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# Department of Defense Fiscal Year (FY) 2019 Budget Estimates

February 2018



**Navy**

*Justification Book Volume 3 of 5*

***Other Procurement, Navy***

**BA 3**

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The estimated cost for this report for the Department of the Navy (DON) is \$10,100.

The estimated total cost for supporting the DON budget justification material is approximately \$1,643,653 for the 2018 fiscal year. This includes \$79,753 in supplies and \$1,563,900 in labor.

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## **Department of Defense Appropriations Act, 2019**

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### **Other Procurement, Navy**

For procurement, production, and modernization of support equipment and materials not otherwise provided for, Navy ordnance (except ordnance for new aircraft, new ships, and ships authorized for conversion); the purchase of passenger motor vehicles for replacement only; expansion of public and private plants, including the land necessary therefore, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway, \$9,601,528,000, to remain available for obligation until September 30, 2021.

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Department of the Navy  
 FY 2019 President's Budget  
 Exhibit P-1 FY 2019 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

Appropriation	FY 2017 (Base + OCO)	FY 2018	FY 2018	FY 2018
		PB Request with CR Adj Base	Total PB Requests* with CR Adj Base	PB Request with CR Adj OCO
Other Procurement, Navy	6,651,966	6,585,009	6,210,084	251,083
Total Department of the Navy	6,651,966	6,585,009	6,210,084	251,083

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Department of the Navy  
 FY 2019 President's Budget  
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 Total Obligational Authority  
 (Dollars in Thousands)

Appropriation	FY 2018 Total PB Requests+ with CR Adj OCO	FY 2018 Emergency Requests** Emergency	FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs	FY 2018 Remaining Req Emergency
Other Procurement, Navy	251,083	25,750		25,750
Total Department of the Navy	251,083	25,750		25,750

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

Appropriation

	FY 2018	FY 2018	FY 2018
	Total	Less Enacted	Remaining Req
	PB Requests*	DIV B	with CR Adj
-----	-----	-----	-----
Other Procurement, Navy	6,461,167	6,461,167	6,461,167
Total Department of the Navy	6,461,167	6,461,167	6,461,167

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Department of the Navy  
FY 2019 President's Budget  
Exhibit P-1 FY 2019 President's Budget  
Total Obligational Authority  
(Dollars in Thousands)

Appropriation	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Other Procurement, Navy	9,414,355	187,173	9,601,528
Total Department of the Navy	9,414,355	187,173	9,601,528

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Department of the Navy  
 FY 2019 President's Budget  
 Exhibit P-1 FY 2019 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

Appropriation: Other Procurement, Navy

Budget Activity	FY 2017 (Base + OCO)	FY 2018 PB Request with CR Adj Base	FY 2018 Total PB Requests* with CR Adj Base	FY 2018 PB Request with CR Adj OCO
01. Ships Support Equipment	2,145,022	3,076,818	2,711,893	30,348
02. Communications & Electronics Equip	2,088,792	2,565,260	2,555,260	62,622
03. Aviation Support Equipment	418,972	441,542	441,542	29,245
04. Ordnance Support Equipment	1,010,342	929,371	929,371	34,406
05. Civil Engineering Support Equip	80,041	99,619	99,619	5,136
06. Supply Support Equipment	317,564	510,285	510,285	584
07. Personnel & Command Support Equip	391,606	376,329	376,329	56,540
08. Spares and Repair Parts	199,627	278,565	278,565	1,178
20. Undistributed		-1,692,780	-1,692,780	31,024
Total Other Procurement, Navy	6,651,966	6,585,009	6,210,084	251,083

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 Total Obligational Authority  
 (Dollars in Thousands)

Appropriation: Other Procurement, Navy

Budget Activity	FY 2018 Total PB Requests+ with CR Adj OCO	FY 2018 Emergency Requests** Emergency	FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs	FY 2018 Remaining Req Emergency
-----	-----	-----	-----	-----
01. Ships Support Equipment	30,348			
02. Communications & Electronics Equip	65,722	15,000		15,000
03. Aviation Support Equipment	29,245			
04. Ordnance Support Equipment	62,806			
05. Civil Engineering Support Equip	5,136			
06. Supply Support Equipment	584			
07. Personnel & Command Support Equip	56,540	10,750		10,750
08. Spares and Repair Parts	1,178			
20. Undistributed	-476			
Total Other Procurement, Navy	251,083	25,750		25,750

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 (Dollars in Thousands)

Appropriation: Other Procurement, Navy

Budget Activity	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency**	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency
01. Ships Support Equipment	2,742,241	2,742,241	-----
02. Communications & Electronics Equip	2,635,982	2,635,982	-----
03. Aviation Support Equipment	470,787	470,787	-----
04. Ordnance Support Equipment	992,177	992,177	-----
05. Civil Engineering Support Equip	104,755	104,755	-----
06. Supply Support Equipment	510,869	510,869	-----
07. Personnel & Command Support Equip	443,619	443,619	-----
08. Spares and Repair Parts	279,743	279,743	-----
20. Undistributed	-1,719,006	-1,719,006	-----
Total Other Procurement, Navy	6,461,167	6,461,167	-----

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

Appropriation: Other Procurement, Navy

Budget Activity	FY 2019 Base	FY 2019 OCO	FY 2019 Total
01. Ships Support Equipment	3,180,536	28,260	3,208,796
02. Communications & Electronics Equip	3,176,305	62,150	3,238,455
03. Aviation Support Equipment	502,933	21,156	524,089
04. Ordnance Support Equipment	1,047,675	33,580	1,081,255
05. Civil Engineering Support Equip	112,448	8,638	121,086
06. Supply Support Equipment	604,532	500	605,032
07. Personnel & Command Support Equip	463,088	32,889	495,977
08. Spares and Repair Parts	326,838		326,838
20. Undistributed			
Total Other Procurement, Navy	9,414,355	187,173	9,601,528

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

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO)		FY 2018 PB Request with CR Adj Base		FY 2018 Total PB Requests* with CR Adj Base		FY 2018 PB Request with CR Adj OCO		S e c -			
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost				
<b>Budget Activity 01: Ships Support Equipment</b>														
<b>-----</b>														
<b>Ship Propulsion Equipment</b>														
1 Surface Power Equipment														
		A		15,514		41,910		41,910			U			
2 Hybrid Electric Drive (HED)														
				10,983		6,331		6,331			U			
<b>Generators</b>														
3 Surface Combatant HM&E														
		A		27,447		27,392		27,392			U			
<b>Navigation Equipment</b>														
4 Other Navigation Equipment														
		A		62,970		65,943		65,943			U			
<b>Other Shipboard Equipment</b>														
5 Sub Periscope, Imaging and Supt Equip Prog														
		A		151,963		151,240		151,240			U			
6 DDG Mod														
		A		429,614		603,355		603,355			U			
7 Firefighting Equipment														
		A		13,752		15,887		15,887			U			
8 Command and Control Switchboard														
		A		2,140		2,240		2,240			U			
9 LHA/LHD Midlife														
		A		22,768		30,287		4,287			U			
10 Pollution Control Equipment														
		B		16,510		17,293		17,293			U			
11 Submarine Support Equipment														
		A		8,995		27,990		27,990			U			
12 Virginia Class Support Equipment														
		A		63,908		46,610		46,610			U			
13 LCS Class Support Equipment														
				43,819		47,955		47,955			U			
14 Submarine Batteries														
				22,459		17,594		17,594			U			

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Department of the Navy  
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 Total Obligational Authority  
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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	FY 2018				FY 2018				FY 2018			
		Ident Code	Total	PB Requests+ with CR Adj	FY 2018	Less Enacted Div B	P.L.115-96***	MDDE + Ship Repairs	Remaining Req Emergency	FY 2018	Quantity	Cost	S e c
			Quantity		Emergency	Requests**				Quantity	Cost		
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
<b>Budget Activity 01: Ships Support Equipment</b>													
<b>-----</b>													
<b>Ship Propulsion Equipment</b>													
1 Surface Power Equipment													
A													
2 Hybrid Electric Drive (HED)													
<b>Generators</b>													
3 Surface Combatant HM&E													
A													
<b>Navigation Equipment</b>													
4 Other Navigation Equipment													
A													
<b>Other Shipboard Equipment</b>													
5 Sub Periscope, Imaging and Supt Equip Prog													
A													
6 DDG Mod													
A													
7 Firefighting Equipment													
A													
8 Command and Control Switchboard													
A													
9 LHA/LHD Midlife													
A													
10 Pollution Control Equipment													
B													
11 Submarine Support Equipment													
A													
12 Virginia Class Support Equipment													
A													
13 LCS Class Support Equipment													
A													
14 Submarine Batteries													
A													

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Department of the Navy  
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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	FY 2018			FY 2018			FY 2018		
		Ident Code	Quantity	Cost	Total PB Requests* with CR Adj	Less Enacted DIV B P.L.115-96***	Base + OCO + Emergency**	Repairs	Remaining Req with CR Adj	Base + OCO + Emergency
----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-
<b>Budget Activity 01: Ships Support Equipment</b>										
<b>-----</b>										
<b>Ship Propulsion Equipment</b>										
1 Surface Power Equipment	A			41,910				41,910	U	
2 Hybrid Electric Drive (HED)				6,331				6,331	U	
<b>Generators</b>										
3 Surface Combatant HM&E	A			27,392				27,392	U	
<b>Navigation Equipment</b>										
4 Other Navigation Equipment	A			65,943				65,943	U	
<b>Other Shipboard Equipment</b>										
5 Sub Periscope, Imaging and Supt Equip Prog	A			151,240				151,240	U	
6 DDG Mod	A			603,355				603,355	U	
7 Firefighting Equipment	A			15,887				15,887	U	
8 Command and Control Switchboard	A			2,240				2,240	U	
9 LHA/LHD Midlife	A			4,287				4,287	U	
10 Pollution Control Equipment	B			17,293				17,293	U	
11 Submarine Support Equipment	A			27,990				27,990	U	
12 Virginia Class Support Equipment	A			46,610				46,610	U	
13 LCS Class Support Equipment				47,955				47,955	U	
14 Submarine Batteries				17,594				17,594	U	

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 Total Obligational Authority  
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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019		FY 2019		FY 2019		S e c -
			Base Quantity	Cost	OCO Quantity	Cost	Total Quantity	Cost	
----	-----	-----	-----	-----	-----	-----	-----	-	
<b>Budget Activity 01: Ships Support Equipment</b>									
<b>-----</b>									
<b>Ship Propulsion Equipment</b>									
1 Surface Power Equipment	A		19,700			19,700	U		
2 Hybrid Electric Drive (HED)							U		
<b>Generators</b>									
3 Surface Combatant HM&E	A		23,495			23,495	U		
<b>Navigation Equipment</b>									
4 Other Navigation Equipment	A		63,330			63,330	U		
<b>Other Shipboard Equipment</b>									
5 Sub Periscope, Imaging and Supt Equip Prog	A		178,421			178,421	U		
6 DDG Mod	A		487,999			487,999	U		
7 Firefighting Equipment	A		28,143			28,143	U		
8 Command and Control Switchboard	A		2,248			2,248	U		
9 LHA/LHD Midlife	A		37,694			37,694	U		
10 Pollution Control Equipment	B		20,883			20,883	U		
11 Submarine Support Equipment	A		37,155			37,155	U		
12 Virginia Class Support Equipment	A		66,328			66,328	U		
13 LCS Class Support Equipment			47,241			47,241	U		
14 Submarine Batteries			27,987			27,987	U		

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 Total Obligational Authority  
 (Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO)			FY 2018 PB Request with CR Adj Base			FY 2018 Total PB Requests* with CR Adj Base			FY 2018 PB Request with CR Adj OCO			S e c -
			Quantity	Cost	-----	Quantity	Cost	-----	Quantity	Cost	-----	Quantity	Cost	-----	
			-----	-----	----	-----	-----	----	-----	-----	----	-----	-----	----	
15	LPD Class Support Equipment			32,052			61,908			61,908					U
16	DDG 1000 Class Support Equipment	A		33,404											U
17	Strategic Platform Support Equip	A		14,571			15,812			15,812					U
18	DSSP Equipment	A		806			4,178			4,178					U
19	CG Modernization	A		319,920			306,050			306,050					U
20	LCAC	A		3,090			5,507			5,507					U
21	Underwater EOD Programs			34,650			55,922			55,922			12,348		U
22	Items Less Than \$5 Million	A		65,994			96,909			96,909					U
23	Chemical Warfare Detectors	A		2,873			3,036			3,036					U
24	Submarine Life Support System	A		4,543			10,364			10,364					U
Reactor Plant Equipment															
25	Reactor Power Units	A					324,925								U
26	Reactor Components	A		342,158			534,468			534,468					U
Ocean Engineering															
27	Diving and Salvage Equipment	A		8,176			10,619			10,619					U
Small Boats															
28	Standard Boats	A		59,033			46,094			46,094			18,000		U
Production Facilities Equipment															
29	Operating Forces Ipe	A		71,921			191,541			191,541					U

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

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	FY 2018				FY 2018				FY 2018			
		Ident Code	Quantity	Cost	Total	FY 2018 Emergency Requests**	Less Enacted Div B	P.L.115-96***	MDDE + Ship Repairs	Remaining Req Emergency	FY 2018	e	
					with CR Adj OCO								
----	-----	----	-----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----
15	LPD Class Support Equipment												U
16	DDG 1000 Class Support Equipment	A											U
17	Strategic Platform Support Equip	A											U
18	DSSP Equipment	A											U
19	CG Modernization	A											U
20	LCAC	A											U
21	Underwater EOD Programs				12,348								U
22	Items Less Than \$5 Million	A											U
23	Chemical Warfare Detectors	A											U
24	Submarine Life Support System	A											U
Reactor Plant Equipment													
25	Reactor Power Units	A											U
26	Reactor Components	A											U
Ocean Engineering													
27	Diving and Salvage Equipment	A											U
Small Boats													
28	Standard Boats	A			18,000								U
Production Facilities Equipment													
29	Operating Forces Ipe	A											U

