current and future force. ENFIRE is a digital surveying kit designed to collect and disseminate engineer-related information while minimizing exposure to enemy observation.												

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 1: Engineer and Other Equipment						P-1 Line Item Number / Title: 6520 / EOD Systems				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206211M, 0206313M, 0206623M, 0206315M, 0502511M, 0206624M				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	EOD Systems				- / 6,826.964	- / 55.114	- / 48.370	- / 20.939	- / -	- / 20.939
P-40	Total Gross/Weapon System Cost				- / 6,826.964	- / 55.114	- / 48.370	- / 20.939	- / 0.000	- / 20.939
*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: FY 2019: \$47.114M FAMILY OF EOD EQUIPMENT: (\$45.222M) Funding supported various tool kits and the following items: Video Inspection Capability (VIC) that consist of a video fiberscope that enables the inspection of contents and circuitry of an IED in a small package with real time imagery. Expeditionary Radiographic Imaging Systems, a Radiographic X-Ray equipment that allows EOD technicians to determine the condition of a device/munition without having to first gain physical access. Remote Fuze Disassembly kits, an EOD system that allows the EOD Marine to inert live ammunitions. Advanced Bomb Suit which protects EOD technicians from explosive hazards. Tactical Triage kit which includes Chemical, Biological, Nuclear, Radiological and Explosive (CBNRE) kits. Search kits which provides EOD Marines with specialized tools and equipment to perform interior and exterior search operation involving IED. Technician kits, SL-3 kits and IED Kits which provide the EOD Marine with the necessary tools and equipment to support render safe procedures and operations involving IED and WMDs. Table of Equipment plus up which supports the growth of two USMC EOD platoons, and Sensor Detectors. Buried Command Wire Detector (BCWD), a light weight and portable device that detects command wires of any diameter and type, in conductive and non-conductive soils, including laterite and magnetite. R2C Pacbot robot ECP to upgrade parts based on obsolesce issues. FAMILY OF COUNTER-IMPROVISED EXPLOSIVE DEVICE (C-IED) CAPABILITIES (F2C): (\$1.891M) Funding supported procurement of Counter Improvised Explosive Device (C-IED) Capability (F2C) equipment. This procurement provides critical equipment such as Sickie Sticks; a long pole used to positively identify in placed explosive hazard and other F2C tools to detect and mark explosive hazards; provide standoff and remote-controlled detection and marking and remove operating forces from direct contact with explosive hazards. ASSAULT BREACHER VEHICLE MODIFICATION: (\$0.001M) Funding supports ABV Lift Motor modernization efforts. FY 2020: \$44.700M FAMILY OF EOD EQUIPMENT: (\$43.360M) Funding procures the following: Supply Stock Lists (SL-3), equipment to include Counter-Weapons of Mass Destruction kits. Mans Transportable Robotic System (MTRS) Incr II, robots that allow EOD Marines to investigate and conduct render safe procedures at a stand of distance. These modifications will allow the service life extension of the system. AN/PVS-31 Optic Sight sustainment will allow the Marine Corps the ability to maintain and fix broken systems. Decrease of \$1.862M from FY19 to FY20 is due to completion of mini robot procurement. ASSAULT BREACHER VEHICLE MODIFICATION: (\$1.340M) Funding supports ABV Lift Motor modernization efforts and initiate upgrades to mine plows allowing ABV sea to land loading and unloading, Field Service Representative (FSR) support, update Tech Manuals (TM), and Information Assurance (IA) support. Increase of \$1.339M from FY19 to FY20 reflects realignment from Engineer Modification Kits (EMK) BLI 6670 supporting upgrades to mine plows, FSR support, TM updates and IA support. FY 2021 Base Appropriation Request: \$20.939M										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 1: Engineer and Other Equipment		P-1 Line Item Number / Title: 6520 / EOD Systems
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206211M, 0206313M, 0206623M, 0206315M, 0502511M, 0206624M
Line Item MDAP/MAIS Code: N/A		
FAMILY OF EOD EQUIPMENT: (\$20.613M) Funding will support various tool kits and the following items: Littoral Explosive Ordnance Neutralization (LEON) robots, robots that allow EOD Marines to investigate and conduct render safe procedures in ocean/sea under-water missions at a stand of distance. Mini-Mira, a system that detects active microwave, ultrasonic, and infrared signatures emitting from an IED or WMD device. Tactical Triage kit which includes Chemical, Biological, Nuclear, Radiological and Explosive (CBNRE) kits. PM Engineer Systems engineering, cybersecurity, logistical, fielding, and acquisition support. Remote Fuze Disassembly System (RFDS) kits, an EOD system that allows the EOD Marine to inert live ammunitions. Decrease of \$22.747M from FY20 to FY21 is due to completion of BCWD and procuring majority of Mini-Mira AAO. ASSAULT BREACHER VEHICLE MODIFICATION: (\$0.326M) Funding will continue to support ABV ECPs, Field Service Representatives, and Information Assurance support. ECPs allow ABV modifications that enhance operational mission. Decrease of \$1.014M from FY20 to FY21 results from completion of ABV Lift Motor modernization efforts. FSRs are critical to maintain the operational readiness of the ABV Fleet, expert knowledge to advise the fleet on how to repair these low density assets. ECPs are important to the platform to accomodate changes in command and control components and supporting equipment. OCO: FY 2019 OCO: \$8.000M FAMILY OF COUNTER-IMPROVISED EXPLOSIVE DEVICE (C-IED) CAPABILITIES (F2C): (\$8.000M) Procured Buried Command Wire Detector (BCWD), a light weight and portable hand held metal detector that detects command wires of any diameter and type, in conductive and non-conductive soils, including laterite and magnetite. The current hand held metal detector lacks the ability to detect or find command wires associated with buried IED's and leaves Marines to use visual acuity via eyesight or manual intrusive means vis Holley Stick or finger sweeping as a detection method to detect command wire. Manual techniques, without the aid of technological advances, increase the risk of life or limb loss to the operator. FY 2020 OCO: \$3.670M. FAMILY OF COUNTER-IMPROVISED EXPLOSIVE DEVICE (C-IED) CAPABILITIES (F2C): (\$3.670M) Procures Buried Command Wire Detector (BCWD), a light weight and portable hand held metal detector that detects command wires of any diameter and type, in conductive and non-conductive soils, including laterite and magnetite. The current hand held metal detector lacks the ability to detect or find command wires associated with buried IED's and leaves Marines to use visual acuity via eyesight or manual intrusive means vis Holley Stick or finger sweeping as a detection method to detect command wire. Manual techniques, without the aid of technological advances, increase the risk of life or limb loss to the operator.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020						
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 1							P-1 Line Item Number / Title: 6520 / EOD Systems								Aggregated Items Title: EOD Systems						
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total			
			Unit Cost (\$)	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)	
1) Assault Breacher Vehicle (ABV)																					
1.1) Assault Breacher Vehicle (ABV) Modification ⁽¹⁾		A		-	-	7.092	-	-	0.001	-	-	1.340	-	-	0.326	-	-	-	-	-	0.326
Subtotal: 1) Assault Breacher Vehicle (ABV)			-	-	7.092	-	-	0.001	-	-	1.340	-	-	0.326	-	-	-	-	-	-	0.326
2) Family of EOD Systems																					
2.1) EOD Specialized Equipment and Tool Kits ⁽²⁾		A		-	-	196.955	-	-	43.137	-	-	43.360	-	-	16.023	-	-	-	-	-	16.023
2.2) PM ES Acquisition Support ⁽³⁾		A		-	-	-	-	-	2.085	-	-	-	-	-	4.590	-	-	-	-	-	4.590
Subtotal: 2) Family of EOD Systems			-	-	196.955	-	-	45.222	-	-	43.360	-	-	20.613	-	-	-	-	-	-	20.613
3) Family of Counter-Improvised Explosive Device (C-IED) Capabilities																					
3.1) Counter-Improvised Explosive Devices (C-IED)		A		-	-	-	-	-	9.891	-	-	3.670	-	-	-	-	-	-	-	-	-
Subtotal: 3) Family of Counter-Improvised Explosive Device (C-IED) Capabilities			-	-	0.000	-	-	9.891	-	-	3.670	-	-	-	-	-	-	-	-	-	-
4) Prior Years Cumulative Funding																					
4.1) Other Prior Year		A		-	-	6,622.917	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 4) Prior Years Cumulative Funding			-	-	6,622.917	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	6,826.964	-	-	55.114	-	-	48.370	-	-	20.939	-	-	-	-	-	-	20.939

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

Footnotes:

⁽¹⁾ Decrease of \$1.014M from FY20 to FY21 results from completion of ABV Lift Motor modernization efforts.

⁽²⁾ EOD FY21 will support various tool kits and the following items: Littoral Explosive Ordnance Neutralization (LEON) robots, robots that allow EOD Marines to investigate and conduct render safe procedures in ocean/sea under-water missions at a stand of distance. Mini-Mira, a system that detects active microwave, ultrasonic, and infrared signatures emitting from an IED or WMD device. Tactical Triage kit which includes Chemical, Biological, Nuclear, Radiological and Explosive (CBNRE) kits. PM Engineer Systems engineering, cybersecurity, logistical, fielding, and acquisition support. Remote Fuze Disassembly System (RFDS) kits, an EOD system that allows the EOD Marine to inert live ammunitions. Decrease of \$22.747M from FY20 to FY21 is due to completion of BCWD and procuring majority of Mini-Mira AAO.

⁽³⁾ EOD will be funding PM ES acquisition support starting in FY21 continuing to FY25 and potentially beyond. Naval Surface Warfare Center, Panama City Division (NSWC-PCD) provides systems engineering, configuration management, system production on rebuild, and engineering logistics support for PM ES teams. PM ES systems require support due to failures in the field, parts availability, systems engineering updates and production, and rebuild issues.

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

Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 2: Materials Handling Equipment	P-1 Line Item Number / Title: 6438 / Physical Security Equipment

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206315M, 0206211M

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ <i>in Millions</i>)	301.009	28.306	15.404	23.063	0.000	23.063	169.589	44.971	33.373	42.360	Continuing	Continuing
Less PY Advance Procurement (\$ <i>in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ <i>in Millions</i>)	301.009	28.306	15.404	23.063	0.000	23.063	169.589	44.971	33.373	42.360	Continuing	Continuing
Plus CY Advance Procurement (\$ <i>in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ <i>in Millions</i>)	301.009	28.306	15.404	23.063	0.000	23.063	169.589	44.971	33.373	42.360	Continuing	Continuing
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ <i>in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ <i>in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ <i>in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Installation Physical Security provides precise, uniform technological solutions to manpower intensive security requirements. Systems used at bases and stations protect our most critical assets vital to operations - people, flight lines, classified information, Arms, Ammunition, and Explosives (AA&E), shorelines, open desert areas, critical assets and infrastructure as well as provide constant, vigilant capabilities that control and restrict access and provide notification of actual and attempted unauthorized intrusion. The Mass Notification System (MNS) provides immediate notice and warning to personnel living and working aboard our bases and stations via interior and exterior speaker systems, telephones, and computers in the event of security breaches, natural disasters, terrorist activities, weather emergencies, or other events requiring immediate guidance to ensure the safety and security of personnel. These systems upgrade and replace antiquated individually purchased systems that are costly to maintain and may not meet prescribed requirements for securing U.S. assets. The Marine Corps Electronic Security System (MCESS) Program provides a comprehensive electronic security system suite that supports collateral equipment-- including intrusion detection, surveillance (IDS), installation, and facility automated access control and tracking capabilities. These systems increase efficiency and effectiveness of available security manpower and improve security and safety of the installation perimeter, flight line, restricted areas, facility entry points and is now expanding to meet installation access control requirements. Ground-based radars support surveillance of the vast regions aboard Marine Corps installations such as expansive waterways, open airfields, and desert areas; they also improve assessment at long distances and allow for greater defensive posture and response capabilities.

Collateral Equipment (CE) funds the one-time, initial outfitting of equipment not defined as built-in for new Military Construction (MILCON) facilities, newly renovated/refurbished facilities, and Host Nation funded construction projects. The one-time procurement includes equipment such as Mass Notification Systems, Intrusion Detection Systems, Closed Circuit TVs, information technology switches and routers, Passive Optical Networks, Internal Grounding Systems, Voice Over Internet Protocol (VOIP), Audio Visual(AV), Video Teleconferencing Systems (VTC) and other industrial equipment such as recycling and pulping systems, warehouse conveyor systems, and heavy maintenance equipment. Highs and lows in the funding profile are directly related to what type of facilities and how many are scheduled for completion each year.

Command Support Equipment (CSE) funds life cycle replacement of industrial equipment and systems with unit cost of \$250K or greater to support the operations and mission of United States Marine Corps ground bases, air stations, and districts. Examples include equipment such as open water spill equipment, warehouse conveyor systems, power generators, and recycling systems.

Facilities Related Control Systems (FRCS) funds the one-time, initial purchase of industrial control systems (ICS) and Operational Technology Equipment (OTE) as well as the accompanying cybersecurity. ICS are devices that manage, command, direct or regulate the behavior of other devices such as Heating, Ventilation, and Air Conditioning (HVAC), electrical, and wastewater treatment systems. ICS include Airfield Control Systems, Electronic Security Control Systems, Fire and Life Safety Control Systems, and others. OTE include servers, computers, software, and monitoring devices to secure and operate Facility-Related Control Systems.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 2: Materials Handling Equipment					P-1 Line Item Number / Title: 6438 / Physical Security Equipment					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A				Other Related Program Elements: 0206315M, 0206211M			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Physical Security Equipment				- / 301.009	- / 28.306	- / 15.404	- / 23.063	- / -	- / 23.063
P-40	Total Gross/Weapon System Cost				- / 301.009	- / 28.306	- / 15.404	- / 23.063	- / 0.000	- / 23.063
*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:

Beginning in FY 2019, Identity Dominance System has been realigned from BLI 6438 Physical Security Equipment, to BLI 4652, Modifications Kit C4 Fire Support System.

Beginning in FY 2021, Command Support Equipment has been realigned to BLI 6438, Physical Security Equipment, from BLI 6544 Family of Construction Equipment.

FY 2019: \$28.306M

Installation Physical Security \$4.262M: Funds the procurement of physical security systems and program initiatives supporting flight line security, waterside/shoreline security, protection of Sensitive Compartmented Information Facilities (SCIFS), AA&E and other critical assets. Funds will support the enhancement of command and control systems for the MCESS. Funding will also support upgrades to the family of systems to maintain compliance with federal and DoD requirements to deploy an enterprise access control system capable of interfacing with DoD databases such as Defense Enrollment Eligibility Reporting System (DEERS) and other federal government authoritative databases. This funding also supports Defense Policy Review Initiative Guam (DPRI-Guam)needs to install physical security measures at Futenma Replacement Facility Camp Schwab for multiple structures to include the electrical substation, the Weapons Assembly Facility, Magazine facilities, maintenance hangars, water storage tanks, and camp gate upgrades. Also supports the Defense Policy Review Initiative Okinawa (DPRI-Okinawa) installation of intrusion detection and mass notification systems on Camps Foster and Hansen for multiple facilities to include: fire stations, Bachelor Enlisted Quarters, Bachelor Officer Quarters, Commissary, Exchange, Garrison Maintenance Facility, main gates, and town center.

Collateral Equipment \$23.590M: Funds procured security systems, video conferencing systems (VTC), low altitude land mobile radio and emergency land mobile radio systems, routers, switches and industrial equipment to outfit 7 new facilities and ranges, and 21 refurbished facilities.

Facility Related Control Systems \$0.454M: Funds the one-time, initial purchase of industrial control systems (ICS) and Operational Technology Equipment (OTE)and other related requirements such as FRCS Architecture Test Environment, IBM Watson, and OSIssoft PI.

FY 2020: \$15.404M

Installation Physical Security \$6.345M: Funding obligation directed toward the procurement of physical security systems and program initiatives supporting flight line security, waterside/shoreline security, protection of SCIFS, AA&E and other critical assets. Funding supports upgrades to all protection equipment including intrusion detection, surveillance, installation and facility automated access control, and tracking capabilities to maintain compliance with Federal and DoD requirements. Funding ensures critical assets are provided protection to approximately (10) Airfields, (138) flight line turnstiles, (65) flight line automated gates, (1347) AA&E facilities/spaces (i.e. magazines, armories, consolidated armory spaces, Ready Service Lockers (RSL's)), (42) SCIFs, (12) facilities in support of the Joint Strike Fighter (JSF), (193) classified material storage spaces. There are an additional (1854) areas protected that include museums & museum warehouses, medical/dental/pharmacy facilities, banks/disbursing offices, site headquarters buildings & law centers, brigs, criminal investigation division evidence rooms, communication/network operation centers, gas stations & fuel farms, schools, warehouses, commissaries & exchanges, perimeter installation gate access points, installation perimeters (designated facilities), designated critical infrastructure (water towers, water treatment facilities, utility facilities), motor pools, general

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 2: Materials Handling Equipment		P-1 Line Item Number / Title: 6438 / Physical Security Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206315M, 0206211M
Line Item MDAP/MAIS Code: N/A		
quarters & barracks (with MCESS MNS, IDS, & Access Control), building access control to all Marine Corps secure buildings, and simulator trainers. Funding in the amount of \$2.648M also supports the Defense Policy Review Initiatives (DPRI) Physical Security Requirements for Guam, Okinawa, and Iwakuni. The increase in funding of \$2.083M from FY19 to FY20 is due to DPRI support. Collateral Equipment \$9.059M: Funds procures the necessary systems and equipment to make new facilities complete and usable. This includes security systems, audio visual systems, video teleconferencing systems, telephones, routers, and switches for 9 MILCONs currently under construction which includes hangar (1), bachelor housing (2), dining facility (1), fire station (1), combat vehicle repair facility (1), training facilities (2), and water treatment plant (1). The decrease of \$14.531M from FY19 to FY20 is due to the number and type of facilities being outfitted in FY20. Facility Related Control Systems \$0M. The decrease in funding of \$0.454M from FY19 to FY20 is due to no mature requirements anticipated for FY2020. FY 2021 Base Appropriation Request: \$23.603M Installation Physical Security \$5.833M: Funds will be used to install automated access control systems (AACS), intrusion detection systems (IDS), closed circuit television systems (CCTV), classified material storage, and flightline systems (FLS) at various USMC installations located worldwide. These systems are being installed in accordance with USMC policy for protection of assets, property, and life safety. Funding will ensure critical assets are provided protection to approximately AA&E (19) facilities, AACS (13) sites, CCTV (11) sites, SCIFS (5) areas, FLS (7) systems. The decrease in funding of \$0.512M from FY20 to FY21 is due to reduced need to install physical security measures at Futenma Replacement Facility Camp Schwab. Collateral Equipment \$16.730M: Funds will procure the necessary systems and equipment to make new facilities complete and usable. This includes security systems, audio visual systems, video teleconferencing systems, telephones, routers, switches, warehouse conveyors and recycling systems for 12 MILCONs that include HQ building (1), combat vehicle maintenance and warehouse facility (2), hangars (2), fire stations (2), warehouses (2), recycling facility (1), communications complex (1), and cryogenics facility (1). The increase in funding of \$7.671M from FY20 to FY21 is due to the number and type of facilities needing outfitting in FY21. Command Support Equipment \$0.500M: Funds will procure a re-locatable emergency power generator (1) for Marine Corps Installations Eastern Region. The increase in funding of \$0.500M is due to CSE moving from budget line item 6544 to budget line item 6438 beginning in FY21.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 2						P-1 Line Item Number / Title: 6438 / Physical Security Equipment									Aggregated Items Title: Physical Security Equipment					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
1) Collateral Equipment																				
1.1) Collateral Equipment ⁽¹⁾	A		-	-	167.385	-	-	23.590	-	-	9.059	-	-	16.730	-	-	-	-	-	16.730
Subtotal: 1) Collateral Equipment			-	-	167.385	-	-	23.590	-	-	9.059	-	-	16.730	-	-	-	-	-	16.730
2) Installation Physical Security																				
2.1) Installation Physical Security	A		-	-	133.624	-	-	4.262	-	-	6.345	-	-	5.833	-	-	-	-	-	5.833
Subtotal: 2) Installation Physical Security			-	-	133.624	-	-	4.262	-	-	6.345	-	-	5.833	-	-	-	-	-	5.833
3) Facility-Related Control Systems																				
3.1) Facility-Related Control Systems	A		-	-	-	-	-	0.454	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 3) Facility-Related Control Systems			-	-	0.000	-	-	0.454	-	-	-	-	-	-	-	-	-	-	-	-
4) Command Support Equipment																				
4.1) Command Support Equipment ⁽²⁾	A		-	-	-	-	-	-	-	-	-	-	-	0.500	-	-	-	-	-	0.500
Subtotal: 4) Command Support Equipment			-	-	0.000	-	-	-	-	-	-	-	-	0.500	-	-	-	-	-	0.500
Total			-	-	301.009	-	-	28.306	-	-	15.404	-	-	23.063	-	-	-	-	-	23.063

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

Footnotes:

⁽¹⁾ The increase in funding of \$7.671M from FY20 to FY21 is due to the number and type of facilities needing outfitting in FY21.

⁽²⁾ Beginning in FY21, CSE moved from budget line item 6544 to budget line item 6438.

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

Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 3: General Property	P-1 Line Item Number / Title: 6522 / Field Medical Equipment

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206623M

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	33.723	2.898	4.187	0.000	4.187	10.159	5.115	5.217	10.741	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	33.723	2.898	4.187	0.000	4.187	10.159	5.115	5.217	10.741	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	33.723	2.898	4.187	0.000	4.187	10.159	5.115	5.217	10.741	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Family of Field Medical Equipment (FFME) is the sole organic medical capability for the Marine Corps, and is comprised of multiple and modular capabilities that provide the full spectrum of healthcare and life saving equipment on the battlefield. FFME provides medical equipment and supplies to medical units. This program's objective is to plan for lifecycle replacements and upgrades while also modernizing equipment in order to provide the most effective medical care for Marine and Sailors in any mission. Some items will replace current line items within the Authorized Medical Allowance Lists (AMAL) and provide increases in performance characteristics, and other items represent new, emerging technology not currently included in fielded capabilities which will provide improved clinical outcomes.

Family of Field Medical Equipment (FFME) is comprised of items such as:

The Authorized Medical Allowance List (AMAL) modernization is comprised of numerous assemblages required to support current standards of care and treatment protocols while enhancing capabilities for battlefield casualties such as: The Expeditionary Medical Refrigeration Unit (EMRU), Patient Active Warming System, Infrascanner Intracranial Pressure (ICP), Bloodborne Pathogen Test Kit, Expeditionary Portable Oxygen Generation System and the Acute Care Cover for Severely Injured Limbs.

The Forward Resuscitative Surgery System (FRSS) provides Level I and II Health Service Support (HSS). The FRSS is a highly mobile, rapidly deployable, trauma surgical unit that provides emergency surgical interventions to stabilize casualties that might otherwise die or lose limbs before reaching treatment. The FRSS is the lightest and most mobile of the Marine Corps HSS elements capable of providing trauma surgical care. The FRSS is modular, rapidly transportable and deployable by air or surface means. Included in the FRSS are medical materials, a shelter, ancillary equipment, and mobile electric power.

The Battalion Aid Station (BAS) AMAL provides the equipment necessary to support a BAS manned by a Medical Officer, a Physician Assistant and the Hospital Corpsman assigned to a Battalion or Squadron. One BAS AMAL provides initial resuscitative and stabilizing care for 50 surgical patients with major wounds. The BAS AMAL is scalable, expeditionary and employed to provide immediate pre-surgical resuscitation and stabilization of patients with battle injuries prior to transport to higher echelons of care. The BAS AMAL is rugged enough to survive rough handling and austere environments. Equipment and material contained in the BAS AMAL is similar to that used in garrison medical clinics and in FFME kits organic to supported units.

The Sick Call AMAL provides medical personnel with 30 days of equipment to treat 300 deployed Marines and Sailors for Disease and Non-Battle Injuries (DNBI). The Sick Call AMAL can be deployed independently or used to augment the BAS. The Sick Call AMAL is light, mobile, and capable of providing Level One Health Service Support (HSS) and it is ruggedized to survive rough handling and austere environments. Equipment and material contained in the Sick Call AMAL is similar to that used in garrison medical clinics and in FFME kits organic to supported units.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 3: General Property		P-1 Line Item Number / Title: 6522 / Field Medical Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206623M
Line Item MDAP/MAIS Code: N/A		
The Shock Trauma Platoon (STP) AMAL provides equipment to perform initial resuscitative care for 50 non-surgical combat casualties for 30 days and establish 10 post trauma care patient holding litters for up to 48 hours. When co-located with the Forward Resuscitative Surgery System AMAL 645, the STP becomes a triage center and pre/postoperative care ward. STPs provide patient medical support for Surgical Companies deployed in its Area of Responsibility (AOR) or can be deployed independently to provide trauma resuscitation capabilities beyond that of the BAS. The AMALs are staffed by a mix of Emergency Medicine, Family Practice and support staff and the capabilities are scalable, rugged, easily transported and operate reliably in expeditionary environments. The En Route Care System (ERCS) provides equipment for the care of two critically injured/ill, but stabilized casualties in a theater operations for up to a two hour medical evacuation (MEDEVAC) flight from a field treatment facility to the next higher echelon of medical care. The ERCS is a modular system that includes medical equipment, medical treatment protocols and supplies. The Acute Care Ward AMAL provides the equipment necessary to support six cots and four critical care beds for up to 72 hours for each patient or 50-bed days total. The AMAL is scalable, rugged and operates reliably in expeditionary environments, provide medical equipment and supplies to perform clinical procedures for patient conditions for the Acute Care Ward for the first 30 days of deployment. The Acute Care Ward AMAL is employed within the Surgical Company and represents the primary patient holding capacity within the USMC medical capability portfolio. It is expected that the demand for this capability may increase in AORs that require distributed operations, have long evacuation distances, and have denied air space. Preventive Medicine AMALs contain the equipment necessary to provide technical preventive medicine advice, inspect food service operations, waste disposal, water potability vector control and surveillance, field sanitation, heat/cold injury prevention and disease surveillance and control measures for communicable diseases for 30 days. This AMAL is deployed with the Preventive Medicine Technician, Environmental Officer, or Industrial Hygiene Officer and is critical to the combat effectiveness in austere environments where personnel can be exceptionally susceptible to diseases and illnesses endemic to areas US forces are not frequently located. Digital Radiography Equipment program (AMAL 627) provides radiological capability to surgical trauma platoons to diagnose injuries and medical abnormalities. AMAL 627 contains equipment to support one x-ray machine and develop x-rays. The x-ray unit is a compact, mobile and lightweight system that enables all imaging functions to be performed at the point of patient care. The unit is comprised of a low capacity x-ray and a digitally computed radiographic (CR) reader, which scans the x-ray plates and displays the images on a laptop computer. The unit can be broken down into components for transportation and storage. It is operable and maintainable under all conditions of altitude, climate and terrain. The Laboratory AMAL provides the equipment to perform hematology, blood chemistry, urinalysis, blood banking, microbiology, and other miscellaneous laboratory tests essential to support a field medical facility treating casualties requiring surgery and trauma resuscitation. Laboratory AMALs are also used for the identification of non-battle related diseases which historically have claimed as many or more lives than combat itself and also has the potential to render troops non-combat effective due to illness. Further, it provides the capability to establish a blood bank for immediate supply of blood products to treat combat casualties during mass-casualty events. The Short Range Casualty Evacuation (CASEVAC) AMAL provides the Marine Corps with the capability to provide medical treatment during the air or ground evacuation of injured/ill personnel from the point of injury to a Surgical Company. The system provides the equipment and supplies necessary to provide care for up to eight patients, one critically injured/ill casualty, five other litter patients and two ambulatory patients for up to two hours flight time. The Field Dental Operatory Authorized Dental Allowance List (ADAL) provides dental services to the Marine Expeditionary Force (MEF). In an operational environment, the Dental Battalion's primary mission is to provide dental health maintenance with a focus on emergency care. ADALs contain equipment required by dentists and their technicians to perform dental procedures on Marines in an expeditionary environment and can be broken down into component sets or scaled down to fit the size and mission of the deploying unit. The ADAL is primarily designed for standalone dental treatment, but can be used in conjunction with other AMALs.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 3: General Property					P-1 Line Item Number / Title: 6522 / Field Medical Equipment					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A				Other Related Program Elements: 0206623M			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Field Medical Equipment				- / 0.000	- / 33.723	- / 2.898	- / 4.187	- / -	- / 4.187
P-40	Total Gross/Weapon System Cost				- / 0.000	- / 33.723	- / 2.898	- / 4.187	- / 0.000	- / 4.187
*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 2019: \$33.723M; BLI 6522 New Start FY 2019. Funding procures improved and modernized equipment for AMALs such as the Laboratory AMAL and the Acute Care Ward Equipment. Equipment procurements for these blocks will increase performance, reduce power requirements, and improve expeditionary capabilities to better support changes in USMC CONOPS for distributed operations. Funding will also procure equipment such as the Expeditionary Medical Refrigeration Unit (EMRU) which will replace the current Hemacool Refrigeration Unit currently employed in the Laboratory, Forward Resuscitative Surgery System (FRSS) and Shock Trauma Platoon (STP) AMALs. Equipment such as the EMRU will provide significant increases in performance, using less than half of the current power than the Hemacool and able to run on batteries for more than twice the amount of time as the Hemacool (up to 48 hours), greatly improving the expeditionary capabilities of the supported AMALs. The EMRU expands clinical refrigeration capabilities beyond just blood products as it can be used for extended transport and storage of vaccines and reagents. Additionally, the EMRU uses new technology with Environmental Protection Agency (EPA) compliant gases and will not require the R-134a refrigerant used in the Hemacool which will be phased out by the EPA in FY19. Funding will procure critical shortfalls of Class VIII Medical Equipment Sets required in the USMC Prepositioning Objective (PREPO) which support two major Operation Plans (OPLANs). Currently, there are no surgical AMALs in PREPO as a result of the obsolescence and disposal of the Main Operating Room AMALs which presents a significant capability gap for medical support in major combat operations. The FY19 funds will close that gap entirely by procuring FRSS AMALs. There are no patient movement equipment AMALs in PREPO at this time; current OPLANs require the USMC to have the ability to move critically injured personnel and post-surgical patients both from the point of injury, and the forward deployed surgical site locations to the next echelon of medical care as detailed in Joint Publication 4-02. The FY19 funds will close that gap entirely by procuring En Route Care System (ERCS) AMALs. USMC policy designates Class VIII material as War Reserve Material (WRM) and aside from the capabilities maintained in the PREPO Program, there is a critical shortfall in WRM stocks which cannot be rapidly procured and configured on short notice. Currently each MEF maintains 15 Days of Supply (DOS) and the USMC Logistics Command (LOGCOM) does not maintain Class VIII War Reserve Material and Contingency Preparedness equipment sets and supplies for the Operating Force (OPFOR). The OPFOR (I and II MEF) have determined there are significant AMAL shortfalls across all AMAL types for the purpose of providing medical support for rapid, large scale deployments. Therefore, the MEFs must increase their AMAL stocking levels held in a contingency status in order to have the ability to rapidly deploy the medical capabilities required to support two concurrent, full Marine Expeditionary Brigades. FY19 funds will provide the initial issue of AMALs which will close this gap and significantly increase readiness.