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

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	FY 2018			FY 2018			FY 2018		
		Total		Less Enacted	Total		Less Enacted	Remaining Req		
		PB Requests*	with CR Adj	P.L.115-96***	Base + OCO +	MDDE + Ship	Base + OCO +	Emergency	e	
Ident	Code	Quantity	Cost		Quantity	Cost	Quantity	Cost	c	-
-----	-----	-----	----	-----	-----	----	-----	-----	-----	-
15	LPD Class Support Equipment		61,908				61,908		U	
16	DDG 1000 Class Support Equipment	A							U	
17	Strategic Platform Support Equip	A		15,812			15,812		U	
18	DSSP Equipment	A		4,178			4,178		U	
19	CG Modernization	A		306,050			306,050		U	
20	LCAC	A		5,507			5,507		U	
21	Underwater EOD Programs			68,270			68,270		U	
22	Items Less Than \$5 Million	A		96,909			96,909		U	
23	Chemical Warfare Detectors	A		3,036			3,036		U	
24	Submarine Life Support System	A		10,364			10,364		U	
Reactor Plant Equipment										
25	Reactor Power Units	A							U	
26	Reactor Components	A		534,468			534,468		U	
Ocean Engineering										
27	Diving and Salvage Equipment	A		10,619			10,619		U	
Small Boats										
28	Standard Boats	A		64,094			64,094		U	
Production Facilities Equipment										
29	Operating Forces Ipe	A		191,541			191,541		U	

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Department of the Navy  
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 Total Obligational Authority  
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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base		FY 2019 OCO		FY 2019 Total		S e c -
			Quantity	Cost	Quantity	Cost	Quantity	Cost	
15	LPD Class Support Equipment			65,033			65,033	U	
16	DDG 1000 Class Support Equipment	A		89,700			89,700	U	
17	Strategic Platform Support Equip	A		22,254			22,254	U	
18	DSSP Equipment	A		3,629			3,629	U	
19	CG Modernization	A		276,446			276,446	U	
20	LCAC	A		3,709			3,709	U	
21	Underwater EOD Programs			78,807		9,200	88,007	U	
22	Items Less Than \$5 Million	A		126,865			126,865	U	
23	Chemical Warfare Detectors	A		2,966			2,966	U	
24	Submarine Life Support System	A		11,968			11,968	U	
Reactor Plant Equipment									
25	Reactor Power Units	A		346,325			346,325	U	
26	Reactor Components	A		497,063			497,063	U	
Ocean Engineering									
27	Diving and Salvage Equipment	A		10,706			10,706	U	
Small Boats									
28	Standard Boats	A		49,771		19,060	68,831	U	
Production Facilities Equipment									
29	Operating Forces Ipe	A		225,181			225,181	U	

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 Total Obligational Authority  
 (Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO)			FY 2018 PB Request with CR Adj Base			FY 2018 Total PB Requests* with CR Adj Base			FY 2018 PB Request with CR Adj OCO		
			Quantity	Cost		Quantity	Cost		Quantity	Cost		Quantity	Cost	
			-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
<b>Other Ship Support</b>														
30	Nuclear Alterations	A		172,718									U	
31	LCS Common Mission Modules Equipment			14,670		34,666		34,666					U	
32	LCS MCM Mission Modules			29,724		55,870		55,870					U	
33	LCS ASW Mission Modules												U	
34	LCS SUW Mission Modules			21,064		52,960		52,960					U	
35	LCS In-Service Modernization	A				74,426		74,426					U	
<b>Logistic Support</b>														
36	LSD Midlife & Modernization			20,813		89,536		75,536					U	
<b>Total Ships Support Equipment</b>				2,145,022		3,076,818		2,711,893					30,348	
<b>Budget Activity 02: Communications &amp; Electronics Equip</b>														
<b>Ship Sonars</b>														
37	SPQ-9B Radar	A		10,376		30,086		20,086					U	
38	AN/SQQ-89 Surf ASW Combat System	A		87,824		102,222		102,222					U	
39	SSN Acoustic Equipment	A		288,265		287,553		287,553				43,500	U	
40	Undersea Warfare Support Equipment	A		7,163		13,653		13,653					U	
<b>ASW Electronic Equipment</b>														
41	Submarine Acoustic Warfare System	A		21,291		21,449		21,449					U	
42	SSTD	A		6,893		12,867		12,867					U	

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Department of the Navy  
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 Total Obligational Authority  
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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	FY 2018				FY 2018				FY 2018			
		Ident Code	Quantity	Cost	Total	FY 2018 Emergency Requests**	Less Enacted Div B	P.L.115-96***	MDDE + Ship Repairs	Remaining Req Emergency	FY 2018	e	
					with CR Adj OCO								
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
<b>Other Ship Support</b>													
30	Nuclear Alterations	A											U
31	LCS Common Mission Modules Equipment												U
32	LCS MCM Mission Modules												U
33	LCS ASW Mission Modules												U
34	LCS SUW Mission Modules												U
35	LCS In-Service Modernization	A											U
<b>Logistic Support</b>													
36	LSD Midlife & Modernization												U
<b>Total Ships Support Equipment</b>					-----	30,348	-----	-----	-----	-----	-----	-----	-----
<b>Budget Activity 02: Communications &amp; Electronics Equip</b>													
<b>Ship Sonars</b>													
37	SPQ-9B Radar	A											U
38	AN/SQQ-89 Surf ASW Combat System	A											U
39	SSN Acoustic Equipment	A			43,500								U
40	Undersea Warfare Support Equipment	A											U
<b>ASW Electronic Equipment</b>													
41	Submarine Acoustic Warfare System	A											U
42	SSTD	A											U

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 Total Obligational Authority  
 (Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018			FY 2018			FY 2018		
			Total PB Requests* with CR Adj	Quantity	Cost	Less Enacted DIV B P.L.115-96***	Quantity	Cost	Remaining Req with CR Adj Base + OCO + Emergency** Repairs	Quantity	Cost
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-
<b>Other Ship Support</b>											
30	Nuclear Alterations	A								U	
31	LCS Common Mission Modules Equipment				34,666				34,666	U	
32	LCS MCM Mission Modules				55,870				55,870	U	
33	LCS ASW Mission Modules									U	
34	LCS SUW Mission Modules				52,960				52,960	U	
35	LCS In-Service Modernization	A			74,426				74,426	U	
<b>Logistic Support</b>											
36	LSD Midlife & Modernization				75,536				75,536	U	
<b>Total Ships Support Equipment</b>											
					-----		-----		-----		
					2,742,241				2,742,241		
<b>Budget Activity 02: Communications &amp; Electronics Equip</b>											
<b>-----</b>											
<b>Ship Sonars</b>											
37	SPQ-9B Radar	A			20,086				20,086	U	
38	AN/SQQ-89 Surf ASW Combat System	A			102,222				102,222	U	
39	SSN Acoustic Equipment	A			331,053				331,053	U	
40	Undersea Warfare Support Equipment	A			13,653				13,653	U	
<b>ASW Electronic Equipment</b>											
41	Submarine Acoustic Warfare System	A			21,449				21,449	U	
42	SSTD	A			12,867				12,867	U	

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base		FY 2019 OCO		FY 2019 Total		S e c -
			Quantity	Cost	Quantity	Cost	Quantity	Cost	
<b>Other Ship Support</b>									
30	Nuclear Alterations	A							U
31	LCS Common Mission Modules Equipment		46,732				46,732	U	
32	LCS MCM Mission Modules		124,147				124,147	U	
33	LCS ASW Mission Modules		57,294				57,294	U	
34	LCS SUW Mission Modules		26,006				26,006	U	
35	LCS In-Service Modernization	A	70,526				70,526	U	
<b>Logistic Support</b>									
36	LSD Midlife & Modernization		4,784				4,784	U	
<b>Total Ships Support Equipment</b>			3,180,536		28,260		3,208,796		
<b>Budget Activity 02: Communications &amp; Electronics Equip</b>									
<b>Ship Sonars</b>									
37	SPQ-9B Radar	A	20,309				20,309	U	
38	AN/SQQ-89 Surf ASW Combat System	A	115,459				115,459	U	
39	SSN Acoustic Equipment	A	318,189				318,189	U	
40	Undersea Warfare Support Equipment	A	10,134				10,134	U	
<b>ASW Electronic Equipment</b>									
41	Submarine Acoustic Warfare System	A	23,815				23,815	U	
42	SSTD	A	11,277				11,277	U	

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Department of the Navy  
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Total Obligational Authority  
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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018				FY 2018				S e c -	
			FY 2017 (Base + OCO)		PB Request with CR Adj Base		Total PB Requests* with CR Adj Base		FY 2018 PB Request with CR Adj OCO			
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost		
----	-----	----	-----	---	-----	---	-----	---	-----	---	-	
43	Fixed Surveillance System	A	145,701		300,102		300,102				U	
44	SURTASS	A		43,743		30,180		30,180			U	
Electronic Warfare Equipment												
45	AN/SLQ-32	A		244,001		240,433		240,433			U	
Reconnaissance Equipment												
46	Shipboard IW Exploit	A		169,021		187,007		187,007			U	
47	Automated Identification System (AIS)			764		510		510			U	
Other Ship Electronic Equipment												
48	Cooperative Engagement Capability	B		17,965		23,892		23,892			U	
49	Naval Tactical Command Support System (NTCSS)	A		12,336		10,741		10,741			U	
50	ATDLS	A		24,395		38,016		38,016			U	
51	Navy Command and Control System (NCCS)			4,556		4,512		4,512			U	
52	Minesweeping System Replacement	A		26,764		31,531		31,531			U	
53	Shallow Water MCM	B		8,875		8,796		8,796			U	
54	Navstar GPS Receivers (SPACE)	A		7,102		15,923		15,923			U	
55	American Forces Radio and TV Service	A		4,577		2,730		2,730			U	
56	Strategic Platform Support Equip	A		8,972		6,889		6,889			U	
Aviation Electronic Equipment												
57	Ashore ATC Equipment	A		68,392		71,882		71,882			U	

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	FY 2018				FY 2018				FY 2018			
		Ident Code	Quantity	Cost	Total	FY 2018 Emergency Requests**	Less Enacted Div B	P.L.115-96***	MDDE + Ship Repairs	Remaining Req Emergency	FY 2018	e	
					with CR Adj OCO								
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
43	Fixed Surveillance System	A											U
44	SURTASS	A											U
	Electronic Warfare Equipment												
45	AN/SLQ-32	A											U
	Reconnaissance Equipment												
46	Shipboard IW Exploit	A											U
47	Automated Identification System (AIS)												U
	Other Ship Electronic Equipment												
48	Cooperative Engagement Capability	B											U
49	Naval Tactical Command Support System (NTCSS)	A											U
50	ATDLS	A											U
51	Navy Command and Control System (NCCS)												U
52	Minesweeping System Replacement	A											U
53	Shallow Water MCM	B											U
54	Navstar GPS Receivers (SPACE)	A											U
55	American Forces Radio and TV Service	A											U
56	Strategic Platform Support Equip	A											U
	Aviation Electronic Equipment												
57	Ashore ATC Equipment	A											U

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Department of the Navy  
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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	FY 2018			FY 2018			FY 2018			
		Total		Less Enacted	P.L.115-96***		Remaining Req	Base + OCO + S		Base + OCO + S	
		PB Requests*	with CR Adj	DIV B	MDDE + Ship	Repairs	Emergency	e	Emergency	e	
Ident Code	Quantity	Cost		Quantity	Cost		Quantity	Cost		Quantity	Cost
-----	-----	----	-----	-----	----	-----	-----	----	-----	-----	-
43 Fixed Surveillance System	A	300,102					300,102	U			
44 SURTASS	A	30,180					30,180	U			
<b>Electronic Warfare Equipment</b>											
45 AN/SLQ-32	A	240,433					240,433	U			
<b>Reconnaissance Equipment</b>											
46 Shipboard IW Exploit	A	187,007					187,007	U			
47 Automated Identification System (AIS)			510					510	U		
<b>Other Ship Electronic Equipment</b>											
48 Cooperative Engagement Capability	B	23,892					23,892	U			
49 Naval Tactical Command Support System (NTCSS)	A	10,741					10,741	U			
50 ATDLS	A	38,016					38,016	U			
51 Navy Command and Control System (NCCS)			4,512					4,512	U		
52 Minesweeping System Replacement	A	31,531					31,531	U			
53 Shallow Water MCM	B	8,796						8,796	U		
54 Navstar GPS Receivers (SPACE)	A	15,923					15,923	U			
55 American Forces Radio and TV Service	A	2,730					2,730	U			
56 Strategic Platform Support Equip	A	6,889					6,889	U			
<b>Aviation Electronic Equipment</b>											
57 Ashore ATC Equipment	A	71,882					71,882	U			

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Department of the Navy  
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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019		FY 2019		FY 2019		S e c -
			Base Quantity	Cost	OCO Quantity	Cost	Total Quantity	Cost	
----	-----	-----	-----	-----	-----	-----	-----	-	
43	Fixed Surveillance System	A	237,780		56,950		294,730	U	
44	SURTASS	A		57,872			57,872	U	
Electronic Warfare Equipment									
45	AN/SLQ-32	A		420,344			420,344	U	
Reconnaissance Equipment									
46	Shipboard IW Exploit	A		220,883			220,883	U	
47	Automated Identification System (AIS)			4,028			4,028	U	
Other Ship Electronic Equipment									
48	Cooperative Engagement Capability	B		44,173			44,173	U	
49	Naval Tactical Command Support System (NTCSS)	A		10,991			10,991	U	
50	ATDLS	A		34,526			34,526	U	
51	Navy Command and Control System (NCCS)			3,769			3,769	U	
52	Minesweeping System Replacement	A		35,709			35,709	U	
53	Shallow Water MCM	B		8,616			8,616	U	
54	Navstar GPS Receivers (SPACE)	A		10,703			10,703	U	
55	American Forces Radio and TV Service	A		2,626			2,626	U	
56	Strategic Platform Support Equip	A		9,467			9,467	U	
Aviation Electronic Equipment									
57	Ashore ATC Equipment	A		70,849			70,849	U	

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018				FY 2018		FY 2018			
			FY 2017 (Base + OCO)		PB Request with CR Adj Base		Total PB Requests* with CR Adj Base		PB Request with CR Adj OCO		PB Request with CR Adj OCO	
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
58	Afloat ATC Equipment	A	29,411		44,611		44,611					U
59	ID Systems	A		22,177		21,239		21,239				U
60	Joint Precision Approach And Landing System (											U
61	Naval Mission Planning Systems	A		13,910		11,976		11,976			2,550	U
	Other Shore Electronic Equipment											
62	Tactical/Mobile C4I Systems	A		23,908		32,425		32,425			7,900	U
63	DCGS-N	A		23,610		13,790		13,790			6,392	U
64	CANES			207,730		322,754		322,754				U
65	RADIAC	A		8,092		10,718		10,718				U
66	CANES-Intell			35,313		48,028		48,028				U
67	GPETE	A		6,428		6,861		6,861				U
68	MASF					8,081		8,081				U
69	Integ Combat System Test Facility	A		8,376		5,019		5,019				U
70	EMI Control Instrumentation	A		3,971		4,188		4,188				U
71	Items Less Than \$5 Million	A		47,664		105,292		105,292				U
	Shipboard Communications											
72	Shipboard Tactical Communications	A		9,671		23,695		23,695				U
73	Ship Communications Automation	A		109,191		103,990		103,990				U
74	Communications Items Under \$5M	A		10,077		18,577		18,577				U