FY 2020: \$2.898M procures improved and modernized equipment for AMALs such as the ERCS and Short Range Casualty Evacuation (CASEVAC), as well as the Field Dental Operator ADAL. The ERCS AMAL provides the capability to AERO-MEDEVAC critical casualties and post-surgical patients with critical portable patient life support systems to the next echelon of care such as an Expeditionary Medical Facility, Army Combat Hospital, or Hospital Ship afloat. The CASEVAC AMAL provides the capability to rapidly evacuate patients from the point of injury on the battlefield, to a higher level of care such as the STP and FRSS Team. The Field Dental Operator ADAL provides the capability to perform critical field surgical dentistry in combination with Trauma Resuscitative and Forward Surgical care, or as an independent capability which can significantly improve forward deployed readiness through treatments that can prevent MEDEVACs and keep troops in the fight. Equipment procurements for these blocks will increase performance, reduce power requirements, and improve expeditionary capabilities to better support changes in USMC CONOPS for distributed operations. Funding will procure equipment to support the Chemical Biological Incident Response Force capability to rapidly respond to incidents in the National Capital Region within mere hours of an occurrence, and also provides a pre-staged capability in support of planned efforts where an elevated readiness posture is required. Funding will also procure equipment such as the Expeditionary Portable Oxygen Generation System (EPOGS) which will replace the aging Portable Oxygenation Generation System (POGS) with a lighter, smaller, and more capable system that produces a higher concentration of oxygen which is a critical requirement to forward expeditionary medical care. Funding will also procure equipment such as Foldable High G-force Resistant Patient Litter (FHGRPL) which will replace the currently fielded TALON-3, which does not meet the recently approved Joint Patient Movement requirements for G-force resistance. The FHGRPL will greatly improve patient survivability of hard aircraft landings and help address the difficulties associated with Ground CASEVAC over challenging, rough terrain.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020	
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 3: General Property		P-1 Line Item Number / Title: 6522 / Field Medical Equipment	
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206623M	
Line Item MDAP/MAIS Code: N/A			
FY 2021 Base Appropriation: \$4.187M procures improved and modernized Authorized Medical Allowance Lists such as the Biomedical Test and Repair Equipment, and the FRSS/STP Equipment AMAL blocks. The Biomedical Test and Repair AMALs are instrumental for the purpose of maintenance and repair for all of the other medical equipment sets fielded across the USMC. As equipment is added to AMALs during the quadrennial modernization periods either as new technology or replacement items to address obsolescence, it is necessary to also procure proprietary tools, test and calibration equipment for preventive maintenance and repair of these new items. Additionally, common use and expected replacement wear parts for fielded equipment sets must also be stocked, and it is in the Biomedical Test and Repair Equipment and Consumable blocks that this material will be stocked. The FRSS is the only Role II Surgical capability utilized by the USMC and is a critical capability that is required in all OPLANs in which the USMC has an active combat role. It is utilized by only the Medical Battalions, but can also be integrated and function in the joint environment. It is doctrinally the primary casualty receiving point from the point of injury for patients requiring emergency damage control surgery to preserve life, limb and eyesight. It is staffed and equipped for general and orthopedic surgery, as well as pre-operative care, with limited post-operative holding prior to medical evacuation to the next echelon of medical care. The STP is staffed and equipped to serve as the USMC's only fielded emergency medicine and trauma resuscitation capability. It is utilized by both the Medical Battalions and the Marine Expeditionary Units. This capability is required in all OPLANs in which the USMC has an active combat role, and is most commonly planned for as a co-located capability with the FRSS. Under this construct the collocated assets greatly enhance the casualty receiving and mass casualty treatment capability by means of enhanced triage, trauma resuscitation, and critical patient bed capacity, and short-term patient holding for MEDEVAC to the next echelon of medical care. Additionally, the STP is afloat on the Marine Expeditionary Units and provides the Combatant Commanders a rapidly deployable advanced trauma resuscitation capability that supports the maneuver element ashore, as well as provides a breadth of capability across the full range of military operations, to include humanitarian assistance and disaster relief. FY20 to FY21 Increase (\$1.289M): Due to the nature and complexity of the equipment sets included in the FRSS and STP, as well as the pace at which medical technology is developed, these blocks require an additional \$1.289M to fully modernize and replace anticipated obsolescent equipment, and other line items that original equipment manufacturers will no longer produce. FY21 funding aligns with the scheduled AMAL review cycle.			

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 3							P-1 Line Item Number / Title: 6522 / Field Medical Equipment							Aggregated Items Title: Field Medical Equipment						
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
1) Family of Field Medical Equipment																				
1.1) Authorized Medical Allowance List (AMAL) - Equipment ⁽¹⁾	A		-	-	-	-	-	16.849	-	-	0.354	-	-	0.465	-	-	-	-	-	0.465
1.2) Acute Care Ward Equipment	A		-	-	-	-	-	1.514	-	-	-	-	-	-	-	-	-	-	-	-
1.3) Laboratory - Equipment	A		-	-	-	-	-	1.249	-	-	-	-	-	-	-	-	-	-	-	-
1.4) En Route Care System (ERCS) - Equipment	A		-	-	-	-	-	6.000	-	-	1.500	-	-	-	-	-	-	-	-	-
1.5) Field Dental Operator - ADAL Equipment	A		-	-	-	-	-	0.020	-	-	0.544	-	-	-	-	-	-	-	-	-
1.6) Short Range Casualty Evacuation (CASEVAC) - Equipment	A		-	-	-	-	-	-	-	-	0.500	-	-	-	-	-	-	-	-	-
1.7) Forward Resuscitative Surgery System (FRSS) - Equipment	A		-	-	-	-	-	6.500	-	-	-	-	-	2.222	-	-	-	-	-	2.222
1.8) Shock Trauma Platoon (STP) - Equipment	A		-	-	-	-	-	1.591	-	-	-	-	-	1.500	-	-	-	-	-	1.500
Subtotal: 1) Family of Field Medical Equipment			-	-	0.000	-	-	33.723	-	-	2.898	-	-	4.187	-	-	-	-	-	4.187
Total			-	-	0.000	-	-	33.723	-	-	2.898	-	-	4.187	-	-	-	-	-	4.187

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

Footnotes:

⁽¹⁾ FY20 to FY21 Increase (\$1.289M): Due to the nature and complexity of the equipment sets included in the FRSS and STP, as well as the pace at which medical technology is developed, these blocks require an additional \$1.289M to fully modernize and replace anticipated obsolescent equipment, and other line items that original equipment manufacturers will no longer produce. FY21 funding aligns with the scheduled AMAL review cycle.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 3: General Property						P-1 Line Item Number / Title: 6532 / Training Devices						
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: N/A					Other Related Program Elements: 0206623M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	1,001.416	64.040	125.668	101.765	0.000	101.765	126.341	72.102	84.597	86.283	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,001.416	64.040	125.668	101.765	0.000	101.765	126.341	72.102	84.597	86.283	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	1,001.416	64.040	125.668	101.765	0.000	101.765	126.341	72.102	84.597	86.283	Continuing	Continuing
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	0.051	-	-	-	-	-	-	-	-	-	0.051
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Description:												
COMBINED ARMS COMMAND AND CONTROL TRAINER UPGRADE SYSTEM (CACCTUS) upgrades Combined Arms Staff Trainer (CAST) at the 5 Approved Acquisition Objective (AAO) locations to provide a more immersive training opportunity for Marine Air Ground Task Force (MAGTF) staff elements in the areas of fire support employment, coordination, and integration. The upgraded system will support Marine Expeditionary Battalion (MEB) level training to effectively integrate current and emerging Communications Command Control Computers and Intelligence (C4I) systems. These funds will also support the procurement of system hardware.												
COMMAND and CONTROL TRAINING and EDUCATION CENTER of EXCELLENCE (C2 TECOE) supports the five (5) MAGTF Integrated Systems Training Centers (MISTCs). The MISTCs, under the operational control of the C2 TECOE, are the primary Command and Control (C2) training venues for the Marine Corps operating forces for both individual and collective C2 systems sustainment training. The yearly funding is for equipment refresh and procurement of new training systems. A portion of the C2 computer systems are replaced each year to provide current systems for classroom and combat operation training in battle staff training for commanders and unit personnel.												
DEPLOYABLE VIRTUAL TRAINING ENVIRONMENT (DVTE) is a laptop PC based simulation system capable of emulating organic and supporting Infantry Battalion weapons systems and training scenarios to facilitate Training and Readiness (T&R) based training, currently being fielded at the Battalion level. Its portable configuration allows Marines to train when they otherwise could not; aboard ship, at remote reserve locations and deployed. DVTE conducts multiple types of training such as language and culture training, platoon and squad level tactics, employment of supporting arms, and various Recognition of Combatants (ROC) packages. DVTE is part of a Commander's "training toolkit" contributing to the building block approach to standards based training focusing on achieving an improved level of combat readiness. Funding supports hardware refresh and integration/interoperability capabilities with operational forces' systems.												
FAMILY OF COMBAT VEHICLE TRAINING SYSTEM (FCVTS) consists of the active duty Marine Corps' Combat Convoy Simulator (CCS) and the Combat Vehicle Training Systems which includes the Advanced Gunnery Training System (AGTS) for the M1A1 Abrams Tank and Light Armored Vehicle-25 (LAV-25), and the Amphibious Assault Vehicle Turret Training (AAV-TT). The CCS provides an immersive training environment in which Marines exercise combat skills including tactics, techniques and procedures for vehicle convoy operations in a variety of simulated road, terrain, weather, visibility and operational conditions. Tactical scenarios include weapons usage, target engagement, driver evasive action, vehicle coordination command and control procedures, Improvised Explosive Device (IED) defeat, and calls for fire, close air support and medical evacuation. The Combat Vehicle Training System (CVTS) provides full-fidelity, computer-based training systems for the M1A1 main battle tank, the Light Armored Vehicle (LAV) 25, and the Amphibious Assault Vehicle (AAV) vehicles. It provides full crew training without the need for fuel, ammunition, training areas and ranges. Training systems can be linked together allowing for section and platoon level training. Procurement funding supports technology refresh.												

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Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 3: General Property		P-1 Line Item Number / Title: 6532 / Training Devices
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206623M
Line Item MDAP/MAIS Code: N/A		
FORCE ON FORCE TRAINING SYSTEMS (FoFTS) provides realistic, non-live fire capabilities to perform force-on-force training and supports realistic, live fire force-on-target training. The program develops, fields and supports a suite of tactical engagement capabilities that enhance MAGTF training around the world and across the range of military operations. The program includes tactical training systems such as the Special Effects Small Arms Marking System (SESAMS) and advanced, instrumented, laser-based tactical engagement systems such as the Instrumented-Tactical Engagement Simulation System (I-TESS) that provide realistic weapons effects, position locating, and enhanced After Action Review (AAR) capability to support Live-Virtual-Constructive (LVC) events in the MAGTF Training Program curriculum. Funding supports procurement of 16 Battalion sets of I-TESS III, 345 sets of various CV-TESS kits and enhanced networking capability to provide a more robust and comprehensive AAR . IMMERSIVE TRAINING RANGE SUPPORT (ITRS) [FORMERLY SQUAD IMMERSIVE TRAINING ENVIRONMENT (SITE)] will provide II Marine Expeditionary Force (MEF) an outdoor Infantry Immersion Trainer (IIT) that will consist of small unit training ranges with urban structures finished and decorated to replicate geo-specific locations paired with integrated direct fire training systems, virtual simulation screens, and video instrumentation for after action review. The outdoor training environments closely replicate current operational threats by stimulating all senses to stress small unit actions and the small unit leader's tactical, moral, and ethical decision making within the context of operational culture. IIT provides the capability for small-unit rehearsal training and squad leader decision making for assessment and measurement. The immersive training environment seeks to suspend disbelief by closely replicating the actual operating environment, including realistic battlefield friendly and enemy effects to the level of fidelity that the perceived difference between the actual operational environment and immersive training environment is nearly indistinguishable to the training audience. This high-level of battlefield realism provides training exposure to operational complexities, mental and physical stressors, and tactical and ethical decision-making in a culturally accurate, threat accurate, and interactive environment. INDOOR SIMULATED MARKSMANSHIP TRAINER (ISMT) is a three (3) dimensional simulation based trainer for indoor use, capable of instructing in basic and advanced marksmanship, shoot/no-shoot judgment, combat marksmanship, and weapons employment tactics. The ISMT is used for remedial, virtual instruction to augment live fire upon simulated targets with an indication of the rounds fired. The ISMT systems are used both within the continental United States (CONUS) and Outside CONUS (OCONUS). The system has five (5) firing positions and is capable of operating simulated weapons such as AT4, M2 .50 Cal, M9, M16A4, M16A2 Fully Sensored, M240B, M203, MK19, M249 SAW, M870 12 gauge shotgun, SMAW, M224 60mm Mortar, M252 81mm Mortar, M4A1, Joint Services Combat Shotgun (JSCS), M27 Infantry Automatic Rifle (IAR), M32 Multi-shot Grenade Launcher, and the M72 Light Anti-Armor Weapon (LAW). MARINE AIR GROUND TASK FORCE (MAGTF) TACTICAL WARFARE SIMULATION (MTWS) is the Marine Corps' only constructive, aggregate-level simulation system used to support the training of Marine commanders and their battle staffs in MAGTF war-fighting principles/concepts and associated command and control procedures. Using complex computer-simulated behavior models, MTWS provides an interactive, decision-based, real-time, war game representing the six war-fighting functional areas of fires, command and control, force protection, logistics, maneuver, and intelligence. It's modeling breadth and flexibility enables users to represent and exercise a wide variety of combat scenarios to prepare leaders to face the military challenges of today's world. MTWS is designed to support the training of commanders and their staffs in exercises involving live and simulated land, air, and naval forces at all operational command levels. The system supports all levels of command throughout the MEF and Joint Task Force (JTF). MTWS can be used as a multi-sided war game, including red, blue, civilian, and non-aligned sides. The system can also be used to validate specific operational plans against a variety of enemy and environmental situations. Thus command personnel may examine alternative tactical solutions on a "what if" basis. MARINE CORPS DISTANCE LEARNING Program (MCDLP) provides the MarineNet E-Learning Infrastructure that enables Marines to receive training and education via interactive media, when and where training is needed. Distance Learning contributes to the Marine Corps' operational readiness by providing Marines with access to required Military Occupational Specialty (MOS), common skills training, and Professional Military Education (PME) training at 40 Learning Resource Centers (LRCs) located at Marine Corps bases and stations both CONUS and OCONUS. RANGES AND TRAINING AREA MANAGEMENT (RTAM) Baseline program modernizes major USMC base and station live training ranges to provide enhanced after action review with ground truth feedback, realistic representation of Opposing Forces (OPFOR) and enhanced range and exercise command and control capabilities. Integrating live and simulated training technologies, the fielded capabilities enhance live-fire, force-on-target, GUAM initiatives, and force-on-force training. Major system components of modernization include Military Operations on Urbanized Terrain (MOUT) facilities, inter-active targetry, battlefield effects simulators, individual and vehicle tracking systems, aviation tracking systems, Tactical Engagement Simulation Systems, simulated munitions, integrated simulation, and range control and exercise control information processing and situational awareness displays. Training is required to support the complexities of command and control, and live-fire coordination in support of maneuver of units at and above company level. Deploying operational units need access to instrumented, non live-fire and live-fire capable MOUT training facilities, urban sniper training capabilities, convoy operation/reaction course capability, Urban Close Air Support (CAS) ranges, and IED/EOD training capability in order to accomplish this training and bring the Marine Corps into the 21st century, to include a fully Immersive Infantry Trainer (IIT). These capabilities give deploying units the opportunity to better meet training requirements before exercising as a MAGTF and deploying to the combat theaters. Additionally lessons learned from Operation Iraqi Freedom (OIF) are driving the need for new training systems supporting a seamless training environment allowing crucial core capabilities to be available for all Marines at all sites at once.		