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	FY 2018				FY 2018				FY 2018			
		Ident Code	Total PB Requests+ with CR Adj		OCO	FY 2018 Emergency Requests**		Less Enacted Div B P.L.115-96***	MDDE + Ship Repairs	Remaining Req Emergency	S e c		
			Quantity	Cost		Quantity	Cost						
----	-----	----	-----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----
58	Afloat ATC Equipment	A											U
59	ID Systems	A											U
60	Joint Precision Approach And Landing System (												U
61	Naval Mission Planning Systems	A		2,550									U
	Other Shore Electronic Equipment												
62	Tactical/Mobile C4I Systems	A		7,900									U
63	DCGS-N	A		6,392									U
64	CANES												U
65	RADIAC	A											U
66	CANES-Intell												U
67	GPETE	A											U
68	MASF												U
69	Integ Combat System Test Facility	A											U
70	EMI Control Instrumentation	A											U
71	Items Less Than \$5 Million	A											U
	Shipboard Communications												
72	Shipboard Tactical Communications	A											U
73	Ship Communications Automation	A											U
74	Communications Items Under \$5M	A											U

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	FY 2018			FY 2018			FY 2018		
		Total		Less Enacted	Total		Less Enacted	Remaining Req		
		PB Requests*	DIV B	P.L.115-96***	Base + OCO +	MDDE + Ship	Base + OCO +	Emergency	e	
Ident	Code	Quantity	Cost		Quantity	Cost	Quantity	Cost	c	-
-----	-----	-----	----	-----	-----	----	-----	-----	-----	-
58	Afloat ATC Equipment	A	44,611				44,611		U	
59	ID Systems	A	21,239				21,239		U	
60	Joint Precision Approach And Landing System (								U	
61	Naval Mission Planning Systems	A	14,526				14,526		U	
	Other Shore Electronic Equipment									
62	Tactical/Mobile C4I Systems	A	40,325				40,325		U	
63	DCGS-N	A	20,182				20,182		U	
64	CANES		322,754				322,754		U	
65	RADIAC	A	10,718				10,718		U	
66	CANES-Intell		48,028				48,028		U	
67	GPETE	A	6,861				6,861		U	
68	MASF		8,081				8,081		U	
69	Integ Combat System Test Facility	A	5,019				5,019		U	
70	EMI Control Instrumentation	A	4,188				4,188		U	
71	Items Less Than \$5 Million	A	105,292				105,292		U	
	Shipboard Communications									
72	Shipboard Tactical Communications	A	23,695				23,695		U	
73	Ship Communications Automation	A	103,990				103,990		U	
74	Communications Items Under \$5M	A	18,577				18,577		U	

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019		FY 2019		FY 2019		S e c -
			Base Quantity	Cost	OCO Quantity	Cost	Total Quantity	Cost	
----	-----	----	-----	----	----	-----	----	-	
58	Afloat ATC Equipment	A		47,890			47,890	U	
59	ID Systems	A		26,163			26,163	U	
60	Joint Precision Approach And Landing System (			38,094			38,094	U	
61	Naval Mission Planning Systems	A		11,966			11,966	U	
Other Shore Electronic Equipment									
62	Tactical/Mobile C4I Systems	A		42,010			42,010	U	
63	DCGS-N	A		12,896			12,896	U	
64	CANES			423,027			423,027	U	
65	RADIAC	A		8,175			8,175	U	
66	CANES-Intell			54,465			54,465	U	
67	GPETE	A		5,985			5,985	U	
68	MASF			5,413			5,413	U	
69	Integ Combat System Test Facility	A		6,251			6,251	U	
70	EMI Control Instrumentation	A		4,183			4,183	U	
71	Items Less Than \$5 Million	A		148,350			148,350	U	
Shipboard Communications									
72	Shipboard Tactical Communications	A		45,450			45,450	U	
73	Ship Communications Automation	A		105,087			105,087	U	
74	Communications Items Under \$5M	A		41,123			41,123	U	

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017		FY 2018		FY 2018		FY 2018	
			Quantity	Cost	PB Request with CR Adj		Total Base	PB Requests* with CR Adj	PB Request with CR Adj	
					Base	OCO			Base	OCO
----	-----	----	-----	----	-----	-----	-----	-----	-----	-----
<b>Submarine Communications</b>										
75	Submarine Broadcast Support	A		31,068			29,669		29,669	
76	Submarine Communication Equipment	A		62,305			86,204		86,204	
<b>Satellite Communications</b>										
77	Satellite Communications Systems	A		14,414			14,654		14,654	
78	Navy Multiband Terminal (NMT)			33,992			69,764		69,764	
<b>Shore Communications</b>										
79	Joint Communications Support Element (JCSE)	A		4,156			4,256		4,256	
<b>Cryptographic Equipment</b>										
80	Info Systems Security Program (ISSP)	A		92,454			89,663		89,663	
81	MIO Intel Exploitation Team	A		920			961		961	
<b>Cryptologic Equipment</b>										
82	Cryptologic Communications Equip	A		23,698			11,287		11,287	
<b>Other Electronic Support</b>										
83	DON UAS 1***	A		2,517						
84	DON UAS 2***	A		4,927						
85	DON ACTS**	A		1,545						
86	Coast Guard Equipment	A		32,291			36,584		36,584	

\*\*\*Funding in this line item was transferred during the year of execution from the Spectrum Relocation Fund (SRF) in support of the Advanced Wireless Services 3 (AWS-3) auction and is associated with the reallocation or sharing of the 1755-1780 MHz and 1695-1710 MHz bands. The SRF is administered by the Office of Management and Budget (OMB), which approves SRF transfers to federal agencies on an annual basis in consultation with the National Telecommunications and Information Administration (NTIA).

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	FY 2018				FY 2018				FY 2018			
		Ident Code	Quantity	Cost	Total	FY 2018 Emergency Requests**	Less Enacted Div B	P.L.115-96***	MDDE + Ship Repairs	Remaining Req Emergency	FY 2018 e		
					with CR Adj OCO							Emergency	
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----		
<b>Submarine Communications</b>													
75	Submarine Broadcast Support	A		15,000					15,000	U			
76	Submarine Communication Equipment	A								U			
<b>Satellite Communications</b>													
77	Satellite Communications Systems	A								U			
78	Navy Multiband Terminal (NMT)	A								U			
<b>Shore Communications</b>													
79	Joint Communications Support Element (JCSE)	A								U			
<b>Cryptographic Equipment</b>													
80	Info Systems Security Program (ISSP)	A								U			
81	MIO Intel Exploitation Team	A								U			
<b>Cryptologic Equipment</b>													
82	Cryptologic Communications Equip	A	5,380							U			
<b>Other Electronic Support</b>													
83	DON UAS 1***	A								U			
84	DON UAS 2***	A								U			
85	DON ACTS***	A								U			
86	Coast Guard Equipment	A								U			

\*\*\*Funding in this line item was transferred during the year of execution from the Spectrum Relocation Fund (SRF) in support of the Advanced Wireless Services 3 (AWS-3) auction and is associated with the reallocation or sharing of the 1755-1780 MHz and 1695-1710 MHz bands. The SRF is administered by the Office of Management and Budget (OMB), which approves SRF transfers to federal agencies on an annual basis in consultation with the National Telecommunications and Information Administration (NTIA).

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	FY 2018			FY 2018			FY 2018				
		Ident	Code	Total PB Requests* with CR Adj Base + OCO + Emergency**	Quantity	Cost	Less Enacted DIV B MDDE + Ship Repairs	Quantity	Cost	Remaining Req with CR Adj Base + OCO + Emergency	Quantity	Cost
----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
<b>Submarine Communications</b>												
75	Submarine Broadcast Support		A			44,669				44,669	U	
76	Submarine Communication Equipment		A			86,204				86,204	U	
<b>Satellite Communications</b>												
77	Satellite Communications Systems		A			14,654				14,654	U	
78	Navy Multiband Terminal (NMT)					69,764				69,764	U	
<b>Shore Communications</b>												
79	Joint Communications Support Element (JCSE)		A			4,256				4,256	U	
<b>Cryptographic Equipment</b>												
80	Info Systems Security Program (ISSP)		A			89,663				89,663	U	
81	MIO Intel Exploitation Team		A			961				961	U	
<b>Cryptologic Equipment</b>												
82	Cryptologic Communications Equip		A			16,667				16,667	U	
<b>Other Electronic Support</b>												
83	DON UAS 1***		A								U	
84	DON UAS 2***		A								U	
85	DON ACTS***		A								U	
86	Coast Guard Equipment		A			36,584				36,584	U	

\*\*\*Funding in this line item was transferred during the year of execution from the Spectrum Relocation Fund (SRF) in support of the Advanced Wireless Services 3 (AWS-3) auction and is associated with the reallocation or sharing of the 1755-1780 MHz and 1695-1710 MHz bands. The SRF is administered by the Office of Management and Budget (OMB), which approves SRF transfers to federal agencies on an annual basis in consultation with the National Telecommunications and Information Administration (NTIA).

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base		FY 2019 OCO		FY 2019 Total		S e c -
			Quantity	Cost	Quantity	Cost	Quantity	Cost	
----	-----	-----	-----	-----	-----	-----	-----	-	
Submarine Communications									
75	Submarine Broadcast Support	A	30,897				30,897	U	
76	Submarine Communication Equipment	A	78,580				78,580	U	
Satellite Communications									
77	Satellite Communications Systems	A	41,205		3,200		44,405	U	
78	Navy Multiband Terminal (NMT)		113,885				113,885	U	
Shore Communications									
79	Joint Communications Support Element (JCSE)	A	4,292				4,292	U	
Cryptographic Equipment									
80	Info Systems Security Program (ISSP)	A	153,526				153,526	U	
81	MIO Intel Exploitation Team	A	951				951	U	
Cryptologic Equipment									
82	Cryptologic Communications Equip	A	14,209		2,000		16,209	U	
Other Electronic Support									
83	DON UAS 1***	A						U	
84	DON UAS 2***	A						U	
85	DON ACTS***	A						U	
86	Coast Guard Equipment	A	40,713				40,713	U	

\*\*\*Funding in this line item was transferred during the year of execution from the Spectrum Relocation Fund (SRF) in support of the Advanced Wireless Services 3 (AWS-3) auction and is associated with the reallocation or sharing of the 1755-1780 MHz and 1695-1710 MHz bands. The SRF is administered by the Office of Management and Budget (OMB), which approves SRF transfers to federal agencies on an annual basis in consultation with the National Telecommunications and Information Administration (NTIA).

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 (Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO)		FY 2018 PB Request with CR Adj Base		FY 2018 Total PB Requests* with CR Adj Base		FY 2018 PB Request with CR Adj OCO		S e c -
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
<b>Drug Interdiction Support</b>											
87	Other Drug Interdiction Support	A	16,000								U
	Total Communications & Electronics Equip			2,088,792			2,565,260		2,555,260		62,622
<b>Budget Activity 03: Aviation Support Equipment</b>											
	Sonobuoys										
88	Sonobuoys - All Types	A	158,588		173,616		173,616				U
<b>Aircraft Support Equipment</b>											
89	Weapons Range Support Equipment	A	58,116		72,110		72,110				U
90	Aircraft Support Equipment	A	115,551		108,482		108,482				U
91	Advanced Arresting Gear (AAG)	A			10,900		10,900				U
92	Meteorological Equipment	A	29,015		21,137		21,137				U
93	DCRS/DPL	A	632		660		660				U
94	Airborne Mine Countermeasures	A	27,542		20,605		20,605				U
95	Lamps Equipment										U
96	Aviation Support Equipment	A	29,528		34,032		34,032		29,245		U
97	UMCS-Unman Carrier Aviation(UCA)Mission Cntrl	A									U
	Total Aviation Support Equipment			418,972		441,542		441,542		29,245	

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	FY 2018				FY 2018				FY 2018			
		Ident Code	Quantity	Cost	Total	FY 2018 Emergency Requests**	Less Enacted Div B	P.L.115-96***	MDDE + Ship Repairs	Remaining Req Emergency	FY 2018 e		
					PB Requests+ with CR Adj OCO							Quantity	Cost
	Drug Interdiction Support												
87	Other Drug Interdiction Support	A									U		
	Total Communications & Electronics Equip				65,722		15,000				15,000		
	Budget Activity 03: Aviation Support Equipment												
	Sonobuoys												
88	Sonobuoys - All Types	A									U		
	Aircraft Support Equipment												
89	Weapons Range Support Equipment	A									U		
90	Aircraft Support Equipment	A									U		
91	Advanced Arresting Gear (AAG)	A									U		
92	Meteorological Equipment	A									U		
93	DCRS/DPL	A									U		
94	Airborne Mine Countermeasures	A									U		
95	Lamps Equipment										U		
96	Aviation Support Equipment	A		29,245							U		
97	UMCS-Unman Carrier Aviation(UCA)Mission Cntrl	A									U		
	Total Aviation Support Equipment			29,245									

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Department of the Navy  
 FY 2019 President's Budget  
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 Total Obligational Authority  
 (Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	FY 2018			FY 2018			FY 2018		
		Total	Less Enacted	PB Requests*	DIV B	P.L.115-96***	Remaining Req	Base + OCO +	Base + OCO +	S
		Ident	with CR Adj	Base + OCO +	MDDE + Ship	Repairs	with CR Adj	Emergency**	Emergency	e
Code	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	c	
----	-----	----	-----	-----	-----	-----	-----	-----	-	
Drug Interdiction Support										
87	Other Drug Interdiction Support	A								U
Total Communications & Electronics Equip										
			2,635,982				2,635,982			
Budget Activity 03: Aviation Support Equipment										
Sonobuoys										
88	Sonobuoys - All Types	A	173,616				173,616	U		
Aircraft Support Equipment										
89	Weapons Range Support Equipment	A	72,110				72,110	U		
90	Aircraft Support Equipment	A	108,482				108,482	U		
91	Advanced Arresting Gear (AAG)	A	10,900				10,900	U		
92	Meteorological Equipment	A	21,137				21,137	U		
93	DCRS/DPL	A	660				660	U		
94	Airborne Mine Countermeasures	A	20,605				20,605	U		
95	Lamps Equipment	A						U		
96	Aviation Support Equipment	A	63,277				63,277	U		
97	UMCS-Unman Carrier Aviation(UCA)Mission Cntrl	A						U		
Total Aviation Support Equipment										
			470,787				470,787			

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

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019		FY 2019		FY 2019		S e c -
			Base Quantity	Cost	OCO Quantity	Cost	Total Quantity	Cost	
----	-----	-----	-----	-----	-----	-----	-----	-	
<b>Drug Interdiction Support</b>									
87	Other Drug Interdiction Support	A	-----	-----	-----	-----	-----	U	
<b>Total Communications &amp; Electronics Equip</b>									
			3,176,305		62,150		3,238,455		
<b>Budget Activity 03: Aviation Support Equipment</b>									
<b>Sonobuoys</b>									
88	Sonobuoys - All Types	A	177,891		21,156		199,047	U	
<b>Aircraft Support Equipment</b>									
89	Weapons Range Support Equipment	A	93,864				93,864	U	
90	Aircraft Support Equipment	A	111,724				111,724	U	
91	Advanced Arresting Gear (AAG)	A	11,054				11,054	U	
92	Meteorological Equipment	A	21,072				21,072	U	
93	DCRS/DPL	A	656				656	U	
94	Airborne Mine Countermeasures	A	11,299				11,299	U	
95	Lamps Equipment		594				594	U	
96	Aviation Support Equipment	A	39,374				39,374	U	
97	UMCS-Unman Carrier Aviation(UCA)Mission Cntrl	A	35,405				35,405	U	
<b>Total Aviation Support Equipment</b>									
			502,933		21,156		524,089		

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Department of the Navy  
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 Exhibit P-1 FY 2019 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO)		FY 2018 PB Request with CR Adj Base		FY 2018 Total PB Requests* with CR Adj Base		FY 2018 PB Request with CR Adj OCO		S e c -
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
<b>Budget Activity 04: Ordnance Support Equipment</b>											
	Ship Gun System Equipment	A		6,191		5,277		5,277			U
	98 Ship Gun Systems Equipment	A									
	Ship Missile Systems Equipment	A		307,447		272,359		272,359		2,436	U
	99 Ship Missile Support Equipment	A									
	100 Tomahawk Support Equipment	A		67,062		73,184		73,184			U
	FBM Support Equipment	A									
	101 Strategic Missile Systems Equip	A		215,138		246,221		246,221			U
	ASW Support Equipment	A									
	102 SSN Combat Control Systems	A		144,715		129,972		129,972			U
	103 ASW Support Equipment	A		36,431		23,209		23,209			U
	Other Ordnance Support Equipment	A									
	104 Explosive Ordnance Disposal Equip	B		92,655		15,596		15,596		31,970	U
	105 Items Less Than \$5 Million	A		6,243		5,981		5,981			U
	Other Expendable Ordnance	A									
	106 Submarine Training Device Mods	A		46,746		74,550		74,550			U
	107 Surface Training Equipment	A		87,714		83,022		83,022			U
	Total Ordnance Support Equipment			1,010,342		929,371		929,371		34,406	

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Department of the Navy  
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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	FY 2018				FY 2018				FY 2018			
		Ident Code	Quantity	Cost	Total	FY 2018 Emergency Requests**	Quantity	Cost	Less Enacted Div B	P.L.115-96*** MDDE + Ship Repairs	Remaining Req Emergency	FY 2018	
					with CR Adj OCO				Quantity			Quantity	Cost
----	-----	----	-----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----
<b>Budget Activity 04: Ordnance Support Equipment</b>													
	Ship Gun System Equipment												
98	Ship Gun Systems Equipment	A											U
	Ship Missile Systems Equipment												
99	Ship Missile Support Equipment	A			2,436								U
100	Tomahawk Support Equipment	A											U
	FBM Support Equipment												
101	Strategic Missile Systems Equip	A											U
	ASW Support Equipment												
102	SSN Combat Control Systems	A											U
103	ASW Support Equipment	A											U
	Other Ordnance Support Equipment												
104	Explosive Ordnance Disposal Equip	B			60,370								U
105	Items Less Than \$5 Million	A											U
	Other Expendable Ordnance												
106	Submarine Training Device Mods	A											U
107	Surface Training Equipment	A											U
	Total Ordnance Support Equipment				62,806								

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Department of the Navy  
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 (Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	FY 2018			FY 2018			FY 2018		
		Ident Code	Quantity	Cost	Total PB Requests* with CR Adj	Less Enacted DIV B P.L.115-96***	Base + OCO + Emergency**	Repairs	Remaining Req with CR Adj Base + OCO + Emergency	S e c
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-
<b>Budget Activity 04: Ordnance Support Equipment</b>										
<b>-----</b>										
<b>Ship Gun System Equipment</b>										
98	Ship Gun Systems Equipment	A		5,277				5,277	U	
<b>Ship Missile Systems Equipment</b>										
99	Ship Missile Support Equipment	A		274,795				274,795	U	
100	Tomahawk Support Equipment	A		73,184				73,184	U	
<b>FBM Support Equipment</b>										
101	Strategic Missile Systems Equip	A		246,221				246,221	U	
<b>ASW Support Equipment</b>										
102	SSN Combat Control Systems	A		129,972				129,972	U	
103	ASW Support Equipment	A		23,209				23,209	U	
<b>Other Ordnance Support Equipment</b>										
104	Explosive Ordnance Disposal Equip	B		75,966				75,966	U	
105	Items Less Than \$5 Million	A		5,981				5,981	U	
<b>Other Expendable Ordnance</b>										
106	Submarine Training Device Mods	A		74,550				74,550	U	
107	Surface Training Equipment	A		83,022				83,022	U	
<b>Total Ordnance Support Equipment</b>										
				992,177				992,177		

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019		FY 2019		FY 2019		S e c -
			Base Quantity	Cost	OCO Quantity	Cost	Total Quantity	Cost	
----	-----	-----	-----	-----	-----	-----	-----	-	
<b>Budget Activity 04: Ordnance Support Equipment</b>									
<b>-----</b>									
<b>Ship Gun System Equipment</b>									
98	Ship Gun Systems Equipment	A	5,337				5,337	U	
<b>Ship Missile Systems Equipment</b>									
99	Ship Missile Support Equipment	A	213,090				213,090	U	
100	Tomahawk Support Equipment	A	92,890				92,890	U	
<b>FBM Support Equipment</b>									
101	Strategic Missile Systems Equip	A	271,817				271,817	U	
<b>ASW Support Equipment</b>									
102	SSN Combat Control Systems	A	129,501				129,501	U	
103	ASW Support Equipment	A	19,436				19,436	U	
<b>Other Ordnance Support Equipment</b>									
104	Explosive Ordnance Disposal Equip	B	14,258		33,580		47,838	U	
105	Items Less Than \$5 Million	A	5,378				5,378	U	
<b>Other Expendable Ordnance</b>									
106	Submarine Training Device Mods	A	65,543				65,543	U	
107	Surface Training Equipment	A	230,425				230,425	U	
<b>Total Ordnance Support Equipment</b>									
			1,047,675		33,580		1,081,255		

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 (Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO)		FY 2018 PB Request with CR Adj Base		FY 2018 Total PB Requests* with CR Adj Base		FY 2018 PB Request with CR Adj OCO		S e c -			
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost				
<b>Budget Activity 05: Civil Engineering Support Equip</b>														
<b>Civil Engineering Support Equipment</b>														
108 Passenger Carrying Vehicles														
109 General Purpose Trucks	A		9,078		5,299		5,299				U			
110 Construction & Maintenance Equip	A		4,794		2,946		2,946				496 U			
111 Fire Fighting Equipment	A		18,553		34,970		34,970				U			
112 Tactical Vehicles	B		14,199		2,541		2,541				2,304 U			
113 Amphibious Equipment	A		13,824		19,699		19,699				2,336 U			
114 Pollution Control Equipment	A		7,676		12,162		12,162				U			
115 Items Under \$5 Million	A		2,321		2,748		2,748				U			
116 Physical Security Vehicles	A		8,501		18,084		18,084				U			
Total Civil Engineering Support Equip	A		1,095		1,170		1,170				U			
			-----		-----		-----				-----			
			80,041		99,619		99,619				5,136			
<b>Budget Activity 06: Supply Support Equipment</b>														
<b>Supply Support Equipment</b>														
117 Supply Equipment														
118 First Destination Transportation	A		16,978		21,797		21,797				164 U			
119 Special Purpose Supply Systems	A		5,115		5,572		5,572				420 U			
Total Supply Support Equipment	A		295,471		482,916		482,916				U			
			317,564		510,285		510,285				584			

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018			FY 2018			FY 2018			
			Total	PB Requests+ with CR Adj	OCO	Emergency	Requests**	Emergency	Less Enacted Div B	P.L.115-96***	MDDE + Ship Repairs	FY 2018 Remaining Req
			Quantity	Cost	-----	Quantity	Cost	-----	Quantity	Cost	Emergency	e
			-----	-----	-----	-----	-----	-----	-----	-----	-----	c

Budget Activity 05: Civil Engineering Support Equip

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## Civil Engineering Support Equipment

108 Passenger Carrying Vehicles	A									U
109 General Purpose Trucks	A		496							U
110 Construction & Maintenance Equip	A									U
111 Fire Fighting Equipment	A		2,304							U
112 Tactical Vehicles	B		2,336							U
113 Amphibious Equipment	A									U
114 Pollution Control Equipment	A									U
115 Items Under \$5 Million	A									U
116 Physical Security Vehicles	A									U
<b>Total Civil Engineering Support Equip</b>			<b>5,136</b>							

Budget Activity 06: Supply Support Equipment

-----

## Supply Support Equipment

117 Supply Equipment	A		164							U
118 First Destination Transportation	A		420							U
119 Special Purpose Supply Systems	A									U
<b>Total Supply Support Equipment</b>			<b>584</b>							

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 (Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018			FY 2018			FY 2018			
			Total PB Requests*	Less Enacted DIV B P.L.115-96***	Remaining Req with CR Adj	Base + OCO + Emergency**	MDDE + Ship Repairs	Base + OCO + Emergency	Quantity S	Cost e	Quantity c	Cost -
			-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Budget Activity 05: Civil Engineering Support Equip

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Civil Engineering Support Equipment

108 Passenger Carrying Vehicles	A	5,299		5,299	U
109 General Purpose Trucks	A	3,442		3,442	U
110 Construction & Maintenance Equip	A	34,970		34,970	U
111 Fire Fighting Equipment	A	4,845		4,845	U
112 Tactical Vehicles	B	22,035		22,035	U
113 Amphibious Equipment	A	12,162		12,162	U
114 Pollution Control Equipment	A	2,748		2,748	U
115 Items Under \$5 Million	A	18,084		18,084	U
116 Physical Security Vehicles	A	1,170		1,170	U
<b>Total Civil Engineering Support Equip</b>		<b>104,755</b>		<b>104,755</b>	

Budget Activity 06: Supply Support Equipment

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Supply Support Equipment

117 Supply Equipment	A	21,961		21,961	U
118 First Destination Transportation	A	5,992		5,992	U
119 Special Purpose Supply Systems	A	482,916		482,916	U
<b>Total Supply Support Equipment</b>		<b>510,869</b>		<b>510,869</b>	

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

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base		FY 2019 OCO		FY 2019 Total		S e c -
			Quantity	Cost	Quantity	Cost	Quantity	Cost	
----	-----	----	-----	-----	-----	-----	-----	-	
<b>Budget Activity 05: Civil Engineering Support Equip</b>									
<b>Civil Engineering Support Equipment</b>									
108	Passenger Carrying Vehicles	A	4,867		170		5,037	U	
109	General Purpose Trucks	A	2,674		400		3,074	U	
110	Construction & Maintenance Equip	A	20,994				20,994	U	
111	Fire Fighting Equipment	A	17,189		770		17,959	U	
112	Tactical Vehicles	B	19,916		7,298		27,214	U	
113	Amphibious Equipment	A	7,400				7,400	U	
114	Pollution Control Equipment	A	2,713				2,713	U	
115	Items Under \$5 Million	A	35,540				35,540	U	
116	Physical Security Vehicles	A	1,155				1,155	U	
	<b>Total Civil Engineering Support Equip</b>		<b>112,448</b>		<b>8,638</b>		<b>121,086</b>		
<b>Budget Activity 06: Supply Support Equipment</b>									
<b>Supply Support Equipment</b>									
117	Supply Equipment	A	18,786				18,786	U	
118	First Destination Transportation	A	5,375		500		5,875	U	
119	Special Purpose Supply Systems	A	580,371				580,371	U	
	<b>Total Supply Support Equipment</b>		<b>604,532</b>		<b>500</b>		<b>605,032</b>		

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

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO)		FY 2018 PB Request with CR Adj Base		FY 2018 Total PB Requests* with CR Adj Base		FY 2018 PB Request with CR Adj OCO		S e c -			
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost				
<b>Budget Activity 07: Personnel &amp; Command Support Equip</b>														
<hr/>														
<b>Training Devices</b>														
120	Training Support Equipment	A									U			
121	Training and Education Equipment	A		6,347		25,624		25,624			U			
<b>Command Support Equipment</b>														
122	Command Support Equipment	A		44,666		59,076		59,076		21,650	U			
123	Medical Support Equipment	A		11,959		4,383		4,383			U			
125	Naval MIP Support Equipment	A		1,925		2,030		2,030			U			
126	Operating Forces Support Equipment	A		3,822		7,500		7,500		15,800	U			
127	C4ISR Equipment	A		9,073		4,010		4,010			U			
128	Environmental Support Equipment	A		19,439		23,644		23,644		1,000	U			
129	Physical Security Equipment	A		109,825		101,982		101,982		15,890	U			
130	Enterprise Information Technology	A		88,799		19,789		19,789			U			
<b>Other</b>														
133	Next Generation Enterprise Service	A		84,176		104,584		104,584			U			
999	Classified Programs			11,575		23,707		23,707		2,200	U			
<b>Total Personnel &amp; Command Support Equip</b>				391,606		376,329		376,329		56,540				

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

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018			FY 2018			FY 2018			Remaining Req e	S e		
			Total	PB Requests+ with CR Adj	OCO	Emergency	Requests**	Emergency	Less Enacted Div B	P.L.115-96***	MDDE + Ship Repairs	FY 2018			
			Quantity	Cost	-----	Quantity	Cost	-----	Quantity	Cost	-----	Quantity	Cost	-----	
<b>Budget Activity 07: Personnel &amp; Command Support Equip</b>															
<hr/>															
<b>Training Devices</b>															
120	Training Support Equipment	A											U		
121	Training and Education Equipment	A											U		
<b>Command Support Equipment</b>															
122	Command Support Equipment	A		21,650			7,650					7,650	U		
123	Medical Support Equipment	A											U		
125	Naval MIP Support Equipment	A											U		
126	Operating Forces Support Equipment	A		15,800									U		
127	C4ISR Equipment	A											U		
128	Environmental Support Equipment	A		1,000									U		
129	Physical Security Equipment	A		15,890			3,100					3,100	U		
130	Enterprise Information Technology	A											U		
<b>Other</b>															
133	Next Generation Enterprise Service	A											U		
999	Classified Programs			2,200									U		
<b>Total Personnel &amp; Command Support Equip</b>				56,540			10,750						10,750		