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Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 3: General Property		P-1 Line Item Number / Title: 6532 / Training Devices
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206623M
Line Item MDAP/MAIS Code: N/A		
SUPPORTING ARMS VIRTUAL TRAINER (SAVT) will advance the training capability, operational readiness, and tactical proficiency of USMC Joint Terminal Attack Controllers (JTACS), Forward Observers (FOs), and Forward Air Controllers (FACs). The personnel will use training scenarios that require the placement of simulated tactical ordnance on selected targets using Joint Close Air Support (JCAS) procedures and observed fire procedures for Naval Surface Fire Support (NSFS), artillery and mortar fire to perform destruction, neutralization, suppression, illumination/coordinated illumination, interdiction and harassment fire missions. TRAINING SIMULATION SUPPORT (TSS) program encompasses the procurement of low density, minor (low cost) MAGTF ground training equipment, simulators and simulations. These devices such as medical training kits, climbing walls, weapons models and mockups, enhance basic occupational and combat skills across the wide spectrum of tactics, techniques, procedures and proficiency. TSS for the most part is for commercial/service non-developmental training devices used by Marine Corps Schools of Infantry, Marine Corps Martial Arts Program, Recruit Depots, operating forces, bases, stations to support combat readiness. Funding provides capability for the USMC to conduct critical training and participate as a full-fledged member of several joint programs. UNITED STATES MARINE CORPS OPERATOR DRIVER SIMULATOR (USMC ODS) is a computer based operator driving simulator used to provide entry and sustainment level driver training for Protected Mobility/ Enhanced Maneuver and Close Combat Lethality, and FY20 Budget Priority to Modernize in the Land Domain. In keeping with modernizing the Land Domain, Marine Common Driver Trainers (MCDT) are being procured to replace the obsolete ODS simulators that will be out of service as of FY20, leaving MCDT as the only driver simulator in the Marine Corps. This effort affects over 11,100 students annually and their ability to get mandated driving time during their instruction plus more than 60,000 incidental and professional drivers throughout the USMC. This line item includes funding specified for Defense Policy Review Initiative (DPRI) within the details above.		

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ID Code (A=Service Ready, B=Not Service Ready): B				Program Elements for Code B Items: N/A			Other Related Program Elements: 0206623M			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Training Devices				- / 1,001.416	- / 64.040	- / 125.668	- / 101.765	- / -	- / 101.765
P-40	Total Gross/Weapon System Cost				- / 1,001.416	- / 64.040	- / 125.668	- / 101.765	- / 0.000	- / 101.765
*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: Overall Training Devices Accomplishments: Baseline requests provide for seamless training environments that continue to enhance training capabilities, modernize major USMC base and station live training ranges, provide enhanced after action review with ground truth feedback, realistic representation of OPFOR and enhanced range and exercise command and control capabilities. FY 2019: \$64.040M COMBINED ARMS COMMAND AND CONTROL TRAINER UPGRADE SYSTEM (CACCTUS) \$1.000M provided necessary hardware components (computers, projectors, racks and smart uninterrupted power supplies) and installation in support of the training systems at all five (5) authorized sites and the supporting test facility. COMMAND and CONTROL TRAINING and EDUCATION CENTER of EXCELLENCE (C2 TECOE) \$0.413M provided the procurement funding support for equipment refresh and procurement of new training systems at the five (5) MAGTF Integrated Systems Training Centers (MISTCs). DEPLOYABLE VIRTUAL TRAINING ENVIRONMENT (DVTE) \$3.733M provided procurement funding support for the new phase of the hardware refresh of DVTE suites which will be accomplished 2017 to 2020. FORCE ON FORCE TRAINING SYSTEM (FoFTS) \$25.200M supported the procurement of 155 of the 346 CV-TESS kits; 1 battalion set and ancillary items of the 16 Authorized Acquisition Objective (AAO) for I-TESS III (1 battalion sets = individual instrumentation and ancillary equipment for 1053 Marines). All of which present an increased capability over the legacy I-TESS II system based on new requirements that the current system cannot meet. The legacy I-TESS II system has met its life cycle expectancy and is planned for DRMO upon fielding of the new systems. IMMERSIVE TRAINING RANGE SUPPORT (ITRS) [FORMERLY SQUAD IMMERSIVE TRAINING ENVIRONMENT (SITE)] \$8.446M FY19 funds allowed for procurement of an outdoor Infantry Immersive Trainer (IIT) for increased IIT capacity at Camp Lejeune, NC to address II MEF and east coast Security Force Battalion operational unit throughput deficiencies. MARINE AIR GROUND TASK FORCE (MAGTF) TACTICAL WARFARE SIMULATION (MTWS) \$0.885M provided hardware refresh in accordance with the component refresh cycle. MARINE CORPS DISTANCE LEARNING PROGRAM (MCDLP) \$0.875M provided hardware, technical support and testing for the disaster recovery site for MarineNet. RANGES AND TRAINING AREA MANAGEMENT \$23.026M allowed for procurement of training systems and devices that support multiple ranges at various locations such as inter-active targetry, battlefield effects simulators, individual and vehicle tracking systems, and aviation tracking systems for live fire and non-live fire training ranges at the Marine Air Ground Task Force Training Center (MAGTFTC) and home station commands which is based on priorities established by Training & Education Command Range & Training Area Management division; as well as, provide funding for continued Integrated Range Status Systems (IRSS) re-capitalization. SUPPORTING ARMS VIRTUAL TRAINER (SAVT) \$0.409M was for procurement of kits to include installation and product verification testing of technology refresh/replacement components.										

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ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206623M
Line Item MDAP/MAIS Code: N/A		
TRAINING SIMULATION SUPPORT (TSS) \$0.053M provided minimum procurement of low density, minor (low cost) MAGTF ground training equipment, simulators and simulations to include devices such as medical training kits, climbing walls, weapons models and mockups that enhance basic occupational and combat skills across the wide spectrum of tactics, techniques, procedures and proficiency. The nature of equipment purchased is non-centrally managed consumables with a unit cost less than \$250K.		
FY 2020: \$125.668M		
COMBINED ARMS COMMAND AND CONTROL TRAINER UPGRADE SYSTEM (CACCTUS) \$3.715M provides necessary hardware components and installation in support of the training systems at all five (5) authorized sites and the supporting test facility. Increase of \$2.715M from FY19 to FY20 is due to final technology refreshes of non-IT items like projectors and simulation time display clocks for all 5 active duty sites and the supporting facility.		
COMMAND and CONTROL TRAINING and EDUCATION CENTER of EXCELLENCE (C2 TECOE) \$0.341M provides the procurement funding support for equipment refresh and procurement of new training systems at the five (5) MAGTF Integrated Systems Training Centers (MISTCs). Decrease of \$0.072M from FY19 to FY20 due to reduced hardware buy.		
DEPLOYABLE VIRTUAL TRAINING ENVIRONMENT (DVTE) \$1.437M provides procurement funding support for the new phase of the hardware refresh of DVTE suites which will be accomplished over the next four (4) years (2017 to 2020). Decrease of \$2.296M from FY19 to FY20 is due to decreased numbers of DVTE systems at the locations being refreshed during FY20.		
FAMILY OF COMBAT VEHICLE TRAINING SYSTEM (FCVTS): \$10.006M provides Combat Vehicle Training System a technology refresh beginning in FY20 for the M1A1 and LAV 25 Advanced Gunnery Training systems(AGTS)in order to mitigate emerging obsolescence issues from affecting the operational availability of the systems. Aging and increasingly unavailable system hardware and software components will be replaced with modern and readily available commercial solutions. Successful execution will extend system service-life and reduce increasing operations and maintenance costs. Increase of \$10.006M from FY19 to FY20 is due to technology refresh to mitigate obsolescence issues.		
FORCE ON FORCE TRAINING SYSTEM (FoFTS) \$53.749M allows procurement of 64 of the 346 CV-TESS kits; and 4.5 battalion sets and ancillary items of the 16 AAO. All of which present an increased capability over the legacy I-TESS II system based on new requirements that the current system cannot meet. The increase of \$28.549M from FY19 to FY20 procures additional battalion sets and CV-TESS kits.		
INDOOR SIMULATED MARKSMANSHIP TRAINER (ISMT) \$2.872M provides for the hardware refresh procurement of simulated weapons such as AT4, M2 .50 Cal, M9, M16A4, M16A2 Fully Sensored, M240B, M203, MK19, M249 SAW, M870 12 gauge shotgun, SMAW, M224 60mm Mortar, M252 81mm Mortar, M4A1, Joint Services Combat Shotgun (JSCS), M27 Infantry Automatic Rifle (IAR), M32 Multi-shot Grenade Launcher, and the M72 Light Anti-Armor Weapon (LAW) and for alteration of the ISMT space aboard the LPD Class 17 ships to baseline the compartments layout. Increase of \$2.872M from FY19 to FY20 is due to procurement of weapons for additional locations and a LPD Class 17 ship alteration.		
MARINE AIR GROUND TASK FORCE (MAGTF) TACTICAL WARFARE SIMULATION (MTWS) \$0.619M provides hardware refresh in accordance with component refresh cycle. Decrease of \$0.266M from FY19 to FY20 due to reduced hardware buy.		
MARINE CORPS DISTANCE LEARNING PROGRAM (MCDLP) \$1.013M provides hardware, technical support and testing for the disaster recovery site for MarineNet. Increase of \$0.138M from FY19 to FY20 is due to having the Continuity of Operations (COOP) move to Amazon Government Cloud based solution.		
RANGES AND TRAINING AREA MANAGEMENT \$28.018M provides funding for continued Integrated Range Status Systems (IRSS) re-capitalization. It will allow for the procurement of training systems and devices that support multiple ranges at various locations such as inter-active targetry, battlefield effects simulators, individual and vehicle tracking systems, and aviation tracking systems for live fire and non-live fire training ranges at the MAGTFTC and home station commands which is based on priorities established by Training & Education Command Range & Training Area Management division. Increase of \$4.992M from FY19 to FY20 is for procurement of training systems and devices that support the Live Fire Training Range at the Northwest Field at Andersen AFB (DPRI GUAM) in support of Marine Corps Known Distance Rifle Range and Pistol Ranges.		

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Line Item MDAP/MAIS Code: N/A		
UNITED STATES MARINE CORPS OPERATOR DRIVER SIMULATOR (USMC ODS) \$23.898M supports the procurement of Marine Common Driver Trainers (MCDT) that are being procured to replace the obsolete ODS simulators that will be out of service as of FY20, leaving MCDT as the only driver simulator in the Marine Corps. MCDT is a computer based operator driving simulator used to provide entry and sustainment level driver training for Protected Mobility/ Enhanced Maneuver and Close Combat Lethality, and FY20 Budget Priority to Modernize in the Land Domain. In keeping with modernizing the Land Domain, This effort affects over 11,100 students annually and their ability to get mandated driving time during their instruction plus more than 60,000 incidental and professional drivers throughout the USMC. Increase of \$23.898M from FY19 to FY20 is due to the procurement of 30 simulators. FY 2021 Base Appropriation Request: \$101.765M The FY2021 funding request was reduced by \$34.635 million to account for the availability of prior year execution balances. COMBINED ARMS COMMAND AND CONTROL TRAINER UPGRADE SYSTEM (CACCTUS) \$3.573M will provide necessary hardware components and installation in support of the training systems at all five (5) authorized sites and the supporting test facility. Decrease of \$0.142M from FY20 to FY21 due to reduced hardware buy. COMMAND and CONTROL TRAINING and EDUCATION CENTER of EXCELLENCE (C2 TECOE) \$0.476M will provide the procurement funding support for equipment refresh and procurement of new training systems at the five (5) MAGTF Integrated Systems Training Centers (MISTCs). Increase of \$0.135M from FY20 to FY21 is due to increased hardware buy. DEPLOYABLE VIRTUAL TRAINING ENVIRONMENT (DVTE) \$4.479M will provide technology hardware refresh and system interoperability in accordance with component refresh cycle. An increase of \$3.042M from FY20 to FY21 is due to the technical refresh of the DVTE systems located at the USMC Battle Simulation Centers (BSCs). DVTE systems is scheduled to occur during FY20 and FY21 and will be increasing the Total Force Structure Management System (TFSMS) Approved Acquisition Objective (AAO) for Marine Corps Intelligence schools (MCIS), Chemical, Biological, Radiological, and Nuclear (CBRN) schoolhouse, 10th Marines request for DVTE suites and Tactical Decision Kit (TDK) suites. FAMILY OF COMBAT VEHICLE TRAINING SYSTEM (FCVTS) \$4.312M will provide Combat Vehicle Training System a technology refresh for AAV Turret Trainer to mitigate emerging obsolescence issues from affecting the operational availability of the systems. The decrease of \$5.694 from FY20 to FY21 is due to the AAV-TT AAO cost is lower compared to the M1A1 and LAV-25 Advanced Gunnery Training Systems funded in FY20. FORCE ON FORCE TRAINING SYSTEM (FoFTS) \$37.203M will allow procurement of 127 of the 346 CV-TESS kits; and 3 battalion sets and ancillary items of the 16 AAO, which includes 16 Instrumentation Network and C2 nodes. All of which present an increased capability over the legacy I-TESS II system based on new requirements that the current system cannot meet. The decrease of \$16.546M from FY20 to FY21 due to reduced hardware buy. INDOOR SIMULATED MARKSMANSHIP TRAINER (ISMT) \$6.457M will procure the hardware refresh of simulated weapons to reflect concurrency of operational weapons to include AT4, M2 .50 Cal, M9,M16A4, M16A2 Fully Sensored, M240B, M203, MK19, M249 SAW, M870 12 gauge shotgun, SMAW, M224 60mm Mortar, M252 81mm Mortar, M4A1, Joint Services Combat Shotgun (JSCS), M27 Infantry Automatic Rifle (IAR), M32 Multi-shot Grenade Launcher, and the M72 Light Anti-Armor Weapon (LAW). An increase of \$3.585M from FY20 to FY21 is attributed to the need to refresh simulated weaponry due to obsolescence and to provide new simulated weaponry to replicate newly fielded weaponry. MARINE AIR GROUND TASK FORCE (MAGTF) TACTICAL WARFARE SIMULATION (MTWS) \$0.867M will provide hardware refresh in accordance with component refresh cycle. Increase of \$0.248M from FY20 to FY21 is due to the increased number of sites. MARINE CORPS DISTANCE LEARNING PROGRAM (MCDLP) \$2.678M will procure technical support and engineering execution for the requirements analysis, design and deployment of the MarineNet System in the Cloud architecture. Increase of \$1.665M from FY20 to FY21 will provide additional Continuity of Operations (COOP) support.		