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018		FY 2018		FY 2018	
			Total PB Requests* with CR Adj	Quantity Emergency**	Less Enacted DIV B P.L.115-96***	Quantity Repairs	Remaining Req with CR Adj Base + OCO + Emergency	Cost S e c
-----	-----	-----	-----	-----	-----	-----	-----	-----
<b>Budget Activity 07: Personnel &amp; Command Support Equip</b>								
<b>-----</b>								
<b>Training Devices</b>								
120	Training Support Equipment	A						U
121	Training and Education Equipment	A		25,624			25,624	U
<b>Command Support Equipment</b>								
122	Command Support Equipment	A		88,376			88,376	U
123	Medical Support Equipment	A		4,383			4,383	U
125	Naval MIP Support Equipment	A		2,030			2,030	U
126	Operating Forces Support Equipment	A		23,300			23,300	U
127	C4ISR Equipment	A		4,010			4,010	U
128	Environmental Support Equipment	A		24,644			24,644	U
129	Physical Security Equipment	A		120,972			120,972	U
130	Enterprise Information Technology	A		19,789			19,789	U
<b>Other</b>								
133	Next Generation Enterprise Service	A		104,584			104,584	U
999	Classified Programs			25,907			25,907	U
<b>Total Personnel &amp; Command Support Equip</b>				443,619			443,619	

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Department of the Navy  
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 Exhibit P-1 FY 2019 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019		FY 2019		FY 2019		S e c -
			Base Quantity	Cost	OCO Quantity	Cost	Total Quantity	Cost	
----	-----	-----	-----	-----	-----	-----	-----	-	
<b>Budget Activity 07: Personnel &amp; Command Support Equip</b>									
-----									
Training Devices									
120	Training Support Equipment	A	3,400				3,400	U	
121	Training and Education Equipment	A	24,283				24,283	U	
Command Support Equipment									
122	Command Support Equipment	A	66,681				66,681	U	
123	Medical Support Equipment	A	3,352		6,500		9,852	U	
125	Naval MIP Support Equipment	A	1,984				1,984	U	
126	Operating Forces Support Equipment	A	15,131				15,131	U	
127	C4ISR Equipment	A	3,576				3,576	U	
128	Environmental Support Equipment	A	31,902		2,200		34,102	U	
129	Physical Security Equipment	A	175,436		19,389		194,825	U	
130	Enterprise Information Technology	A	25,393				25,393	U	
Other									
133	Next Generation Enterprise Service	A	96,269				96,269	U	
999	Classified Programs		15,681		4,800		20,481	U	
Total Personnel & Command Support Equip			463,088		32,889		495,977		

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 Total Obligational Authority  
 (Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO)			FY 2018 PB Request with CR Adj Base			FY 2018 Total PB Requests* with CR Adj Base			FY 2018 PB Request with CR Adj OCO		
			Quantity	Cost		Quantity	Cost		Quantity	Cost		Quantity	Cost	
			-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
<b>Budget Activity 08: Spares and Repair Parts</b>														
-----														
Spares and Repair Parts														
134	Spares and Repair Parts	A	199,627			278,565			278,565			1,178 U		
Total Spares and Repair Parts														
				199,627			278,565			278,565		1,178		
<b>Budget Activity 20: Undistributed</b>														
-----														
Undistributed														
135	Adj to Match Continuing Resolution	A			-1,692,780			-1,692,780			31,024 U			
Total Undistributed														
				-1,692,780			-1,692,780			31,024				
Total Other Procurement, Navy														
			6,651,966			6,585,009			6,210,084			251,083		

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 Total Obligational Authority  
 (Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	FY 2018				FY 2018				FY 2018			
		Ident Code	Quantity	Cost	Total	FY 2018 Emergency Requests**	Less Enacted Div B P.L.115-96***	MDDE + Ship Repairs	Remaining Req Emergency	FY 2018 e			
					PB Requests+ with CR Adj OCO						Quantity	Cost	Quantity
		-----	-----	-----	-----	-----	-----	-----	-----	-----	-----		
<b>Budget Activity 08: Spares and Repair Parts</b>													
-----													
Spares and Repair Parts													
134	Spares and Repair Parts	A	1,178	-----	-----	-----	-----	-----	-----	-----	U		
Total Spares and Repair Parts													
-----													
<b>Budget Activity 20: Undistributed</b>													
-----													
Undistributed													
135	Adj to Match Continuing Resolution	A	-476	-----	-----	-----	-----	-----	-----	-----	U		
Total Undistributed													
-----													
Total Other Procurement, Navy													
-----													
251,083                    25,750                    25,750													

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 FY 2019 President's Budget  
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 Total Obligational Authority  
 (Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	FY 2018			FY 2018			FY 2018		
		Total	Less Enacted		P.B Requests*	DIV B		Remaining Req		
		with CR Adj	P.L.115-96***		Base + OCO +	MDDE + Ship		with CR Adj	Base + OCO +	S
Ident	Emergency**	Repairs	Code	Quantity	Cost	Quantity	Cost	e		
-----	-----	-----	-----	-----	-----	-----	-----	-		

Budget Activity 08: Spares and Repair Parts

## Spares and Repair Parts

134 Spares and Repair Parts	A	279,743	-----	-----	279,743	U
Total Spares and Repair Parts		279,743			279,743	

Budget Activity 20: Undistributed

## Undistributed

135 Adj to Match Continuing Resolution	A	-1,719,006	-----	-----	-1,719,006	U
Total Undistributed		-1,719,006			-1,719,006	
Total Other Procurement, Navy		6,461,167			6,461,167	

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 Total Obligational Authority  
 (Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	FY 2019			FY 2019			FY 2019			S e c -
		Ident Code	Base Quantity	Cost	OCO Quantity	Cost	Total Quantity	Cost	Cost		
----	-----	----	-----	----	-----	-----	-----	-----	-----	-----	
<b>Budget Activity 08: Spares and Repair Parts</b>											
-----											
Spares and Repair Parts											
134	Spares and Repair Parts	A	326,838	-----	-----	-----	326,838	U	-----	-----	
Total Spares and Repair Parts											
-----											
326,838											
-----											
Budget Activity 20: Undistributed											
-----											
Undistributed											
135	Adj to Match Continuing Resolution	A	-----	-----	-----	-----	-----	U	-----	-----	
Total Undistributed											
-----											
9,414,355											
-----											
Total Other Procurement, Navy											
187,173											
-----											
9,601,528											

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2	01	01	0140	Hybrid Electric Drive (HED).....	Volume 1 - 15
3	01	02	0200	Surface Combatant HM&E.....	Volume 1 - 21
4	01	06	0670	Other Navigation Equipment.....	Volume 1 - 41
5	01	09	0840	Sub Periscope, Imaging and Supt Equip Prog.....	Volume 1 - 133
6	01	09	0900	DDG Mod.....	Volume 1 - 183
7	01	09	0910	Firefighting Equipment.....	Volume 1 - 261
8	01	09	0925	Command and Control Switchboard.....	Volume 1 - 281
9	01	09	0933	LHA/LHD Midlife.....	Volume 1 - 289
10	01	09	0935	Pollution Control Equipment.....	Volume 1 - 315
11	01	09	0941	Submarine Support Equipment.....	Volume 1 - 333
12	01	09	0942	Virginia Class Support Equipment.....	Volume 1 - 343
13	01	09	0944	LCS Class Support Equipment.....	Volume 1 - 361
14	01	09	0945	Submarine Batteries.....	Volume 1 - 371
15	01	09	0946	LPD Class Support Equipment.....	Volume 1 - 377
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18	01	09	0955	Deep Subm Sys Proj (DSSP) Equip.....	Volume 1 - 449
19	01	09	0960	CG Modernization.....	Volume 1 - 453
20	01	09	0970	LCAC.....	Volume 1 - 493
21	01	09	0977	Underwater EOD Programs.....	Volume 1 - 497
22	01	09	0981	Items less than \$5 Million.....	Volume 1 - 523
23	01	09	0989	Chemical Warfare Detectors.....	Volume 1 - 573
24	01	09	0990	Submarine Life Support System.....	Volume 1 - 603
25	01	10	1010	Reactor Power Units.....	Volume 1 - 609
26	01	10	1020	Reactor Components.....	Volume 1 - 613
27	01	11	1130	Diving and Salvage Equipment.....	Volume 1 - 617
28	01	12	1210	Standard Boats.....	Volume 1 - 635
29	01	14	1445	Operating Forces IPE.....	Volume 1 - 649
30	01	15	1480	Nuclear Alterations.....	Volume 1 - 685
31	01	15	1600	LCS Common Mission Modules Equipment.....	Volume 1 - 689
32	01	15	1601	LCS MCM Mission Modules.....	Volume 1 - 699
33	01	15	1602	LCS ASW Mission Modules.....	Volume 1 - 711
34	01	15	1603	LCS SUW Mission Modules.....	Volume 1 - 723

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39	02	02	2150	SSN Acoustic Equipment.....	Volume 2 - 39
40	02	02	2176	Undersea Warfare Support Equipment.....	Volume 2 - 85
41	02	03	2210	Submarine Acoustic Warfare System.....	Volume 2 - 93
42	02	03	2213	Surface Ship Torpedo Def (SSTD).....	Volume 2 - 121
43	02	03	2225	Fixed Surveillance System.....	Volume 2 - 129
44	02	03	2237	SURTASS.....	Volume 2 - 133
45	02	04	2312	AN/SLQ-32.....	Volume 2 - 157
46	02	05	2360	Shipboard IW Exploit.....	Volume 2 - 193
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49	02	07	2611	Naval Tact Cmd Supt Sys (NTCSS).....	Volume 2 - 253
50	02	07	2614	Adv Tact Data Link Sys (ATDLS).....	Volume 2 - 263
51	02	07	2618	Navy Command and Control System (NCCS).....	Volume 2 - 279
52	02	07	2622	Minesweeping System Replacement.....	Volume 2 - 287
53	02	07	2624	Shallow Water MCM.....	Volume 2 - 301
54	02	07	2657	NAVSTAR GPS Receivers (Space).....	Volume 2 - 311
55	02	07	2666	American Forces Radio and TV Service (AFRTS).....	Volume 2 - 323
56	02	07	2676	Strategic Platform Support Equip.....	Volume 2 - 329
57	02	09	2820	Ashore ATC Equipment.....	Volume 2 - 333
58	02	09	2830	Afloat ATC Equipment.....	Volume 2 - 389
59	02	09	2851	ID Systems.....	Volume 2 - 427
60	02	09	2867	Joint Precision Approach and Landing System(JPALS).....	Volume 2 - 465
61	02	09	2876	Naval Mission Planning Systems.....	Volume 2 - 471
62	02	10	2906	Tactical/Mobile C4I Systems.....	Volume 2 - 477
63	02	10	2914	Distributed Common Ground System-Navy (DCGS-N).....	Volume 2 - 501
64	02	10	2915	CANES.....	Volume 2 - 523
65	02	10	2920	RADIAC.....	Volume 2 - 537

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69	02	10	2960	Integ Combat System Test Facility.....	Volume 2 - 573
70	02	10	2970	EMI Control Instrumentation.....	Volume 2 - 577
71	02	10	2980	Items less than \$5 Million.....	Volume 2 - 581
72	02	11	3010	Shipboard Tactical Comms.....	Volume 2 - 611
73	02	11	3050	Ship Communications Automation.....	Volume 2 - 621
74	02	11	3057	Communications Items under \$5M.....	Volume 2 - 645
75	02	12	3107	Submarine Broadcast Support.....	Volume 2 - 651
76	02	12	3130	Submarine Communication Equipment.....	Volume 2 - 673
77	02	13	3215	Satellite Communications Systems.....	Volume 2 - 709
78	02	13	3216	Navy Multiband Terminal (NMT).....	Volume 2 - 735
79	02	14	3302	Joint Communications Support Element (JCSE).....	Volume 2 - 757
80	02	15	3415	Info Systems Security Program (ISSP).....	Volume 2 - 761
81	02	15	3417	MIO Intel Exploitation Team.....	Volume 2 - 801
82	02	16	3501	Cryptologic Communications Equip.....	Volume 2 - 805
86	02	17	3620	Coast Guard Equipment.....	Volume 2 - 817

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89	03	03	4204	Weapons Range Support Equipment.....	Volume 3 - 13
90	03	03	4213	Aircraft Support Equipment.....	Volume 3 - 23
91	03	03	4217	Advanced Arresting Gear (AAG).....	Volume 3 - 67
92	03	03	4226	Meteorological Equipment.....	Volume 3 - 77
93	03	03	4242	DCRS/DPL.....	Volume 3 - 85
94	03	03	4248	Legacy Airborne MCM.....	Volume 3 - 89
95	03	03	4250	Common Control System.....	Volume 3 - 103
96	03	03	4268	Aviation Support Equipment.....	Volume 3 - 107
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100	04	03	5253	Tomahawk Support Equipment.....	Volume 4 - 57
101	04	04	5358	Strategic Missile Systems Equip.....	Volume 4 - 63
102	04	05	5420	SSN Combat Control Systems.....	Volume 4 - 87
103	04	05	5429	ASW Support Equipment.....	Volume 4 - 119
104	04	06	5509	Explosive Ordnance Disposal Equip.....	Volume 4 - 131
105	04	06	5543	Items Less Than \$5 Million.....	Volume 4 - 143
106	04	07	5661	Submarine Training Device Mods.....	Volume 4 - 149
107	04	07	5664	Surface Training Equipment.....	Volume 4 - 159

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109	05	01	6007	General Purpose Trucks.....	Volume 5 - 13
110	05	01	6024	Construction & Maint Equip.....	Volume 5 - 21
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113	05	01	6033	Amphibious Equipment.....	Volume 5 - 45
114	05	01	6058	Pollution Control Equipment.....	Volume 5 - 53
115	05	01	6060	Items under \$5 million.....	Volume 5 - 57
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123	07	02	8109	Medical Support Equipment.....	Volume 5 - 159
125	07	02	8114	Naval MIP Support Equipment.....	Volume 5 - 169
126	07	02	8118	Operating Forces Supt Equip.....	Volume 5 - 175
127	07	02	8120	C4ISR Equipment.....	Volume 5 - 181
128	07	02	8126	Environmental Support Equipment.....	Volume 5 - 185
129	07	02	8128	Physical Security Equipment.....	Volume 5 - 197
130	07	02	8161	Enterprise Information Technology.....	Volume 5 - 207
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AN/SQQ-89 Surf ASW Cmbt Sys	2136	38	02	02.....	Volume 2 - 11
ASW Support Equipment	5429	103	04	05.....	Volume 4 - 119
Adv Tact Data Link Sys (ATDLS)	2614	50	02	07.....	Volume 2 - 263
Advanced Arresting Gear (AAG)	4217	91	03	03.....	Volume 3 - 67
Afloat ATC Equipment	2830	58	02	09.....	Volume 2 - 389
Aircraft Support Equipment	4213	90	03	03.....	Volume 3 - 23
American Forces Radio and TV Service (AFRTS)	2666	55	02	07.....	Volume 2 - 323
Amphibious Equipment	6033	113	05	01.....	Volume 5 - 45
Ashore ATC Equipment	2820	57	02	09.....	Volume 2 - 333
Automatic Identification System (AIS)	2361	47	02	05.....	Volume 2 - 221
Aviation Support Equipment	4268	96	03	03.....	Volume 3 - 107
C4ISR Equipment	8120	127	07	02.....	Volume 5 - 181
CANES	2915	64	02	10.....	Volume 2 - 523
CANES Intell	2925	66	02	10.....	Volume 2 - 549
CG Modernization	0960	19	01	09.....	Volume 1 - 453
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Common Control System	4250	95	03	03.....	Volume 3 - 103
Communications Items under \$5M	3057	74	02	11.....	Volume 2 - 645
Construction & Maint Equip	6024	110	05	01.....	Volume 5 - 21
Cooperative Engagement Capability	2606	48	02	07.....	Volume 2 - 227
Cryptologic Communications Equip	3501	82	02	16.....	Volume 2 - 805
DCRS/DPL	4242	93	03	03.....	Volume 3 - 85
DDG 1000 Class Support Equipment	0947	16	01	09.....	Volume 1 - 431
DDG Mod	0900	6	01	09.....	Volume 1 - 183
Deep Subm Sys Proj (DSSP) Equip	0955	18	01	09.....	Volume 1 - 449
Distributed Common Ground System-Navy (DCGS-N)	2914	63	02	10.....	Volume 2 - 501
Diving and Salvage Equipment	1130	27	01	11.....	Volume 1 - 617
EMI Control Instrumentation	2970	70	02	10.....	Volume 2 - 577
Enterprise Information Technology	8161	130	07	02.....	Volume 5 - 207
Environmental Support Equipment	8126	128	07	02.....	Volume 5 - 185
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Fixed Surveillance System	2225	43	02	03.....	Volume 2 - 129
Gen Purp Elec Test Equip (GPETE)	2940	67	02	10.....	Volume 2 - 561
General Purpose Trucks	6007	109	05	01.....	Volume 5 - 13
Hybrid Electric Drive (HED)	0140	2	01	01.....	Volume 1 - 15
ID Systems	2851	59	02	09.....	Volume 2 - 427
Info Systems Security Program (ISSP)	3415	80	02	15.....	Volume 2 - 761
Integ Combat System Test Facility	2960	69	02	10.....	Volume 2 - 573
Items Less Than \$5 Million	5543	105	04	06.....	Volume 4 - 143
Items less than \$5 Million	0981	22	01	09.....	Volume 1 - 523
Items less than \$5 Million	2980	71	02	10.....	Volume 2 - 581
Items under \$5 million	6060	115	05	01.....	Volume 5 - 57
Joint Communications Support Element (JCSE)	3302	79	02	14.....	Volume 2 - 757
Joint Precision Approach and Landing System(JPALS)	2867	60	02	09.....	Volume 2 - 465
LCAC	0970	20	01	09.....	Volume 1 - 493
LCS ASW Mission Modules	1602	33	01	15.....	Volume 1 - 711
LCS Class Support Equipment	0944	13	01	09.....	Volume 1 - 361
LCS Common Mission Modules Equipment	1600	31	01	15.....	Volume 1 - 689
LCS In-Service Modernization	1604	35	01	15.....	Volume 1 - 733
LCS MCM Mission Modules	1601	32	01	15.....	Volume 1 - 699

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LPD Class Support Equipment	0946	15	01	09.....	Volume 1 - 377
LSD Midlife & Modernization	1610	36	01	16.....	Volume 1 - 741
Legacy Airborne MCM	4248	94	03	03.....	Volume 3 - 89
MIO Intel Exploitation Team	3417	81	02	15.....	Volume 2 - 801
Medical Support Equipment	8109	123	07	02.....	Volume 5 - 159
Meteorological Equipment	4226	92	03	03.....	Volume 3 - 77
Minesweeping System Replacement	2622	52	02	07.....	Volume 2 - 287
NAVSTAR GPS Receivers (Space)	2657	54	02	07.....	Volume 2 - 311
Naval MIP Support Equipment	8114	125	07	02.....	Volume 5 - 169
Naval Mission Planning Systems	2876	61	02	09.....	Volume 2 - 471
Naval Tact Cmd Supt Sys (NTCSS)	2611	49	02	07.....	Volume 2 - 253
Navy Command and Control System (NCCS)	2618	51	02	07.....	Volume 2 - 279
Navy Multiband Terminal (NMT)	3216	78	02	13.....	Volume 2 - 735
Network Tactical Common Data Link (CDL)	2950	68	02	10.....	Volume 2 - 567
Next Generation Enterprise Service	8164	133	07	05.....	Volume 5 - 223
Nuclear Alterations	1480	30	01	15.....	Volume 1 - 685
Operating Forces IPE	1445	29	01	14.....	Volume 1 - 649
Operating Forces Supt Equip	8118	126	07	02.....	Volume 5 - 175

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Other Navigation Equipment	0670	4	01	06.....	Volume 1 - 41
Passenger Carrying Vehicles	6003	108	05	01.....	Volume 5 - 1
Physical Security Equipment	8128	129	07	02.....	Volume 5 - 197
Physical Security Vehicles	6075	116	05	01.....	Volume 5 - 69
Pollution Control Equipment	0935	10	01	09.....	Volume 1 - 315
Pollution Control Equipment	6058	114	05	01.....	Volume 5 - 53
RADIAC	2920	65	02	10.....	Volume 2 - 537
Reactor Components	1020	26	01	10.....	Volume 1 - 613
Reactor Power Units	1010	25	01	10.....	Volume 1 - 609
SPQ-9B Radar	2026	37	02	02.....	Volume 2 - 1
SSN Acoustic Equipment	2150	39	02	02.....	Volume 2 - 39
SSN Combat Control Systems	5420	102	04	05.....	Volume 4 - 87
SURTASS	2237	44	02	03.....	Volume 2 - 133
Satellite Communications Systems	3215	77	02	13.....	Volume 2 - 709
Shallow Water MCM	2624	53	02	07.....	Volume 2 - 301
Ship Communications Automation	3050	73	02	11.....	Volume 2 - 621
Ship Gun Systems Equipment	5111	98	04	02.....	Volume 4 - 1
Ship Missile Support Equipment	5231	99	04	03.....	Volume 4 - 7
Shipboard IW Exploit	2360	46	02	05.....	Volume 2 - 193
Shipboard Tactical Comms	3010	72	02	11.....	Volume 2 - 611

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Sonobuoys - All Types	4048	88	03	01.....	Volume 3 - 1
Spares and Repair Parts	9020	134	08	01.....	Volume 5 - 231
Special Purpose Supply Systems	7069	119	06	01.....	Volume 5 - 89
Standard Boats	1210	28	01	12.....	Volume 1 - 635
Strategic Missile Systems Equip	5358	101	04	04.....	Volume 4 - 63
Strategic Platform Support Equip	0950	17	01	09.....	Volume 1 - 439
Strategic Platform Support Equip	2676	56	02	07.....	Volume 2 - 329
Sub Periscope, Imaging and Supt Equip Prog	0840	5	01	09.....	Volume 1 - 133
Submarine Acoustic Warfare System	2210	41	02	03.....	Volume 2 - 93
Submarine Batteries	0945	14	01	09.....	Volume 1 - 371
Submarine Broadcast Support	3107	75	02	12.....	Volume 2 - 651
Submarine Communication Equipment	3130	76	02	12.....	Volume 2 - 673
Submarine Life Support System	0990	24	01	09.....	Volume 1 - 603
Submarine Support Equipment	0941	11	01	09.....	Volume 1 - 333
Submarine Training Device Mods	5661	106	04	07.....	Volume 4 - 149
Supply Equipment	7025	117	06	01.....	Volume 5 - 73
Surface Combatant HM&E	0200	3	01	02.....	Volume 1 - 21
Surface Power Equipment	0131	1	01	01.....	Volume 1 - 1
Surface Ship Torpedo Def (SSTD)	2213	42	02	03.....	Volume 2 - 121
Surface Training Equipment	5664	107	04	07.....	Volume 4 - 159

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Line Item Title	Line Item Number	Line #	BA	BSA	Page
Tactical Vehicles	6028	112	05	01.....	Volume 5 - 41
Tactical/Mobile C4I Systems	2906	62	02	10.....	Volume 2 - 477
Tomahawk Support Equipment	5253	100	04	03.....	Volume 4 - 57
Training Support Equipment	8081	120	07	01.....	Volume 5 - 93
Training and Education Equipment	8101	121	07	01.....	Volume 5 - 113
UMCS-Unman Carrier Aviation(UCA)Mission Cntrl Stn	4269	97	03	03.....	Volume 3 - 131
Undersea Warfare Support Equipment	2176	40	02	02.....	Volume 2 - 85
Underwater EOD Programs	0977	21	01	09.....	Volume 1 - 497
Virginia Class Support Equipment	0942	12	01	09.....	Volume 1 - 343
Weapons Range Support Equipment	4204	89	03	03.....	Volume 3 - 13

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<b>Exhibit P-40, Budget Line Item Justification: PB 2019 Navy</b>										<b>Date:</b> February 2018			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 1: Sonobuoys										<b>P-1 Line Item Number / Title:</b> 4048 / Sonobuoys - All Types			
<b>ID Code (A=Service Ready, B=Not Service Ready): A</b>										<b>Program Elements for Code B Items: N/A</b>			
<b>Line Item MDAP/MAIS Code: N/A</b>													
<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>	
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-	
Gross/Weapon System Cost (\$ in Millions)	1,536.344	158.588	173.616	177.891	21.156	199.047	177.906	181.402	188.877	192.752	Continuing	Continuing	
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-	
Net Procurement (P-1) (\$ in Millions)	1,536.344	158.588	173.616	177.891	21.156	199.047	177.906	181.402	188.877	192.752	Continuing	Continuing	
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Total Obligation Authority (\$ in Millions)</b>	<b>1,536.344</b>	<b>158.588</b>	<b>173.616</b>	<b>177.891</b>	<b>21.156</b>	<b>199.047</b>	<b>177.906</b>	<b>181.402</b>	<b>188.877</b>	<b>192.752</b>	<b>Continuing</b>	<b>Continuing</b>	
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>													
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-	
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-	
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Description:</b>													
The FY 2019 funding request was reduced by \$0.166 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.													
Sonobuoys are air launched expendable, electro-mechanical sensors designed to relay underwater sounds associated with ships and submarines to remote processors. Sonobuoys by type are procured annually to maintain the OPNAV Naval Munitions Requirements Process (NMRP). The NMRP includes annual usage requirements for squadron training, readiness and current operations. Sonobuoys currently support the P-3, P-8 and H-60 platforms.													
[P5 / Sonobuoys, All Types]: Any increase to sonobuoy unit costs that is greater than inflation is a result of either economies of scale or sonobuoy capability enhancements. See P5 footnotes for details.													
[P5 / AN/SSQ-36 (BT) QZ001]: The AN/SSQ-36 Bathymeterograph (BT) is a bathymeterograph sonobuoy used to provide a vertical temperature profile of the ocean with respect to depth. The data is transmitted to aircraft to assist in the selection of hydrophone depths and tactics for localizing and tracking submarines and long-range forecasts of acoustic conditions in the ocean.													
[P5 / AN/SSQ-53 (DIFAR) QZ002]: The AN/SSQ-53 Directional Frequency Analysis and Recording (DIFAR) is a passive directional sonobuoy which provides acoustic target localization.													
[P5 / AN/SSQ-62 (DICASS) QZ004]: The AN/SSQ-62 Directional Command Active Sonobuoy System (DICASS) is a commandable, active acoustic directional sonobuoy that provides target bearing and range information.													
[P5 / AN/SSQ-101 (Multistatic Coherent Receiver) QZ006]: The AN/SSQ-101 Air Deployable Active Receiver (ADAR) is a commandable passive acoustic sonobuoy with a horizontal planar array. It is part of the family of multi-static active sensor systems.													
[P5 / AN/SSQ-125 (Multistatic Coherent Source) QZ010]: The AN/SSQ-125 Multistatic Active Coherent (MAC) Source is a commandable coherent active search sensor. It is part of the family of multi-static active sensor systems.													

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2019 Navy		<b>Date:</b> February 2018
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 1: Sonobuoys		<b>P-1 Line Item Number / Title:</b> 4048 / Sonobuoys - All Types
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A [P5 / SUS MK84 QZ012]: The MK84 Signal Underwater Sound (SUS) device is an expendable, non-explosive, electro-acoustic device which transmits acoustic tones. The MK84 SUS is used for training and exercise signaling to submarines.		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy							Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 1: Sonobuoys				P-1 Line Item Number / Title: 4048 / Sonobuoys - All Types						
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total 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 / Sonobuoys, All Types	P-5a, P-21			- / 1,536.344	- / 158.588	- / 173.616	- / 177.891	- / 21.156	- / 199.047
P-40	Total Gross/Weapon System Cost				- / 1,536.344	- / 158.588	- / 173.616	- / 177.891	- / 21.156	- / 199.047

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

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

**Justification:**

The level of sonobuoy procurement funding enables several facets of the Navy's overall ASW mission readiness. The Air ASW program buys to budget based on actual fleet usage, fleet forecasted usage and best negotiated pricing across all sonobuoy types. This funding profile does not meet minimum inventory requirements for the entire family of air delivered acoustic sensors within the Future Years Defense Program (FYDP). This is the result of an increase in actual expenditures, budget constraints and an increase in the Total Munitions Requirement (TMR). The Air ASW community is migrating from a primarily passive to a more capable Multi-static Active Coherent (MAC) wide area search Concept of Operations (CONOPS). While the transition to MAC requires the procurement of more sophisticated sonobuoys, the resulting wide area search capability is more efficient and effective. The MAC capability provides the foundational Air ASW acoustic search capability for the P-8 Poseidon, and increasing the inventory of MAC sonobuoys is required to support the combatant commander's ASW mission execution requirements. This funding profile allows the Navy to prioritize and meet current operational forward presence requirements while building fleet commander deployment readiness levels in the Anti-Submarine Warfare (ASW) mission area.