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Line Item MDAP/MAIS Code: N/A		
RANGES AND TRAINING AREA MANAGEMENT (RTAM): \$28.518M will provide Ranges and Training Area Management funding for continued Integrated Range Status Systems (IRSS) re-capitalization. It will allow for the procurement of training systems and devices that support multiple ranges at various locations such as inter-active targetry, MOUT systems, battlefield effects simulators, individual and vehicle tracking systems, and aviation tracking systems for live fire and non-live fire training ranges at the MAGTF TC and home station commands, which is based on priorities established by Training & Education Command Range & Training Area Management division. An increase of \$.500M FY20 to FY21 is due to increased GUAM system requirements in FY21. UNITED STATES MARINE CORPS OPERATOR DRIVER SIMULATOR (USMC ODS) \$13.202M supports the procurement of Marine Common Driver Trainers (MCDT) are being procured to replace the obsolete ODS simulators that will be out of service as of FY20, leaving MCDT as the only driver simulator in the Marine Corps. MCDT is a computer based operator driving simulator used to provide entry and sustainment level driver training for Protected Mobility/ Enhanced Maneuver and Close Combat Lethality, and FY20 Budget Priority to Modernize in the Land Domain. In keeping with modernizing the Land Domain, This effort affects over 11,100 students annually and their ability to get mandated driving time during their instruction plus more than 60,000 incidental and professional drivers throughout the USMC. The decrease of \$10.696M from \$23.898M to \$13.202M from FY20 to FY21 is due to decreased hardware buy.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 3								P-1 Line Item Number / Title: 6532 / Training Devices							Aggregated Items Title: Training Devices					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
1) CACCTUS																				
1.1) CACCTUS Lab Equipment/Hardware (1)	A		-	-	46.555	-	-	1.000	-	-	3.715	-	-	3.573	-	-	-	-	-	3.573
1.2) CACCTUS Peripherals	A		-	-	0.150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.3) CACCTUS Software Licenses	A		-	-	0.250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.4) CACCTUS Hardware Support Services	A		-	-	0.740	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.5) CACCTUS NAVAIR Database Correlation	A		-	-	0.248	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 1) CACCTUS			-	-	47.943	-	-	1.000	-	-	3.715	-	-	3.573	-	-	-	-	-	3.573
2) C2TECOE																				
2.1) C2TECOE - Lab Equipment			-	-	3.428	-	-	0.313	-	-	0.241	-	-	0.376	-	-	-	-	-	0.376
2.2) C2TECOE - Training Systems			-	-	0.981	-	-	0.100	-	-	0.100	-	-	0.100	-	-	-	-	-	0.100
Subtotal: 2) C2TECOE			-	-	4.409	-	-	0.413	-	-	0.341	-	-	0.476	-	-	-	-	-	0.476
3) DVTE																				
3.1) DVTE Phase III Hardware Refresh	A		-	-	1.270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.2) DVTE Technical Refresh (2)			-	-	3.301	-	-	3.733	-	-	1.437	-	-	4.479	-	-	-	-	-	4.479
Subtotal: 3) DVTE			-	-	4.571	-	-	3.733	-	-	1.437	-	-	4.479	-	-	-	-	-	4.479
4) FoFTS (3)																				
4.1) FoFTS ITESS Training Systems	A		-	-	16.335	-	-	12.000	-	-	45.000	-	-	29.365	-	-	-	-	-	29.365
4.2) Barrel Kits (SESAMS)	A		-	-	-	-	-	-	-	-	1.000	-	-	-	-	-	-	-	-	-
4.4) FoFTS CVTESS Training System	A		-	-	-	-	-	13.200	-	-	7.749	-	-	7.838	-	-	-	-	-	7.838
Subtotal: 4) FoFTS			-	-	16.335	-	-	25.200	-	-	53.749	-	-	37.203	-	-	-	-	-	37.203
5) (FCVTS) Family of Combat Vehicle Training Sys																				
5.1) CCS Technical Refresh (4)	A		-	-	21.000	-	-	-	-	-	10.006	-	-	4.312	-	-	-	-	-	4.312
Subtotal: 5) (FCVTS) Family of Combat Vehicle Training Sys			-	-	21.000	-	-	-	-	-	10.006	-	-	4.312	-	-	-	-	-	4.312
6) ISMT																				

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 3						P-1 Line Item Number / Title: 6532 / Training Devices									Aggregated Items Title: Training Devices					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
6.1) Modify/Alter ISMT space aboard LPD17 Class platform	A		-	-	0.200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.2) ISMT Hardware Refresh (multiple locations and configurations) ⁽⁵⁾	A		-	-	31.660	-	-	-	-	-	2.872	-	-	6.457	-	-	-	-	-	6.457
6.3) ISMT Hardware Labor Support	A		-	-	0.190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.4) ISMT Hardware Contractor Logistics Support	A		-	-	0.239	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 6) ISMT			-	-	32.289	-	-	-	-	-	2.872	-	-	6.457	-	-	-	-	-	6.457
7) MTWS																				
7.1) MTWS Hardware and Software Refresh ⁽⁶⁾	A		-	-	0.426	-	-	0.885	-	-	0.619	-	-	0.867	-	-	-	-	-	0.867
Subtotal: 7) MTWS			-	-	0.426	-	-	0.885	-	-	0.619	-	-	0.867	-	-	-	-	-	0.867
8) MCDL																				
8.1) MCDLP NAVAIR - Support ⁽⁷⁾	A		-	-	1.338	-	-	0.875	-	-	1.013	-	-	1.740	-	-	-	-	-	1.740
8.2) MCDLP MITRE Test Programs	A		-	-	0.858	-	-	-	-	-	-	-	-	0.938	-	-	-	-	-	0.938
Subtotal: 8) MCDL			-	-	2.196	-	-	0.875	-	-	1.013	-	-	2.678	-	-	-	-	-	2.678
9) Ranges and Training Area Management ⁽⁸⁾																				
9.1) RM/T Multiple Instrum, MOUT, Targetry and BES TNG SYS and Range Re-Cap			-	-	327.507	-	-	23.026	-	-	14.380	-	-	13.452	-	-	-	-	-	13.452
9.2) Simulated Weapon Systems (MK19 & M41)	A		-	-	2.721	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.3) RM/T Support	A		-	-	2.113	-	-	-	-	-	0.290	-	-	0.343	-	-	-	-	-	0.343
9.4) IRSS Re-Capitalization	A		-	-	2.716	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.5) RMT Ranges Instrumentation (GUAM)	A		-	-	0.068	-	-	-	-	-	13.348	-	-	14.723	-	-	-	-	-	14.723
Subtotal: 9) Ranges and Training Area Management			-	-	335.125	-	-	23.026	-	-	28.018	-	-	28.518	-	-	-	-	-	28.518
10) SAVT																				
10.1) SAVT Hardware Refresh	A		-	-	3.637	-	-	0.409	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy																Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 3								P-1 Line Item Number / Title: 6532 / Training Devices								Aggregated Items Title: Training Devices			

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
10.2) SAVT Hardware Refresh Labor Support/CLS	A		-	-	0.794	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.3) SAVT - Post Deployment Software Support	A		-	-	1.200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 10) SAVT			-	-	5.631	-	-	0.409	-	-	-	-	-	-	-	-	-	-	-	-
11) IMMERSIVE TRAINING RANGE SUPPORT (ITRS)																				
11.1) ITRS IIT NAVFAC Training Sys Equipment Tasks	B		-	-	18.759	-	-	8.446	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 11) IMMERSIVE TRAINING RANGE SUPPORT (ITRS)			-	-	18.759	-	-	8.446	-	-	-	-	-	-	-	-	-	-	-	-
12) TSS																				
12.1) Training Simulation Support (TSS) Training Aids			-	-	13.728	-	-	0.053	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 12) TSS			-	-	13.728	-	-	0.053	-	-	-	-	-	-	-	-	-	-	-	-
13) USMC ODS																				
13.1) ODS Training System Hardware ⁽⁹⁾	A		-	-	-	-	-	-	-	-	23.898	-	-	13.202	-	-	-	-	-	13.202
Subtotal: 13) USMC ODS			-	-	0.000	-	-	-	-	-	23.898	-	-	13.202	-	-	-	-	-	13.202
14) Prior Years Cumulative Funding																				
14.1) Other Prior Year			-	-	499.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 14) Prior Years Cumulative Funding			-	-	499.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	1,001.416	-	-	64.040	-	-	125.668	-	-	101.765	-	-	-	-	-	101.765

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

Footnotes:

- ⁽¹⁾ CACCTUS: Decrease of \$0.142M from FY20 to FY21 due to reduced hardware buy.
- ⁽²⁾ DVTE: Increase of \$3.042M from FY20 to FY21 is due to the technical refresh of the DVTE systems located at the USMC Battle Simulation Centers (BSCs)scheduled to occur during FY20 and FY21 and increasing the Total Force Structure Management System (TFSMS) Approved Acquisition Objective (AAO) for Marine Corps Intelligence schools (MCIS), Chemical, Biological, Radiological, and Nuclear (CBRN) schoolhouse, 10th Marines request for DVTE suites and Tactical Decision Kit (TDK) suites.
- ⁽³⁾ FOFTS: Decrease of \$16.546M from FY20 to FY21 due to reduced hardware buy.
- ⁽⁴⁾ FCVTS: Decrease of \$5.694M from FY20 to FY21 because the AAV-TT AAO is lower compared to the M1A1 and LAV-25 Advanced Gunnery Training Systems which were funded in FY20.
- ⁽⁵⁾ ISMT: Increase of \$3.585M from FY20 to FY21 is attributed to the need to refresh simulated weaponry due to obsolescence and to provide new simulated weaponry to replicate newly fielded weaponry.
- ⁽⁶⁾ MTWS: Increase of \$0.248M from FY20 to FY21 is due to the increased number of sites.
- ⁽⁷⁾ MCDL: Increase of \$0.727M from FY20 to FY21 will provide additional Continuity of Operations (COOP) support.
- ⁽⁸⁾ Ranges and Training Area Management (RTAM): Increase of \$0.500M FY20 to FY21 is due to increased GUAM system requirements in FY21.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 3	P-1 Line Item Number / Title: 6532 / Training Devices	Aggregated Items Title: Training Devices
(9) ODS: Decrease of \$10.696M from FY20 to FY21 due to reduced hardware buy.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 3: General Property							P-1 Line Item Number / Title: 6544 / Family of Construction Equipment					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0206624M, 0206315M, 0708542M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	249.946	59.909	35.622	19.305	0.000	19.305	35.115	30.306	30.911	31.529	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	249.946	59.909	35.622	19.305	0.000	19.305	35.115	30.306	30.911	31.529	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	249.946	59.909	35.622	19.305	0.000	19.305	35.115	30.306	30.911	31.529	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	0.054	0.052	-	0.052	0.058	0.056	0.057	0.058	Continuing	Continuing
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: Family of Construction Equipment (FCE) provides for the replacement and Service Life Extension Program (SLEP) of Marine Corps construction equipment. Funding supports equipment to conduct engineer missions such as constructing counter-mobility obstacles, building pioneer roads, establishing survivability positions, development of expeditionary airfields and general engineering support to forward operating bases and lodgment areas. Construction Equipment includes: Airfield Damage Repair (ADR) Kit which is capable of creating useable landing surfaces by new construction or repair of existing facilities. The ADR Kit uses modern development in construction equipment and materials, is easily deployable, flexible enough to work in all geographic locations and environments, and can quickly repair craters and spalls of all sizes. It also includes the High Mobility Engineer Excavator (HMEE) which is a self-deployable excavation system with attachments to execute a wide range of mobility, counter-mobility, general engineering and survivability missions. Family of Material Handling Equipment (FMHE) line is a roll-up line that provides for the replacement and Service Life Extension Program (SLEP) of Marine Corps MHE such as forklifts, cranes, and container handlers. This budget line item also includes funding for equipment such as the Light Capability Rough Terrain Forklift (LCRTF), Hydraulic Excavator (HYEX), Extendable Boom Forklift Modernization (EBFL-M), Rough Terrain Container Handler (RTCH) SLEP and the Tractor, Rubber Tires, and Articulated Steering, Multiple Purpose (TRAM) SLEP. Command Support Equipment - Funds life cycle replacement of industrial equipment and systems with unit cost of \$250K or greater to support the operations and mission of United States Marine Corps ground bases, air stations and districts. Examples include equipment such as open water spill equipment, warehouse conveyor systems, power generators and recycling systems. Beginning in FY21, Command Support Equipment is realigned from BLI 6544 Family of Construction Equipment to BLI 6438 Physical Security Equipment. Garrison Mobile Engineer Equipment (GMEE) - The Garrison Mobile Engineering Equipment (GMEE) program is a centrally-managed program for the procurement of commercial construction and engineering equipment such as graders, backhoes, cranes and other construction equipment. It provides logistical support for facilities and road maintenance, force protection barrier construction and airfield engineering. Material Handling Equipment (MHE) - The Material Handling Equipment (MHE) program is a centrally-managed program for the procurement of a portfolio of replacement equipment such as forklifts, warehouse cranes and platform trucks, to include Rough Terrain Container Handler (RTCH).												

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 3: General Property					P-1 Line Item Number / Title: 6544 / Family of Construction Equipment					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A				Other Related Program Elements: 0206624M, 0206315M, 0708542M			
Line Item MDAP/MAIS Code: N/A										
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Navy	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	57.627	33.287	16.924	-	16.924	32.687	27.825	28.380	28.948
NR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	2.282	2.335	2.381	-	2.381	2.428	2.481	2.531	2.581
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	59.909	35.622	19.305	-	19.305	35.115	30.306	30.911	31.529