**OCO:**

FY 2019 Overseas Contingency Operations (OCO) funding is required for the following Sonobuoys in order to replenish inventory that has been expended in theater: AN/SSQ-36, AN/SSQ-53, AN/SSQ-62, AN/SSQ-101, and AN/SSQ-125. These operations were in support of Operation Inherent Resolve (OIR) and Operation Freedom Sentinel (OFS).

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<b>Exhibit P-5, Cost Analysis: PB 2019 Navy</b>													<b>Date: February 2018</b>						
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 1				<b>P-1 Line Item Number / Title:</b> 4048 / Sonobuoys - All Types									<b>Item Number / Title [DODIC]:</b> 1 / Sonobuoys, All Types						
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :													<b>MDAP/MAIS Code:</b>						
<b>Resource Summary</b>				<b>Prior Years</b>			<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>				
Procurement Quantity ( <i>Units in Each</i> )				-			-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				1,536.344			158.588		173.616		177.891		21.156		199.047				
Less PY Advance Procurement (\$ in Millions)				-			-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				1,536.344			158.588		173.616		177.891		21.156		199.047				
Plus CY Advance Procurement (\$ in Millions)				-			-		-		-		-		-				
<b>Total Obligation Authority</b> (\$ in Millions)				<b>1,536.344</b>			<b>158.588</b>		<b>173.616</b>		<b>177.891</b>		<b>21.156</b>		<b>199.047</b>				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																			
Initial Spares (\$ in Millions)				-			-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in Dollars)				-			-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																			
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2017</b>			<b>FY 2018</b>			<b>FY 2019 Base</b>			<b>FY 2019 OCO</b>			<b>FY 2019 Total</b>			
	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 - Sonobuoys (Common) Cost																			
Recurring Cost																			
1.1.1) AN/SSQ-36 (BT) QZ001 <sup>(†)</sup> <sup>(1)</sup>	615.94	19,424	11.964	623.84	4,944	3.084	636.30	2,287	1.455	746.55	1,566	1.169	746.55	494	0.369	746.55	2,060	1.538	
1.1.2) AN/SSQ-53 (DIFAR) QZ002 <sup>(†)</sup> <sup>(2)</sup>	759.85	507,462	385.595	750.34	88,365	66.304	763.10	80,117	61.137	877.23	46,192	40.521	877.23	19,205	16.847	877.23	65,397	57.368	
1.1.3) AN/SSQ-62 (DICASS) QZ004 <sup>(†)</sup> <sup>(3)</sup>	1,652.87	52,816	87.298	1,739.86	13,514	23.512	1,774.65	12,727	22.586	1,933.06	8,005	15.474	1,933.06	1,265	2.445	1,933.06	9,270	17.919	
<i>Subtotal: Recurring Cost</i>	-	-	<b>484.857</b>	-	-	<b>92.900</b>	-	-	<b>85.178</b>	-	-	<b>57.164</b>	-	-	<b>19.661</b>	-	-	<b>76.825</b>	
<i>Subtotal: Hardware - Sonobuoys (Common) Cost</i>	-	-	<b>484.857</b>	-	-	<b>92.900</b>	-	-	<b>85.178</b>	-	-	<b>57.164</b>	-	-	<b>19.661</b>	-	-	<b>76.825</b>	
Hardware - Sonobuoys (Multistatic) Cost																			
Recurring Cost																			
2.1.1) AN/SSQ-101 (Multistatic Coherent Receiver) QZ006 <sup>(†)</sup>	3,819.68	32,465	124.006	3,576.56	8,662	30.980	3,647.85	9,976	36.391	3,600.71	11,267	40.569	3,600.71	63	0.227	3,600.71	11,330	40.796	
2.1.2) AN/SSQ-125 (Multistatic Coherent Source) QZ010 <sup>(†)</sup> <sup>(4)</sup>	4,484.90	36,313	162.860	5,044.20	5,150	25.978	5,144.83	8,002	41.169	6,504.60	11,139	72.455	6,504.60	62	0.403	6,504.60	11,201	72.858	
<i>Subtotal: Recurring Cost</i>	-	-	<b>286.866</b>	-	-	<b>56.958</b>	-	-	<b>77.560</b>	-	-	<b>113.024</b>	-	-	<b>0.630</b>	-	-	<b>113.654</b>	
<i>Subtotal: Hardware - Sonobuoys (Multistatic) Cost</i>	-	-	<b>286.866</b>	-	-	<b>56.958</b>	-	-	<b>77.560</b>	-	-	<b>113.024</b>	-	-	<b>0.630</b>	-	-	<b>113.654</b>	
Hardware - Sonobuoys (Other) Cost																			
Recurring Cost																			

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy												<b>Date:</b> February 2018											
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 1				<b>P-1 Line Item Number / Title:</b> 4048 / Sonobuoys - All Types								<b>Item Number / Title [DODIC]:</b> 1 / Sonobuoys, All Types											
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :												<b>MDAP/MAIS Code:</b>											
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																							
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2017</b>			<b>FY 2018</b>			<b>FY 2019 Base</b>			<b>FY 2019 OCO</b>			<b>FY 2019 Total</b>							
	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)					
3.1.1) SUS MK84 QZ012 <sup>(t)</sup>	378.33	10,150	3.840	-	-	-	392.10	5,150	2.019	-	-	-	-	-	-	-	-						
<i>Subtotal: Recurring Cost</i>	-	-	<b>3.840</b>	-	-	-	-	-	<b>2.019</b>	-	-	-	-	-	-	-	-						
<i>Subtotal: Hardware - Sonobuoys (Other) Cost</i>	-	-	<b>3.840</b>	-	-	-	-	-	<b>2.019</b>	-	-	-	-	-	-	-	-						
Hardware - Acceptance Testing Cost																							
Recurring Cost																							
4.1.1) Common QZ860	-	-	17.460	-	-	2.922	-	-	2.505	-	-	1.408	-	-	0.451	-	-	1.859					
4.1.2) Multistatic QZ860 <sup>(5)</sup>	-	-	9.665	-	-	1.776	-	-	2.272	-	-	2.794	-	-	0.016	-	-	2.810					
4.1.3) Other QZ860	-	-	0.093	-	-	-	-	-	0.058	-	-	-	-	-	-	-	-	-					
<i>Subtotal: Recurring Cost</i>	-	-	<b>27.218</b>	-	-	<b>4.698</b>	-	-	<b>4.835</b>	-	-	<b>4.202</b>	-	-	<b>0.467</b>	-	-	<b>4.669</b>					
<i>Subtotal: Hardware - Acceptance Testing Cost</i>	-	-	<b>27.218</b>	-	-	<b>4.698</b>	-	-	<b>4.835</b>	-	-	<b>4.202</b>	-	-	<b>0.467</b>	-	-	<b>4.669</b>					
Hardware - Prior Years Cost																							
Non Recurring Cost																							
5.1.1) Prior Years	-	-	708.043	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
<i>Subtotal: Non Recurring Cost</i>	-	-	<b>708.043</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
<i>Subtotal: Hardware - Prior Years Cost</i>	-	-	<b>708.043</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Support - Production Engineering Cost																							
6.1) Common QZ830	-	-	16.867	-	-	2.517	-	-	2.044	-	-	1.171	-	-	0.384	-	-	1.555					
6.2) Multistatic QZ830 <sup>(6)</sup>	-	-	8.574	-	-	1.515	-	-	1.931	-	-	2.330	-	-	0.014	-	-	2.344					
6.3) Other QZ830	-	-	0.079	-	-	-	-	-	0.049	-	-	-	-	-	-	-	-	-					
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	<b>25.520</b>	-	-	<b>4.032</b>	-	-	<b>4.024</b>	-	-	<b>3.501</b>	-	-	<b>0.398</b>	-	-	<b>3.899</b>					
<b>Gross/Weapon System Cost</b>	-	-	<b>1,536.344</b>	-	-	<b>158.588</b>	-	-	<b>173.616</b>	-	-	<b>177.891</b>	-	-	<b>21.156</b>	-	-	<b>199.047</b>					
<b>Remarks:</b>																							
[Hardware] Actual quantities between the various sonobuoy types may adjust for Fleet requirements based on the OPNAV Naval Munitions Requirements Process (NMRP). Hardware funds may be realigned to support necessary Engineering Investigations and production Engineering Change Proposals. Any year over year increase to sonobuoy unit costs is a result of either economies of scale or sonobuoy capability enhancements.																							
[Hardware] Sonobuoys under prior subheads are not included in Prior Years amount.																							

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy		<b>Date:</b> February 2018
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 1	<b>P-1 Line Item Number / Title:</b> 4048 / Sonobuoys - All Types	<b>Item Number / Title [DODIC]:</b> 1 / Sonobuoys, All Types
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : (†) indicates the presence of a P-5a	<b>MDAP/MAIS Code:</b>	
<b>Footnotes:</b> (1) AN/SSQ-36 unit cost increase from FY18 to FY19 is due to a quantity decrease. (2) AN/SSQ-53 unit cost increase from FY18 to FY19 is due the Calibrated Omni and Electronic Function Select (EFS) obsolescence issues in conjunction with a quantity decrease. (3) AN/SSQ-62 unit cost increase from FY18 to FY19 is due to a quantity decrease. (4) AN/SSQ-125 unit cost increase from FY18 to FY19 is due to incorporating increased capabilities into the Multi-static Active Coherent (MAC) source sonobuoy (AN/SSQ-125 to AN/SSQ-125A). (5) Multistatic acceptance testing cost increase from FY18 to FY19 is due to the associated multistatic hardware (AN/SSQ-125 and AN/SSQ-101) quantity increases. The Air ASW community is migrating from a primarily passive to a more capable Multi-static Active Coherent (MAC) wide area search Concept of Operations (CONOPS). (6) Multistatic production engineering cost increase from FY18 to FY19 is due to the associated multistatic hardware (AN/SSQ-125 and AN/SSQ-101) quantity increases. The Air ASW community is migrating from a primarily passive to a more capable Multi-static Active Coherent (MAC) wide area search Concept of Operations (CONOPS).		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 1			P-1 Line Item Number / Title: 4048 / Sonobuoys - All Types					Item Number / Title [DODIC]: 1 / Sonobuoys, All Types				
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) AN/SSQ-36 (BT) QZ001		2016	ERAPSCO / Columbia City IN	C / FFP	NAVAIR	Nov 2015	Nov 2016	5,818	591.71	Y		Apr 2013
1.1.1) AN/SSQ-36 (BT) QZ001		2017	ERAPSCO / Columbia City IN	C / FFP	NAVAIR	Nov 2016	Nov 2017	4,944	623.84	Y		Apr 2013
1.1.1) AN/SSQ-36 (BT) QZ001		2018	ERAPSCO / Columbia City IN	C / FFP	NAVAIR	Oct 2017	Oct 2018	2,287	636.30	Y		Apr 2013
1.1.1) AN/SSQ-36 (BT) QZ001		2019	ERAPSCO / Columbia City IN	TBD	NAVAIR	Dec 2018	Dec 2019	1,566	746.55	Y		Aug 2017
1.1.1) AN/SSQ-36 (BT) QZ001	✓	2019	ERAPSCO / Columbia City IN	TBD	NAVAIR	Dec 2018	Dec 2019	494	746.55	Y		Aug 2017
1.1.2) AN/SSQ-53 (DIFAR) QZ002 <sup>(†)</sup>		2016	ERAPSCO / Columbia City IN	C / FFP	NAVAIR	Feb 2016	Feb 2017	134,874	777.92	Y		Apr 2013
1.1.2) AN/SSQ-53 (DIFAR) QZ002 <sup>(†)</sup>		2017	ERAPSCO / Columbia City IN	C / FFP	NAVAIR	Apr 2017	Apr 2018	88,365	750.34	Y		Apr 2013
1.1.2) AN/SSQ-53 (DIFAR) QZ002 <sup>(†)</sup>		2018	ERAPSCO / Columbia City IN	C / FFP	NAVAIR	Feb 2018	Feb 2019	80,117	763.10	Y		Apr 2013
1.1.2) AN/SSQ-53 (DIFAR) QZ002 <sup>(†)</sup>		2019	ERAPSCO / Columbia City IN	TBD	NAVAIR	Dec 2018	Dec 2019	46,192	877.23	Y		Aug 2017
1.1.2) AN/SSQ-53 (DIFAR) QZ002 <sup>(†)</sup>	✓	2019	ERAPSCO / Columbia City IN	TBD	NAVAIR	Dec 2018	Dec 2019	19,205	877.23	Y		Aug 2017
1.1.3) AN/SSQ-62 (DICASS) QZ004 <sup>(†)</sup>		2016	ERAPSCO / Columbia City IN	C / FFP	NAVAIR	Feb 2016	Feb 2017	9,229	1,818.57	Y		Apr 2013
1.1.3) AN/SSQ-62 (DICASS) QZ004 <sup>(†)</sup>		2017	ERAPSCO / Columbia City IN	C / FFP	NAVAIR	Nov 2016	Nov 2017	13,514	1,739.86	Y		Apr 2013
1.1.3) AN/SSQ-62 (DICASS) QZ004 <sup>(†)</sup>		2018	ERAPSCO / Columbia City IN	C / FFP	NAVAIR	Dec 2017	Dec 2018	12,727	1,774.65	Y		Apr 2013
1.1.3) AN/SSQ-62 (DICASS) QZ004 <sup>(†)</sup>		2019	ERAPSCO / Columbia City IN	TBD	NAVAIR	Dec 2018	Dec 2019	8,005	1,933.06	Y		Aug 2017
1.1.3) AN/SSQ-62 (DICASS) QZ004 <sup>(†)</sup>	✓	2019	ERAPSCO / Columbia City IN	TBD	NAVAIR	Dec 2018	Dec 2019	1,265	1,933.06	Y		Aug 2017
2.1.1) AN/SSQ-101 (Multistatic Coherent Receiver) QZ006 <sup>(†)</sup>		2016	ERAPSCO / Columbia City IN	C / FFP	NAVAIR	Feb 2016	Feb 2017	9,190	3,549.20	Y		Apr 2013
2.1.1) AN/SSQ-101 (Multistatic Coherent Receiver) QZ006 <sup>(†)</sup>		2017	ERAPSCO / Columbia City IN	C / FFP	NAVAIR	Jan 2017	Jan 2018	8,662	3,576.56	Y		Apr 2013
2.1.1) AN/SSQ-101 (Multistatic Coherent Receiver) QZ006 <sup>(†)</sup>		2018	ERAPSCO / Columbia City IN	C / FFP	NAVAIR	Feb 2018	Feb 2019	9,976	3,647.85	Y		Apr 2013
2.1.1) AN/SSQ-101 (Multistatic Coherent Receiver) QZ006 <sup>(†)</sup>		2019	ERAPSCO / Columbia City IN	TBD	NAVAIR	Dec 2018	Dec 2019	11,267	3,600.71	Y		Aug 2017
2.1.1) AN/SSQ-101 (Multistatic Coherent Receiver) QZ006 <sup>(†)</sup>	✓	2019	ERAPSCO / Columbia City IN	TBD	NAVAIR	Dec 2018	Dec 2019	63	3,600.71	Y		Aug 2017