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 3: General Property						P-1 Line Item Number / Title: 6544 / Family of Construction Equipment				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206624M, 0206315M, 0708542M				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Family of Construction Equipment	P-5a			- / 249.946	- / 59.909	- / 35.622	- / 19.305	- / -	- / 19.305
P-40	Total Gross/Weapon System Cost				- / 249.946	- / 59.909	- / 35.622	- / 19.305	- / 0.000	- / 19.305
*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: Beginning in FY 2021, Command Support Equipment is realigned from BLI 6544 Family of Construction Equipment to BLI 6438 Physical Security Equipment. FY 2019: \$59.909M (ACTIVE: \$57.627M/RESERVE: \$2.282M) Family of Construction Equipment - \$11.018M (ACTIVE: \$9.739M/RESERVE: \$1.279M): Funding procured the Airfield Damage Repair (ADR) Kits and Integrated Logistics Support for the Family of Construction Equipment programs. The ADR kit is capable of creating expedient repairs to useable landing surfaces by new construction or repair of existing facilities. ADR Kit(s) have the capability to support repairs for (6) 10-foot diameter concrete craters and (15) 10-foot diameter asphalt craters as well as 45 spalls. It will also fund the High Mobility Engineer Excavator (HMEE) which is a self-deployable excavation system with attachments to execute a wide range of mobility, counter-mobility, general engineering and survivability missions. Family of Material Handling Equipment - \$32.440M (ACTIVE: \$31.437M/RESERVE: \$1.003M): Funding procured Rough Terrain Container Handlers (RTCH) and additional All-Terrain Crane (ATC/MAC-50) SLEP to replace non-operational forklifts and modernization efforts, required to support the operation and mission of the Operational Forces and Contingency Operations. Material Handling Equipment - \$1.938M: Funds procured a portfolio of warehouse tractors, narrow aisle forklifts (4,000 to 20,000 lbs.), warehouse cranes and platform trucks to include Container Handlers to recapitalize over-aged equipment needed for loading, unloading, and movement of supplies at designated ports, warehouses, passenger/cargo terminals and landfills to better support the operation and mission of the USMC Bases and Stations. Additionally, funds procured equipment used to maintain ranges and fight wild-land fires. Garrison Mobile Engineering Equipment - \$14.122M: Funds procured commercial engineering equipment to recapitalize non-operational and over-aged light, medium or heavy duty tractors, road and runway sweepers, loaders, excavators, bulldozers, and scrapers that improved the readiness for necessary equipment used for construction and maintenance of roads, improvements and maintenance of facilities, ranges, training areas, air fields and maintain landfills to better support the operation and mission of the USMC Bases and Stations. Engineer equipment procured for California Bases and Station will comply with mandates California Air Resource Board (CARB), to reduce greenhouse gas emissions over the coming decade while improving air quality. Non-compliance results in fines of \$10k per day, per vehicle. Command Support Equipment - \$0.391M: Funds procured Open Water Spill Response boat for MCAS Cherry Point, NC. FY 2020: \$35.622M (ACTIVE: \$33.287M/RESERVE: \$2.335M) Family of Construction Equipment - \$11.630M (ACTIVE: \$10.320M/RESERVE: \$1.310M): Funds continue to procure the High Mobility Engineer Excavator (HMEE) which is a self-deployable excavation system with attachments to execute a wide range of mobility, counter-mobility, general engineering and survivability missions. Funding increased from FY19 to FY20 by \$0.612M due to accelerating the procurement of the High Mobility Engineer Excavator (HMEE).										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 3: General Property		P-1 Line Item Number / Title: 6544 / Family of Construction Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206624M, 0206315M, 0708542M
Line Item MDAP/MAIS Code: N/A		
Family of Material Handling Equipment - \$15.233M (ACTIVE: \$14.208M/RESERVE: \$1.025M): Funds procure the All-Terrain Crane (MAC-50) as well as Rough Terrain Container Handlers (RTCH) SLEP to replace non-operational forklifts and modernization efforts, required to support the operation and mission of the Operational Forces and Contingency Operations. Funding decreased from FY19 to FY20 by \$17.707M due to a reduction of production quantities of the ATC All-Terrain Crane (MAC-50) and RTCH SLEP as well as Technical Manuals and Integrated Logistics Support being completed in FY20. Material Handling Equipment (MHE) - \$2.535M: Funds procure a portfolio of warehouse tractors, narrow aisle forklifts (4,000 to 20,000 lbs.), warehouse cranes and platform trucks to include Container Handlers to recapitalize over-aged equipment needed for loading, unloading, and movement of supplies at designated ports, warehouses, passenger/cargo terminals and landfills to better support the operation and mission of the USMC Bases and Stations. Additionally, funds will procure equipment used to maintain ranges, training areas and fight wild-land fires. Funding increased from FY19 to FY20 by \$0.597M to recapitalize the MHE fleet required to reduce the over-aged replacement backlog, improve material readiness, and support the operation and mission of the USMC Bases and Stations. Garrison Mobile Engineering Equipment - \$5.788M: Funds procure commercial engineering equipment to recapitalize non-operational and over-aged light, medium or heavy duty tractors, road and runway sweepers, loaders, excavators, bulldozers, and scrapers that will improve the readiness for necessary equipment used for construction and maintenance of roads, improvements and maintenance of facilities, and maintain landfills to better support the operation and mission of the USMC Bases and Stations. Engineer equipment procured for California Bases and Station will comply with mandates California Air Resource Board (CARB), to reduce greenhouse gas emissions over the coming decade while improving air quality. Non-compliance results in fines of \$10k per day, per vehicle. Command Support Equipment - \$0.436M: Funding supports life cycle replacement of warehouse conveyor system MCB Camp Lejeune, NC. FY 2021 Base Appropriation Request: \$19.305M (ACTIVE: \$16.924M /RESERVE: \$2.381M) Family of Construction Equipment - \$6.275M (ACTIVE: \$4.939M/RESERVE: \$1.336M): Will continue to fund the procurement of the Airfield Damage Repair (ADR) Kits and Integrated Logistics Support for the Family of Construction Equipment programs. The ADR kit is capable of creating expedient repairs to useable landing surfaces by new construction or repair of existing facilities. ADR Kit(s) have the capability to support repairs for (6) 10-foot diameter concrete craters and (15) 10-foot diameter asphalt craters as well as 45 spalls. It will also fund the High Mobility Engineer Excavator (HMEE) which is a self-deployable excavation system with attachments to execute a wide range of mobility, counter-mobility, general engineering and survivability missions. Funding decreased from FY20 to FY21 by \$5.355M due to this funding in this line item has been reprioritized while ensuring the Marine Corps continues to evolve toward a Force that is aligned with the National Defense Strategy. Family of Material Handling Equipment - \$6.582M (ACTIVE: \$5.537M/RESERVE: \$1.045M): Funds will continue to procure the All-Terrain Crane (ATC/MAC-50) as well as Rough Terrain Container Handlers (RTCH) SLEP to replace non-operational forklifts and modernization efforts, required to support the operation and mission of the Operational Forces and Contingency Operations. Funding decreased from FY20 to FY21 by \$8.651M due to a reduction of production quantities of the ATC All-Terrain Crane (MAC-50) and RTCH SLEP as well as Technical Manuals and Integrated Logistics Support being completed in FY21. Funding in this line item has been reprioritized while ensuring the Marine Corps continues to evolve toward a Force that is aligned with the National Defense Strategy. Material Handling Equipment (MHE) - \$2.087M: Funds will procure a portfolio of warehouse tractors, narrow aisle forklifts (4,000 to 20,000 lbs.), warehouse cranes and platform trucks to include Container Handlers to recapitalize over aged equipment needed for loading, unloading, and movement of supplies at designated ports, warehouses, passenger/cargo terminals and landfills to better support the operation and mission of the USMC Bases and Stations. Funds will also procure equipment used to maintain ranges, training areas and fight wild land fires. Funding decrease from FY20 to FY21 by \$0.448M due to funding in this line item has been reprioritized while ensuring the Marine Corps continues to evolve toward a Force that is aligned with the National Defense Strategy Garrison Mobile Engineering Equipment - \$4.361M: Funds will be used to procure commercial engineering equipment in order to recapitalize non-operational, absent and over aged light, medium or heavy duty tractors, road and runway sweepers, loaders, excavators, bulldozers, and scrapers that will improve the readiness for the installation. The necessity for equipment used for construction and maintenance of roads, improvements and maintenance of facilities, and maintain landfills are used to better support the operation and mission of the USMC Bases and Stations. Engineer equipment procured for California Bases		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 3: General Property		P-1 Line Item Number / Title: 6544 / Family of Construction Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206624M, 0206315M, 0708542M
Line Item MDAP/MAIS Code: N/A		
and Station will comply with mandates California Air Resource Board (CARB), to reduce greenhouse gas emissions over the coming decade while improving air quality. Non compliance results in fines of \$10k per day, per vehicle. Funding decrease from FY20 to FY21 by \$1.427 due funding in this line item has been reprioritized while ensuring the Marine Corps continues to evolve toward a Force that is aligned with the National Defense Strategy Command Support Equipment - \$0: A decrease of \$0.436M from FY20 to FY21 is due to Command Support Equipment realignment from BLI 6544 Family of Construction Equipment to BLI 6438 Physical Security Equipment. Beginning in FY21, Command Support Equipment is realigned from BLI 6544 Family of Construction Equipment to BLI 6438 Physical Security Equipment. Funding in this line item has been reprioritized while ensuring the Marine Corps continues to evolve toward a Force that is aligned with the National Defense Strategy.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 3							P-1 Line Item Number / Title: 6544 / Family of Construction Equipment								Aggregated Items Title: Family of Construction Equipment					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
1) Family of Construction Equipment																				
1.1) Laser Leveling System	A		602,617.65	34	20.489	-	-	3.718	-	-	-	-	-	-	-	-	-	-	-	-
1.2) High Mobility Engineer Excavator (HMEE)	A		-	-	-	-	-	2.000	-	-	10.320	-	-	4.939	-	-	-	-	-	4.939
1.3) High Mobility Engineer Excavator (HMEE)-Reserves	A		-	-	-	-	-	-	-	-	1.310	-	-	1.336	-	-	-	-	-	1.336
1.4) Airfield Damage Repair Kit	A		1,762K	18	31.715	-	-	3.536	-	-	-	-	-	-	-	-	-	-	-	-
1.5) Airfield Damage Repair Kit - Reserves ^(†)	A		-	-	1.273	1,279K	1	1.279	-	-	-	-	-	-	-	-	-	-	-	-
1.6) Prior Years Cumulative Funding	A		-	-	159.504	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.7) Family of Construction Equipment Integrated Logistics Support	A		-	-	13.881	-	-	0.485	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 1) Family of Construction Equipment			-	-	226.862	-	-	11.018	-	-	11.630	-	-	6.275	-	-	-	-	-	6.275
2) Family of Material Handling Equipment																				
2.1) Rough Terrain Container Handler SLEP	A		-	-	-	-	-	10.000	-	-	4.996	-	-	3.241	-	-	-	-	-	3.241
2.2) All-Terrain Crane 50 Ton SLEP	A		-	-	-	-	-	19.402	-	-	9.212	-	-	2.296	-	-	-	-	-	2.296
2.3) All-Terrain Crane 50 Ton SLEP-Reserves	A		-	-	-	-	-	1.003	-	-	1.025	-	-	1.045	-	-	-	-	-	1.045
2.4) Material Handling Equipment Integrated Logistics Support	A		-	-	3.658	-	-	2.035	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 2) Family of Material Handling Equipment			-	-	3.658	-	-	32.440	-	-	15.233	-	-	6.582	-	-	-	-	-	6.582
3) Garrison Mobile Engineering Equipment																				
3.1) Garrison Mobile Engineering Equipment	A		-	-	5.900	-	-	14.122	-	-	5.788	-	-	4.361	-	-	-	-	-	4.361
Subtotal: 3) Garrison Mobile Engineering Equipment			-	-	5.900	-	-	14.122	-	-	5.788	-	-	4.361	-	-	-	-	-	4.361
4) Material Handling Equipment																				
4.1) Material Handling Equipment	A		-	-	2.741	-	-	1.938	-	-	2.535	-	-	2.087	-	-	-	-	-	2.087

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 3						P-1 Line Item Number / Title: 6544 / Family of Construction Equipment									Aggregated Items Title: Family of Construction Equipment					
Item Number / Title [DODIC]	ID CD	MDAP/ MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
Subtotal: 4) Material Handling Equipment			-	-	2.741	-	-	1.938	-	-	2.535	-	-	2.087	-	-	-	-	-	2.087
5) Command Support Equipment																				
5.1) Command Support Equipment	A		-	-	10.785	-	-	0.391	-	-	0.436	-	-	-	-	-	-	-	-	-
Subtotal: 5) Command Support Equipment			-	-	10.785	-	-	0.391	-	-	0.436	-	-	-	-	-	-	-	-	-
Total			-	-	249.946	-	-	59.909	-	-	35.622	-	-	19.305	-	-	-	-	-	19.305

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

(†) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy								Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 3				P-1 Line Item Number / Title: 6544 / Family of Construction Equipment				Aggregated Items: Family of Construction Equipment				
Item Number / Title [DODIC]	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1) Family of Construction Equipment												
1.5) Airfield Damage Repair Kit - Reserves		2019	DIGITIZED SCHEMATIC SOLUTIONS LLC / Warren, MI	SS / FFP	MCSC Quantico, VA	Nov 2018	May 2019	1	1,279K	Y		Jun 2017

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 3: General Property							P-1 Line Item Number / Title: 6545 / Ultra-Light Tactical Vehicle (ULTV)					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0206623M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	111.586	0.606	0.647	0.678	0.000	0.678	5.955	8.826	0.889	9.180	-	138.367
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	111.586	0.606	0.647	0.678	0.000	0.678	5.955	8.826	0.889	9.180	-	138.367
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	111.586	0.606	0.647	0.678	0.000	0.678	5.955	8.826	0.889	9.180	-	138.367
<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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Family of Ultra-light Tactical Vehicle (FULTV), which consists of the Utility Task Vehicle (UTV) and the future Ultra-light Tactical Vehicle (ULTV), provides operational capabilities for both infantry logistics and long-range surveillance and reconnaissance missions in support of distributed airborne operations. The vehicles are transportable in the V-22, CH53E and CH53F tilt selected rotary and fixed wing aircraft. The FULTV vehicles mitigate the infantry and reconnaissance battalion support gaps, with the ability to operate in remote, rural regions where currently fielded ground mobility platforms may be unsuitable due to size, weight, and transportability concerns.

The UTV is a part of the family of vehicles that supports the Fleet Marine Forces by providing infantry and reconnaissance battalions with a reliable, easily maintained, inexpensive vehicle that supports the range of military operations (ROMO) including distributed operations (DO), littoral operation in a contested environment (LOCE), expeditionary advanced based operations (EABO), and Humanitarian Assistance and Disaster Relief (HADR).

Efforts are being planned to replace the UTV with the Ultra-light Tactical Vehicle (ULTV). The replacement vehicle will leverage technology upgrades to improve the operational capabilities for both infantry logistics and long-range intelligence, surveillance and reconnaissance missions, as well as other designated missions in support of distributed airborne operations. The desired outcomes from ULTV employment include but are not limited to, a lighter, faster, more maneuverable and more resilient force, increased ability to operate and be sustained in austere environments, reduced operational risk through reduced logistics footprint and threat exposure, and an increased autonomy and tactical mobility, particularly at the company-level and below.

The FULTV line item will provide for the implementation of engineering change proposals, safety initiatives, and quality design resolutions to fielded UTVs. This hands-on method ensures proper in-service management and vehicle sustainment while allowing the program office to develop and implement improvements as needed to respond to evolving requirements of the Marine Corps that affect vehicle reliability, safety, availability and readiness. The ULTVs will begin to replace the UTVs in FY22, which is a change from the FY20 request, which provided for procurement beginning in FY21. Safety and reliability modifications are planned throughout the life of the FULTV's to ensure maximum readiness as vehicles age.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy								Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 3: General Property						P-1 Line Item Number / Title: 6545 / Ultra-Light Tactical Vehicle (ULTV)				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206623M				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / Family of Internally Trans Veh (ITV)				- / 111.586	- / 0.606	- / 0.647	- / 0.678	- / 0.000	- / 0.678
P-40	Total Gross/Weapon System Cost				- / 111.586	- / 0.606	- / 0.647	- / 0.678	- / 0.000	- / 0.678
*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. Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
Justification: FY 2019: \$0.606M Funding provided product improvements to the centrally managed UTV fleet for safety and reliability issues and engineering change proposals. The funds supported the associated update of the technical documentation upon modification of the vehicles. FY 2020: \$0.647M Funding provides product improvement to the centrally managed UTV fleet for safety and reliability issues and engineering change proposals like wheel well protection. These engineering change proposals will improve operational readiness by reducing failure rates associated with the mentioned safety and reliability issues. FY 2021 Base Appropriation Request: \$0.678M Funding provides product improvement to the centrally managed UTV fleet for safety and reliability issues and engineering change proposals like high clearance trailing arms and control arms. These engineering change proposals will improve operational readiness by reducing failure rates associated with the mentioned safety and reliability issues. The increase of \$0.031M will be used for additional engineering change proposals required to ensure vehicle safety, reliability and enhanced performance associated with the aging UTV fleet.										

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Exhibit P-5, Cost Analysis: PB 2021 Navy												Date: February 2020						
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 3						P-1 Line Item Number / Title: 6545 / Ultra-Light Tactical Vehicle (ULTV)						Item Number / Title [DODIC]: 1 / Family of Internally Trans Veh (ITV)						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				111.586		0.606		0.647		0.678		0.000		0.678				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				111.586		0.606		0.647		0.678		0.000		0.678				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				111.586		0.606		0.647		0.678		0.000		0.678				
(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 Dollars)</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 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 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)
Flyaway Cost																		
Recurring Cost																		
1.1.1) Prior years Cumulative Funding	-	-	106.133	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	106.133	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Flyaway Cost	-	-	106.133	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support Cost																		
2.1) Prior Year Cumulative	-	-	3.200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.2) UTV ECPs/ Modifications ⁽¹⁾	-	-	0.144	-	-	0.606	-	-	0.647	-	-	0.678	-	-	-	-	-	0.678
2.3) UTV Technical Documentation	-	-	0.987	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.4) UTV Reliability Engineering	-	-	0.557	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.5) UTV Program Support	-	-	0.565	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support Cost	-	-	5.453	-	-	0.606	-	-	0.647	-	-	0.678	-	-	-	-	-	0.678
Gross/Weapon System Cost	-	-	111.586	-	-	0.606	-	-	0.647	-	-	0.678	-	-	0.000	-	-	0.678
Footnotes:																		
⁽¹⁾ UTV ECP modifications will support the remaining 104 vehicles that will not be replaced until FY23.																		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 4: Other Support							P-1 Line Item Number / Title: 6670 / Items Less Than \$5 Million					
ID Code (A=Service Ready, B=Not Service Ready): B				Program Elements for Code B Items: N/A				Other Related Program Elements: 0206624M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	48.149	13.711	10.956	9.174	0.000	9.174	7.979	8.741	8.921	9.100	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	48.149	13.711	10.956	9.174	0.000	9.174	7.979	8.741	8.921	9.100	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	48.149	13.711	10.956	9.174	0.000	9.174	7.979	8.741	8.921	9.100	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: This budget line item includes various procurements such as engineering efforts, engineering change proposals, modifications, and other related items less than \$5 million each. Corrosion Prevention and Control (CPAC) Program provides a comprehensive approach to extend the useful life on Marine Corps tactical ground and ground support equipment. The CPAC Program Office is responsible for the governance, oversight and management of both preventive and corrective corrosion control encompassing Acquisition Engineering, Material Development, Corrosion Service Teams, and Corrosion Repair Facility activities. The Consolidated CPAC Program provides a total lifecycle solution focused on Total Ownership Cost reduction and improved readiness. Engineer Mods and Tool Kits funds critical improvements to various pieces of equipment by enhancing their current capabilities and expanding protection from direct and indirect fire by providing specific tool kits, including the specific chest or case to store and transport the tools, to perform specific missions assigned to engineer units, such as carpentry, grubbing or clearing areas with pioneer type tools, destruction/demolition, masonry, electrical (base camp support), plumbing, etc. including (but not limited to) Construction Shop Kit, Pioneer Platoon Kit, Pioneer Squad Kit, Carpenter Kit, Mason Kit, and tactical weld shop upgrades. Marine Corps Family of Containers (MCFC) provides Marine Corps Operating Forces with a fully intermodal transport capability emphasizing dimensional standardization and International Organization for Standardization compatibility. This family of containers includes the Palletized Container (PALCON), Quadruple Container (QUADCON), Quadruple Container with Roll-up door (QUADCON RUD) and Joint Modular Intermodal Container (JMIC). PALCONs and JMICs replace prefabricated wooden mount boxes and flat box pallets. The Joint Modular Intermodal Container (JMIC) provides efficient, seamless, and visible movement of supplies and unit equipment throughout the transportation and distribution systems. All containers support the storage and movement of organizational property and consumable supplies; provide field, garrison and shipboard warehousing; and facilitate ship-to-shore movement. Family of Expeditionary Water Systems (FEWS) is a family of systems line that contains purification, storage, distribution, hygiene, and test systems. This capability is necessary to provide safe and potable water to Marines in expeditionary environments. The family contains individual Table of Allowance Material Control Numbers which supports MAGTF operations by providing all aspects of land-based water support to include analysis, purification, reuse, storage, transfer and dispensing. The line contains items such as the Tactical Water Purification System (TWPS), Lightweight Water Purification System (LWPS), Expeditionary Water Distribution System (EWDS), Platoon Water Purification System (PWPS), Individual Water Purification System (IWPS), Forward Area Water Point Supply System, Pump Unit Set, Containerized Batch Laundry, Shower Systems, Gray Water Recycling, as well as all the various water supply support and analysis components and equipment including Six Container (SIXCON) Pump and Tank Modules, Nozzles, Interconnection Sets, Water Packaging Components, 3k/5k/25k Tanks, Hypochlorination Units, Water Quality Analysis Sets.												

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 4: Other Support					P-1 Line Item Number / Title: 6670 / Items Less Than \$5 Million					
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: N/A				Other Related Program Elements: 0206624M			
Line Item MDAP/MAIS Code: N/A										
Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Navy	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	13.201	10.585	8.798	-	8.798	7.594	8.347	8.519	8.690
NR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.510	0.371	0.376	-	0.376	0.385	0.394	0.402	0.410
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	13.711	10.956	9.174	-	9.174	7.979	8.741	8.921	9.100

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 4: Other Support						P-1 Line Item Number / Title: 6670 / Items Less Than \$5 Million				
ID Code (A=Service Ready, B=Not Service Ready): B				Program Elements for Code B Items: N/A			Other Related Program Elements: 0206624M			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Items Less Than \$5 Million	P-5a			- / 48.149	- / 13.711	- / 10.956	- / 9.174	- / -	- / 9.174
P-40	Total Gross/Weapon System Cost				- / 48.149	- / 13.711	- / 10.956	- / 9.174	- / 0.000	- / 9.174
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. 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 2019: \$13.711M (Active: \$13.201M/Reserve: \$0.510M)										
Corrosion Prevention and Control (CPAC) \$0.885M: The consolidated CPAC program currently monitors the corrosion condition of 112,672 tactical ground and support equipment assets. FY19 funding continues to procure equipment protective covers designed to reduce and/or eliminate the negative effects of corrosion on USMC ground tactical and support equipment and the replacement of aging covers that have exceeded their life expectancy. The priority will be to provide equipment covers throughout the Operating Forces for equipment placed in an administrative staging program to mitigate the negative impacts of corrosion and decrease total ownership costs. Procurement funding is also used for the fielding and replacement of various personal property/collateral equipment, and highly specialized real property installed equipment such as, but not limited to, compressors, blast booths, aging sanding and painting related equipment and hazardous waste reduction equipment at the Corrosion Repair Facilities (CRFs) located at I Marine Expeditionary Force, (I MEF), II MEF, and III MEF (Okinawa and Hawaii).										
Engineer Modification Kits (EMK) \$7.476M (Active: \$7.297M/Reserve: \$0.179M): Additional funding provides upgrades to Modified-Full Width Mine Plows (M-FWMP), Field Service Representative (FSR) support and Tech Manual updates for the Assault Breacher Vehicle (ABV). Funds Improved Ribbon Bridge (IRB) Hinge modernization kit increasing the Reliability, Availability, and Maintainability (RAM) lowering future sustainment costs. Funds the Husky and Husky Mounted Detection System FSRs and the Instrument Set, Reconnaissance & Surveying Army system to maintain the Authority to Operate and keep pace with the Army system configuration. Continues to fund EMK for equipment armor installations, upgrades and safety concerns to prevent deterioration in Fleet readiness for Engineer Systems inventory consisting of over 47,000 end items associated to 120 Table of Authorized Material Control Numbers (TAMCNs). Supports modifications and upgrades to fielded legacy as well as newly fielded systems and provides quick response capability for meeting Fleet Marine Force sustainment for safety engineering, readiness, Quality Deficiency Report analysis, and legacy system modifications. Funds Expeditionary Mobile Fuel Additization Capability (EMFAC) due to an Urgent Universal Needs Statement and Cooling and Refrigeration Expeditionary Kits (CREK) Foam Kit Assembly efforts.										
Marine Corps Family of Containers (MCFC) \$1.087M: Funds Joint Modular Intermodal Containers (JMIC). The JMIC is a collapsible, durable, reusable, easy-to-handle, modular packaging container that can operate world-wide, carried by various modes of transportation, and is envisioned for future use as a compliment to Navy seabasing efforts for automatic loading, handling, and storage systems. The JMIC will enable Marines to fulfill their mission by giving the unit commander the flexibility to configure a mobile/deployable container as necessary to meet the specific mission of the unit. It provides the operating forces with a fully intermodal transport capability which lays flat when not in use. The JMIC also provides a more effective use of storage areas in particularly limited storage facilities. Funding is required to meet the Approved Acquisition Objective outlined in the Total Force Structure Management System.										
Family of Expeditionary Water Systems (FEWS) \$4.263M (Active: \$3.932M/Reserve: \$0.331M): Funds procure PWPS and supports the procurement of a critically needed ECP for the M80 Water Heater.										
FY 2020: \$10.956M (Active: \$10.585M/Reserve: \$0.371M)										
Corrosion Prevention and Control (CPAC) \$0.895M: The consolidated CPAC program currently monitors the corrosion condition of 112,672 tactical ground and support equipment assets. FY20 funding continues to procure equipment protective covers designed to reduce and/or eliminate the negative effects of corrosion on USMC ground tactical and support equipment and the replacement of aging covers that have exceeded their life expectancy. The priority will be to provide equipment covers throughout the Operating Forces for equipment placed in an administrative staging program to mitigate the negative impacts of corrosion and decrease total ownership costs. Procurement funding is also used for the fielding and replacement of various personal property/collateral equipment, and highly specialized real property installed										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 4: Other Support		P-1 Line Item Number / Title: 6670 / Items Less Than \$5 Million
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206624M
Line Item MDAP/MAIS Code: N/A		
equipment such as, but not limited to, compressors, blast booths, aging sanding and painting related equipment and hazardous waste reduction equipment at the Corrosion Repair Facilities (CRFs) located at I Marine Expeditionary Force, (I MEF), II MEF, and III MEF (Okinawa and Hawaii).		
Engineer Modification Kits (EMK) \$3.777M: Continues to fund EMK for equipment armor installations, upgrades and safety concerns to prevent deterioration in Fleet readiness for Engineer Systems inventory consisting of over 47,000 end items associated to 120 TAMCNs. Funding provides upgrades to mine plows; FSR support and Tech Manual (TM) updates for the Assault Breacher Vehicles (ABV); and Information Assurance (IA) support through Toughbook procurement and refresh. Supports modifications and upgrades to fielded legacy as well as newly fielded systems and provides quick response capability for meeting Fleet Marine Force sustainment for safety engineering, readiness, Quality Deficiency Report analysis, and legacy system modifications. Decrease of \$3.699M from FY19 to FY20 reflects the Marine Corps decision to reprogram to higher priorities.		
Marine Corps Family of Containers (MCFC) \$1.213M: Funds equipment such as Joint Modular Intermodal Containers. The JMIC is a collapsible, durable, reusable, easy-to-handle, modular packaging container that can operate world-wide, carried by various modes of transportation, and is envisioned for future use as a compliment to Navy seabasing efforts for automatic loading, handling, and storage systems. The JMIC will enable Marines to fulfill their mission by giving the unit commander the flexibility to configure a mobile/deployable container as necessary to meet the specific mission of the unit. It provides the operating forces with a fully intermodal transport capability which lays flat when not in use. The JMIC also provides a more effective use of storage areas in particularly limited storage facilities. Funding is required to meet the Approved Acquisition Objective outlined in the Total Force Structure Management System. The increase in funding of \$0.126M from FY19 to FY20 supports the plan to procure increased quantity of JMICs to meet AAO.		
Family of Expeditionary Water Systems (FEWS) \$5.071M (Active: \$4.700M/Reserve: \$0.371M): Funds will procure Platoon Water Purification System (PWPS). The increase in funding from FY19 to FY20 \$0.808M supports procurement Platoon Water Purification System (PWPS) program of record.		
FY 2021 Base Appropriation: \$9.174M (Active: \$8.798M/Reserve: \$0.376M)		
Corrosion Prevention and Control (CPAC) \$0.913M: The consolidated CPAC program currently monitors the corrosion condition of 112,672 tactical ground and support equipment assets. FY21 funding continues to procure equipment protective covers designed to reduce and/or eliminate the negative effects of corrosion on USMC ground tactical and support equipment and the replacement of aging covers that have exceeded their life expectancy. The priority will be to provide equipment covers throughout the Operating Forces for equipment placed in an administrative staging program to mitigate the negative impacts of corrosion and decrease total ownership costs. Procurement funding is also used for the fielding and replacement of various personal property/collateral equipment, and highly specialized real property installed equipment such as, but not limited to, compressors, blast booths, aging sanding and painting related equipment and hazardous waste reduction equipment at the Corrosion Repair Facilities (CRFs) located at I Marine Expeditionary Force, (I MEF), II MEF, and III MEF (Okinawa and Hawaii). The increase of funding of \$0.018M from FY20 to FY21 supports the continual increasing cost to replace specialized CPAC equipment.		
Engineer Modification Kits (EMK) \$3.463M: Continues to fund EMK for equipment armor installations, upgrades and safety concerns to prevent deterioration in Fleet readiness for Engineer Systems inventory consisting of over 47,000 end items associated to 120 TAMCNs. Supports modifications and upgrades to fielded legacy as well as newly fielded systems and provides quick response capability for meeting Fleet Marine Force sustainment for safety engineering, readiness, Quality Deficiency Report analysis, and legacy system modifications. Decrease of \$0.314M from FY20 to FY21 reflects completion of Light Weight Demolition Device (LWDD) ECP.		
Marine Corps Family of Containers (MCFC) \$1.248M: Funds equipment such as Joint Modular Intermodal Containers. The JMIC is a collapsible, durable, reusable, easy-to-handle, modular packaging container that can operate world-wide, carried by various modes of transportation, and is envisioned for future use as a compliment to Navy seabasing efforts for automatic loading, handling, and storage systems. The JMIC will enable Marines to fulfill their mission by giving the unit commander the flexibility to configure a mobile/deployable container as necessary to meet the specific mission of the unit. It provides the operating forces with a fully intermodal transport capability which lays flat when not in use. The JMIC also provides a more effective use of storage areas in particularly limited storage facilities. Funding is required to meet the Approved Acquisition Objective outlined in the Total Force Structure Management System. The increase from the FY20 request to the FY21 request of \$0.035M aligns to the procurement plan for JMIC.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 06: Engineer and Other Equipment / BSA 4: Other Support		P-1 Line Item Number / Title: 6670 / Items Less Than \$5 Million
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206624M
Line Item MDAP/MAIS Code: N/A Family of Expeditionary Water Systems (FEWS) \$3.550M (Active: \$3.174M/Reserve: \$0.376M): Funds will procure Water Supply Support Components. The decrease in funding from FY20 to FY21 \$1.521M reflects completion of various Water Supply Support Components and funding in this line item has been reprioritized while ensuring the Marine Corps continues to evolve toward a Force that is aligned with the National Defense Strategy		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 4								P-1 Line Item Number / Title: 6670 / Items Less Than \$5 Million							Aggregated Items Title: Items Less Than \$5 Million					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
1) Items Less Than \$5 Million																				
1.1) Prior Years Cumulative Funding	A		-	-	7.071	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 1) Items Less Than \$5 Million			-	-	7.071	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2) Corrosion Prevention and Control (420114)																				
2.1) Corrosion Prevention and Control Equipment (420114)	A		-	-	4.013	-	-	0.885	-	-	0.895	-	-	0.913	-	-	-	-	-	0.913
Subtotal: 2) Corrosion Prevention and Control (420114)			-	-	4.013	-	-	0.885	-	-	0.895	-	-	0.913	-	-	-	-	-	0.913
3) Marine Corps Family of Containers (438098)																				
3.1) Joint Modular Intermodal Containers (JMIC) - Active ^{(1)(f)}	A		-	-	1.038	2,098.00	500	1.049	2,139.11	542	1.159	2,142.86	582	1.247	-	-	-	2,142.86	582	1.247
3.3) JMIC (Joint Modular Intermodal Containers) - Active	A		-	-	0.343	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.4) Integrated Logistics Support (MCFC)	A		-	-	0.012	-	-	0.038	-	-	0.054	-	-	0.001	-	-	-	-	-	0.001
3.5) Prior Years Cumulative Funding	A		-	-	0.669	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 3) Marine Corps Family of Containers (438098)			-	-	2.062	-	-	1.087	-	-	1.213	-	-	1.248	-	-	-	-	-	1.248
4) Family of Expeditionary Water Systems (260412)																				
4.1) FEWS Platoon Water Purification Systems (Active) ^(f)	B		-	-	0.299	23,536.14	14	0.330	23,536.14	166	3.907	-	-	-	-	-	-	-	-	-
4.2) Platoon Water Purification System Product Verification Testing	A		-	-	-	-	-	1.947	-	-	-	-	-	-	-	-	-	-	-	-
4.4) FEWS Water Supply Support Components/ Equipment (Active)	A		-	-	1.369	-	-	1.580	-	-	-	-	-	3.074	-	-	-	-	-	3.074
4.5) FEWS Integrated Logistics Support (Active)	A		-	-	0.196	-	-	0.075	-	-	0.793	-	-	0.100	-	-	-	-	-	0.100
4.6) FEWS Water Supply Support Components/ Equipment (Reserve)	A		-	-	0.082	-	-	0.331	-	-	0.371	-	-	0.376	-	-	-	-	-	0.376

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Navy															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 4							P-1 Line Item Number / Title: 6670 / Items Less Than \$5 Million							Aggregated Items Title: Items Less Than \$5 Million						
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$)	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)
Subtotal: 4) Family of Expeditionary Water Systems (260412)			-	-	1.946	-	-	4.263	-	-	5.071	-	-	3.550	-	-	-	-	-	3.550
5) Engineer Modification Kits (268098)																				
5.1) Engineer Equipment Modifications ⁽²⁾	A		-	-	30.747	-	-	7.297	-	-	3.777	-	-	3.463	-	-	-	-	-	3.463
5.2) Engineer Mods and Tool Kits (Reserve)	A		-	-	-	-	-	0.179	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 5) Engineer Modification Kits (268098)			-	-	30.747	-	-	7.476	-	-	3.777	-	-	3.463	-	-	-	-	-	3.463
6) Prior Years Cumulative Funding																				
6.1) Prior Years Cumulative Funding	A		-	-	2.310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 6) Prior Years Cumulative Funding			-	-	2.310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	48.149	-	-	13.711	-	-	10.956	-	-	9.174	-	-	-	-	-	9.174

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

(†) indicates the presence of a P-5a

Footnotes:

⁽¹⁾ The FY21 funding decrease (\$0.139M) from the FY20 request to the FY21 request aligns to the procurement plan for Joint Modular Intermodal Containers (JMIC).

⁽²⁾ FY21 funds equipment armor installations, upgrades and safety concerns to prevent deterioration in Fleet readiness for Engineer Systems inventory consisting of over 47,000 end items associated to 120 TAMCNs. Supports modifications and upgrades to fielded legacy as well as newly fielded systems and provides quick response capability for meeting Fleet Marine Force sustainment for safety engineering, readiness, Quality Deficiency Report analysis, and legacy system modifications. Decrease of \$0.314M from FY20 to FY21 reflects completion of Light Weight Demolition Device (LWDD) ECP.

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy									Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 06 / 4				P-1 Line Item Number / Title: 6670 / Items Less Than \$5 Million					Aggregated Items: Items Less Than \$5 Million			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
3) Marine Corps Family of Containers (438098)												
3.1) Joint Modular Intermodal Containers (JMIC) - Active ⁽¹⁾		2019	Garrett Container Systems, Inc. / Accident, MD	C / FFP	MCSC Quantico, VA	Nov 2018	Jan 2019	500	2,098.00	Y		
3.1) Joint Modular Intermodal Containers (JMIC) - Active ⁽¹⁾		2020	TBD / TBD	C / TBD	MCSC Quantico, VA	Aug 2020	Aug 2020	542	2,139.11	Y		
3.1) Joint Modular Intermodal Containers (JMIC) - Active ⁽¹⁾		2021	TBD / TBD	C / TBD	MCSC Quantico, VA	Jan 2021	Jan 2021	582	2,142.86	Y		
4) Family of Expeditionary Water Systems (260412)												
4.1) FEWS Platoon Water Purification Systems (Active)		2019	TBD / TBD	C / TBD	MCSC Quantico, VA	Apr 2020	Apr 2020	14	23,536.14	Y		Aug 2018
4.1) FEWS Platoon Water Purification Systems (Active)		2020	TBD / TBD	C / TBD	MCSC Quantico, VA	Apr 2020	Apr 2020	166	23,536.14	Y		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 07: Spares and Repair Parts / BSA 1: Spares And Repair Parts							P-1 Line Item Number / Title: 7000 / Spares and Repair Parts					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0206211M, 0206625M, 0204460M, 0206313M, 0206315M, 0305208M				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	24.137	33.470	27.295	0.000	27.295	33.304	34.028	34.709	43.142	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	24.137	33.470	27.295	0.000	27.295	33.304	34.028	34.709	43.142	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	24.137	33.470	27.295	0.000	27.295	33.304	34.028	34.709	43.142	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: Spares - Funds are required to reimburse the Navy Working Capital Fund for both repairable and consumable components at the time the initial spare parts package is released with the principal end item (PEI) to the Fleet Marine Force. This concept complies with the Navy Working Capital Fund funding of Initial Spares with reimbursement from the Procurement Account. Funds also provide for direct vendor support of the PEI delivery to the Fleet Marine Force. This account has funding for the following programs: Secure Mobile Anti-Jam Reliable Tactical-Terminal (SMART-T), Tactical Remote Sensor System (TRSS), Intelligence Analysis System (IAS), Terrestrial Collection, LAV-Anti Tank System Program, LAV Reset Program, M1A1 Modification, Family of Material Handling Equipment (FMHE), Ground/Air Task Oriented Radar (G/ATOR AN/TPS-80), RQ-21A Small Tactical UAS, General Purpose Tool and Test Systems (GPTTS), Amphibious Combat Vehicle Family of Vehicles (ACV FOV), and Training Simulation Support (TSS)/Training Devices.												

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 07: Spares and Repair Parts / BSA 1: Spares And Repair Parts						P-1 Line Item Number / Title: 7000 / Spares and Repair Parts				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0206211M, 0206625M, 0204460M, 0206313M, 0206315M, 0305208M				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-18	PMC spares				- / -	- / 24.137	- / 33.470	- / 27.295	- / -	- / 27.295
P-40	Total Gross/Weapon System Cost				- / 0.000	- / 24.137	- / 33.470	- / 27.295	- / 0.000	- / 27.295
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: FY 2019: \$24.137M ACV Family of Vehicles (FOV) BLI 2025: \$6.145M provides for initial spares for communication suites, Driver's Vision Enhancer, Exportable Power, Joint Battle Command-Platform (JBC-P), and Amphibious Remote Weapon Stations (ARWS). Initial spares for ACV FOV are procured commensurate with the end items they support based on lead time for procurement. LAV Reset BLI 2038: \$5.735M procures spares for direct vendor support required for the fielding of the Reset kits on the Light Armored Vehicle. General Purpose Tool and Test Equipment BLI 4181: \$0.174M supports reimbursement to the working capital funds for spares acquired and needed during test support. AN/TPS-80 Ground Air Task Oriented Radar (G/ATOR) BLI 4655: \$11.611M provides spares funding to support Gallium Nitride (GaN) LRIP systems procured in FY18. FY19 Spares funding is required to procure the initial provisioning package to primarily support those GaN LRIP systems being procured in FY18 and fielded in FY20, as over 90 percent of the G/ATOR spares have a lead time exceeding 12 months. The spares funding increases (\$0.194M) from FY18 to FY19 supporting the fielding of three (3) new systems in FY20 for a total of fifteen (15) G/ATOR systems fielded through FY20. Adequate sparing is essential so Marine Operational Forces will have the necessary repair parts to operate and maintain newly fielded G/ATOR Radar Systems and to avoid a significant risk of not meeting the program's important Key Performance Parameter (KPP) 8; Sustainment. IAS BLI 4747: \$0.160M of spares funding provides for direct vendor support of the principal end item (PEI) components delivery to the Fleet Marine Force. Terrestrial Collection BLI 4747: \$0.261M provides for purchase of equipment spares necessary to keep ground-based imagery collection and dissemination assets and sensor systems in operation, ensuring spares are available to the warfighter when breakage occurs to minimize equipment down-time. Training Simulation Support (TSS)/Training Devices BLI 6532: \$0.051M funds procurement of low density, minor (low cost) MAGTF ground training equipment, simulators and simulations to include devices such as medical training kits, climbing walls, weapons models and mockups that enhance basic occupational and combat skills across the wide spectrum of tactics, techniques, procedures and proficiency. FY 2020: \$33.470M ACV FOV BLI 2025: \$13.954M will provide for initial spares for communication suites, Driver's Vision Enhancer, Exportable Power, Joint Battle Command-Platform (JBC-P), and Amphibious Remote Weapon Stations (ARWS). Initial spares for ACV 1.1 are procured commensurate with the end items they support based on lead time for procurement. LAV Reset Program BLI 2038: \$5.883M funding will provide spares for direct vendor support required for the fielding of the Reset kits on the Light Armored Vehicle.										

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1109N: Procurement, Marine Corps / BA 07: Spares and Repair Parts / BSA 1: Spares And Repair Parts		P-1 Line Item Number / Title: 7000 / Spares and Repair Parts
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0206211M, 0206625M, 0204460M, 0206313M, 0206315M, 0305208M
Line Item MDAP/MAIS Code: N/A		
General Purpose Tool and Test Equipment BLI 4181: \$0.178M procures equipment spares for newly fielded mechanical test equipment, electrical test equipment, and tool sets and kits. Funding ensures critical spares are available to the warfighter when breakage occurs to minimize equipment down time. AN/TPS-80 Ground Air Task Oriented Radar (G/ATOR) BLI 4655: \$13.235M provides spares funding to support the Lot One Full Rate Production (FRP) systems procured in FY19. FY20 spares funding is required to procure the initial provisioning package (IPP) which consists of over one hundred assemblies/parts with over 60 critical items to include Five-Axis Motor Controllers and Dual Leaf Assemblies. Funding will primarily support the Lot One FRP systems being procured in FY19 and fielded in FY22, as over 90 percent of the G/ATOR spares have a lead time exceeding 12 months. Thus, the FY20 spares funding will obligate in FY20 and deliver Spares in FY22 to align with end item systems deliveries. The funding in FY20 is also required for the decentralized distribution of initial spares from LOGCOM to the Repair Inventory Points at each Marine Expeditionary Force, as required. Additionally, adequate sparing is essential so Fleet Marine Forces will have the necessary repair parts to operate and maintain newly fielded G/ATOR Radar Systems and to avoid placing the program at significant risk of not meeting its important Key Performance Parameter (KPP) 8 of Sustainment. Intelligence Analysis System (IAS) BLI 4767: \$0.166M of spares funding will provide for direct vendor support of the principal end item (PEI) components delivery to the Fleet Marine Force. Family of Material Handling Equipment (FMHE) BLI 6544: \$0.054M provides for the replacement and Service Life Extension Program (SLEP) of Marine Corps MHE such as forklifts, cranes, and container handlers. This budget line item also includes funding for equipment such as the Light Capability Rough Terrain Forklift (LCRTF), Hydraulic Excavator (HYEX), Extendable Boom Forklift Modernization (EBFL-M), Rough Terrain Container Handler (RTCH) SLEP and the Tractor, Rubber Tires, and Articulated Steering, Multiple Purpose (TRAM) SLEP. FY 2021 Base Appropriation Request: \$27.295M The primary reason for the \$6.175M decrease between FY20 and FY21 is due to the Spares procurement for LAV Reset was completed in FY20. ACV FOV BLI 2025: \$13.557M will provide for initial spares for communication suites, Driver's Vision Enhancer, Exportable Power, Joint Battle Command-Platform (JBC-P), and Amphibious Remote Weapon Stations (ARWS). Initial spares for ACV FOV are procured commensurate with the end items they support based on lead time for procurement. The decrease of \$0.397M between FY20 and FY21 is attributed to decreased requirement for Contractor Furnished Deployment spares. General Purpose Tool and Test Equipment BLI 4181: \$0.180M will procure equipment spares for newly fielded mechanical test equipment, electrical test equipment, and tool sets and kits. Funding ensures critical spares are available to the warfighter when breakage occurs to minimize equipment down time. Family of Material Handling Equipment (FMHE) BLI 6544: \$0.052M will provide for the replacement and Service Life Extension Program (SLEP) of Marine Corps MHE such as forklifts, cranes, and container handlers. This budget line item also includes funding for equipment such as the Light Capability Rough Terrain Forklift (LCRTF), Hydraulic Excavator (HYEX), Extendable Boom Forklift Modernization (EBFL-M), Rough Terrain Container Handler (RTCH) SLEP and the Tractor, Rubber Tires, and Articulated Steering, Multiple Purpose (TRAM) SLEP. AN/TPS-80 Ground Air Task Oriented Radar (G/ATOR) BLI 4655: \$13.506M will provide spares funding to support the Lot Two Full Rate Production (FRP) systems procured in FY20. FY21 spares funding is required to procure the initial provisioning package (IPP) which consists of over one hundred assemblies/parts with over 60 critical items to include Five-Axis Motor Controllers and Dual Leaf Assemblies. Funding will primarily support the Lot Two FRP systems being procured in FY20 and fielded in FY23, as over 90 percent of the G/ATOR spares have a lead time exceeding 12 months. Thus, the FY21 spares funding will obligate in FY21 and deliver Spares in FY23 to align with end item systems deliveries. The spares funding increase of \$0.271M will support the fielding of eight (8) new systems beginning in FY23 for a total of twenty five (25) G/ATOR systems fielded through FY23. The funding in FY21 is also required for the decentralized distribution of initial spares from LOGCOM to the Repair Inventory Points at each Marine Expeditionary Force, as required. Additionally, adequate sparing is essential so Fleet Marine Forces will have the necessary repair parts to operate and maintain newly fielded G/ATOR Radar Systems and to avoid placing the program at significant risk of not meeting its important Key Performance Parameter (KPP) 8 of Sustainment.		

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Exhibit P-18, Initial and Replenishment Spare and Repair Parts Justification: PB 2021 Navy					Date: February 2020	
Appropriation / Budget Activity / Budget Sub Activity: 1109N / 07 / 1		P-1 Line Item Number / Title: 7000 / Spares and Repair Parts			Title: PMC spares	
End Item Line Item Number / Name [MDAP/MAIS]	Prior Years (\$ M)	FY 2019 (\$ M)	FY 2020 (\$ M)	FY 2021 Base (\$ M)	FY 2021 OCO (\$ M)	FY 2021 Total (\$ M)
Initial						
BA 02 - Weapons and combat vehicles						
2025 / Amphibious Combat Vehicle Family of Vehicles	-	6.145	13.954	13.557	-	13.557
2038 / LAV PIP	-	5.735	5.883	0.000	-	0.000
BA 04 - Communications and Electronics Equipment						
4181 / Repair and Test Equipment	-	0.174	0.178	0.180	-	0.180
4655 / Ground/Air Task Oriented Radar (G/ATOR)	-	11.611	13.235	13.506	-	13.506
4747 / Intelligence Support Equipment	-	0.421	-	0.000	-	0.000
4767 / Distributed Common Ground System (DCGS-MC)	-	-	0.166	0.000	-	0.000
BA 06 - Engineer and Other Equipment						
6532 / Training Devices	-	0.051	-	0.000	-	0.000
6544 / Family of Construction Equipment	-	-	0.054	0.052	-	0.052
Subtotal: Initial	-	24.137	33.470	27.295	-	27.295
Total Cost (Initial + Replenishment)	-	24.137	33.470	27.295	-	27.295