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<b>Exhibit P-5a, Procurement History and Planning: PB 2019 Navy</b>								<b>Date:</b> February 2018			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 1			<b>P-1 Line Item Number / Title:</b> 4048 / Sonobuoys - All Types					<b>Item Number / Title [DODIC]:</b> 1 / Sonobuoys, All Types			

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
2.1.2) AN/SSQ-125 (Multistatic Coherent Source) QZ010 <sup>(t)</sup>		2017	ERAPSCO / Columbia City IN	C / FFP	NAVAIR	Jan 2017	Jan 2018	5,150	5,044.20	Y		Apr 2013
2.1.2) AN/SSQ-125 (Multistatic Coherent Source) QZ010 <sup>(t)</sup>		2018	ERAPSCO / Columbia City IN	C / FFP	NAVAIR	Feb 2018	Feb 2019	8,002	5,144.83	Y		Apr 2013
2.1.2) AN/SSQ-125 (Multistatic Coherent Source) QZ010 <sup>(t)</sup>		2019	Not Selected <sup>(7)</sup> / TBD	C / FFP	NAVAIR	Dec 2018	Dec 2019	11,139	6,504.60	Y		Sep 2017
2.1.2) AN/SSQ-125 (Multistatic Coherent Source) QZ010 <sup>(t)</sup>	✓	2019	Not Selected <sup>(7)</sup> / TBD	C / FFP	NAVAIR	Dec 2018	Dec 2019	62	6,504.60	Y		Sep 2017
3.1.1) SUS MK84 QZ012		2018	ERAPSCO / Columbia City IN	C / FFP	NAVAIR	Oct 2017	Oct 2018	5,150	392.10	Y		Apr 2013

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

**Footnotes:**

<sup>(7)</sup> FY2019 AN/SSQ-125A Full and Open Competition.

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Exhibit P-21, Production Schedule: PB 2019 Navy											Date: February 2018																						
Appropriation / Budget Activity / Budget Sub Activity:										P-1 Line Item Number / Title:										Item Number / Title [DODIC]:													
1810N / 03 / 1										4048 / Sonobuoys - All Types										1 / Sonobuoys, All Types													
Cost Elements (Units in Thousands)										Fiscal Year 2016										Fiscal Year 2017													
O C R 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										B A L A N C E						
O C R O #	M F R	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	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) AN/SSQ-53 (DIFAR) QZ002 <sup>(2)</sup>																																	
Prior Years Deliveries: 372588																																	
1	2016	NAVY	134.874	.000	134.874																										14.674		
1	2017	NAVY	88.365	.000	88.365																										88.365		
1	2018	NAVY	80.117	.000	80.117																										80.117		
1	2019	NAVY	46.192	.000	46.192																										46.192		
✓ 1	2019	NAVY	19.205	.000	19.205																										19.205		
1.1.3) AN/SSQ-62 (DICASS) QZ004 <sup>(3)</sup>																																	
Prior Years Deliveries: 43587																																	
2	2016	NAVY	9.229	.000	9.229																										.929		
2	2017	NAVY	13.514	.000	13.514																										13.514		
2	2018	NAVY	12.727	.000	12.727																										12.727		
2	2019	NAVY	8.005	.000	8.005																										8.005		
✓ 2	2019	NAVY	1.265	.000	1.265																										1.265		
2.1.1) AN/SSQ-101 (Multistatic Coherent Receiver) QZ006																																	
Prior Years Deliveries: 23275																																	
3	2016	NAVY	9.190	.000	9.190																										.890		
3	2017	NAVY	8.662	.000	8.662																										8.662		
3	2018	NAVY	9.976	.000	9.976																										9.976		
3	2019	NAVY	11.267	.000	11.267																										11.267		
✓ 3	2019	NAVY	.063	.000	.063																										.063		
2.1.2) AN/SSQ-125 (Multistatic Coherent Source) QZ010 <sup>(4)</sup>																																	
Prior Years Deliveries: 36313																																	
4	2017	NAVY	5.150	.000	5.150																										5.150		
4	2018	NAVY	8.002	.000	8.002																												8.002
5	2019	NAVY	11.139	.000	11.139																												11.139
✓ 5	2019	NAVY	.062	.000	.062																											.062	
										O C T										N O V										B A L A N C E			

**UNCLASSIFIED**

Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																																																																																																																																																																																																																												
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<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">O C R O #</th> <th rowspan="2">M F R Y</th> <th rowspan="2">SERVICE</th> <th rowspan="2">PROC QTY</th> <th rowspan="2">ACCEPT PRIOR TO 1 OCT 2017</th> <th rowspan="2">BAL DUE AS OF 1 OCT</th> <th colspan="12">Calendar Year 2018</th> <th colspan="12">Calendar Year 2019</th> </tr> <tr> <th>O C T</th> <th>N O V</th> <th>D E C</th> <th>J A N</th> <th>F E B</th> <th>M A R</th> <th>A P R</th> <th>M A Y</th> <th>J U N</th> <th>J U L</th> <th>A U G</th> <th>S E P</th> <th>O C T</th> <th>N O V</th> <th>D E C</th> <th>J A N</th> <th>F E B</th> <th>M A R</th> <th>A P R</th> <th>M A Y</th> <th>J U N</th> <th>J U L</th> <th>A U G</th> <th>S E P</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2016</td> <td>NAVY</td> <td>134.874</td> <td>120.200</td> <td>14.674</td> <td>14.674</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td>1</td> <td>2017</td> <td>NAVY</td> <td>88.365</td> <td>.000</td> <td>88.365</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>9.000</td> <td>9.500</td> <td>10.000</td> <td>10.500</td> <td>10.500</td> <td>10.500</td> <td>10.000</td> <td>9.365</td> <td>9.000</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td>1</td> <td>2018</td> <td>NAVY</td> <td>80.117</td> <td>.000</td> <td>80.117</td> <td></td><td></td><td></td><td></td><td>A -</td> <td>-</td> <td>8.600</td> <td>8.800</td> <td>9.000</td> <td>9.000</td> <td>9.000</td> <td>9.000</td> <td>8.900</td> <td>8.817</td></tr> <tr> <td>1</td> <td>2019</td> <td>NAVY</td> <td>46.192</td> <td>.000</td> <td>46.192</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>A -</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>46.192</td></tr> <tr> <td>✓ 1</td> <td>2019</td> <td>NAVY</td> <td>19.205</td> <td>.000</td> <td>19.205</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>A -</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td><td>-</td><td>-</td><td>-</td><td>-</td> <td>19.205</td></tr> </tbody> </table>																				O C R O #	M F R Y	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	2016	NAVY	134.874	120.200	14.674	14.674																										1	2017	NAVY	88.365	.000	88.365	-	-	-	-	-	9.000	9.500	10.000	10.500	10.500	10.500	10.000	9.365	9.000												1	2018	NAVY	80.117	.000	80.117					A -	-	-	-	-	-	-	-	-	-	-	-	-	-	8.600	8.800	9.000	9.000	9.000	9.000	8.900	8.817	1	2019	NAVY	46.192	.000	46.192															A -	-	-	-	-	-	-	-	-	-	46.192	✓ 1	2019	NAVY	19.205	.000	19.205															A -	-	-	-	-	-	-	-	-	-	19.205										
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3	2018	NAVY	9.976	.000	9.976		A -	-	-	-	-	-	-	-	-	-	-	-	1.000	1.100	1.100	1.200	1.200	1.200	1.100	1.100	.976																																																																																																																																																																																																																					
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**UNCLASSIFIED**

Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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<td>1</td><td>2016</td><td>NAVY</td><td>134.874</td><td>134.874</td><td>.000</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td>1</td><td>2017</td><td>NAVY</td><td>88.365</td><td>88.365</td><td>.000</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td>1</td><td>2018</td><td>NAVY</td><td>80.117</td><td>71.300</td><td>8.817</td><td>8.817</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td>1</td><td>2019</td><td>NAVY</td><td>46.192</td><td>.000</td><td>46.192</td><td>-</td><td>-</td><td>4.000</td><td>4.000</td><td>5.000</td><td>6.500</td><td>6.500</td><td>6.500</td><td>5.000</td><td>5.000</td><td>5.000</td><td>3.692</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td>✓ 1</td><td>2019</td><td>NAVY</td><td>19.205</td><td>.000</td><td>19.205</td><td>-</td><td>-</td><td>1.000</td><td>1.500</td><td>2.000</td><td>3.250</td><td>3.250</td><td>3.250</td><td>2.000</td><td>1.500</td><td>1.455</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td colspan="19">1.1.3) AN/SSQ-62 (DICASS) QZ004 <sup>(3)</sup></td><td colspan="12">Calendar Year 2021</td></tr> <tr> <td>Prior Years Deliveries: 43587</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td>2</td><td>2016</td><td>NAVY</td><td>9.229</td><td>9.229</td><td>.000</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td>2</td><td>2017</td><td>NAVY</td><td>13.514</td><td>13.514</td><td>.000</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td>2</td><td>2018</td><td>NAVY</td><td>12.727</td><td>12.727</td><td>.000</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td>2</td><td>2019</td><td>NAVY</td><td>8.005</td><td>.000</td><td>8.005</td><td>-</td><td>-</td><td>.800</td><td>.850</td><td>.900</td><td>.950</td><td>.950</td><td>.950</td><td>.900</td><td>.875</td><td>.830</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td>✓ 2</td><td>2019</td><td>NAVY</td><td>1.265</td><td>.000</td><td>1.265</td><td>-</td><td>-</td><td>.100</td><td>.100</td><td>.150</td><td>.200</td><td>.200</td><td>.200</td><td>.150</td><td>.100</td><td>.065</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td colspan="19">2.1.1) AN/SSQ-101 (Multistatic Coherent Receiver) QZ006</td><td colspan="12">Calendar Year 2022</td></tr> <tr> <td>Prior Years Deliveries: 23275</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td>3</td><td>2016</td><td>NAVY</td><td>9.190</td><td>9.190</td><td>.000</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td>3</td><td>2017</td><td>NAVY</td><td>8.662</td><td>8.662</td><td>.000</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td>3</td><td>2018</td><td>NAVY</td><td>9.976</td><td>9.000</td><td>.976</td><td>.976</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td>3</td><td>2019</td><td>NAVY</td><td>11.267</td><td>.000</td><td>11.267</td><td>-</td><td>-</td><td>1.000</td><td>1.000</td><td>1.500</td><td>1.500</td><td>1.500</td><td>1.500</td><td>1.500</td><td>1.250</td><td>1.017</td><td>1.000</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td>✓ 3</td><td>2019</td><td>NAVY</td><td>.063</td><td>.000</td><td>.063</td><td>-</td><td>-</td><td>.007</td><td>.007</td><td>.007</td><td>.007</td><td>.007</td><td>.007</td><td>.007</td><td>.007</td><td>.007</td><td>.007</td><td>.007</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td colspan="19">2.1.2) AN/SSQ-125 (Multistatic Coherent Source) QZ010 <sup>(4)</sup></td><td colspan="12">Calendar Year 2023</td></tr> <tr> <td>Prior Years Deliveries: 36313</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td>4</td><td>2017</td><td>NAVY</td><td>5.150</td><td>5.150</td><td>.000</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td>4</td><td>2018</td><td>NAVY</td><td>8.002</td><td>7.200</td><td>.802</td><td>.802</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td>5</td><td>2019</td><td>NAVY</td><td>11.139</td><td>.000</td><td>11.139</td><td>-</td><td>-</td><td>1.000</td><td>1.000</td><td>1.000</td><td>1.500</td><td>2.000</td><td>2.000</td><td>1.000</td><td>1.000</td><td>.639</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td>✓ 5</td><td>2019</td><td>NAVY</td><td>.062</td><td>.000</td><td>.062</td><td>-</td><td>-</td><td>.006</td><td>.007</td><td>.007</td><td>.007</td><td>.007</td><td>.007</td><td>.007</td><td>.007</td><td>.007</td><td>.007</td><td>.007</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.000</td></tr> <tr> <td colspan="19"> <table border="1"> <thead> <tr> <th>O C T</th> <th>N O V</th> <th>D E C</th> <th>J A N</th> <th>F E B</th> <th>M A R</th> <th>A P R</th> <th>M A Y</th> <th>J U N</th> <th>J U L</th> <th>A U G</th> <th>S E P</th> <th>O C T</th> <th>N O V</th> <th>D E C</th> <th>J A N</th> <th>F E B</th> <th>M A R</th> <th>A P R</th> <th>M A Y</th> <th>J U N</th> <th>J U L</th> <th>A U G</th> <th>S E P</th> </tr> </thead> <tbody> <tr> <td>Prior Years Deliveries: 36313</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table> </td><td colspan="12">Calendar Year 2024</td></tr> </tbody></table>	O C R O #	M F R	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	Prior Years Deliveries: 372588																															1	2016	NAVY	134.874	134.874	.000																										.000	1	2017	NAVY	88.365	88.365	.000																										.000	1	2018	NAVY	80.117	71.300	8.817	8.817																									.000	1	2019	NAVY	46.192	.000	46.192	-	-	4.000	4.000	5.000	6.500	6.500	6.500	5.000	5.000	5.000	3.692														.000	✓ 1	2019	NAVY	19.205	.000	19.205	-	-	1.000	1.500	2.000	3.250	3.250	3.250	2.000	1.500	1.455															.000	1.1.3) AN/SSQ-62 (DICASS) QZ004 <sup>(3)</sup>																			Calendar Year 2021												Prior Years Deliveries: 43587																															2	2016	NAVY	9.229	9.229	.000																										.000	2	2017	NAVY	13.514	13.514	.000																										.000	2	2018	NAVY	12.727	12.727	.000																										.000	2	2019	NAVY	8.005	.000	8.005	-	-	.800	.850	.900	.950	.950	.950	.900	.875	.830														.000	✓ 2	2019	NAVY	1.265	.000	1.265	-	-	.100	.100	.150	.200	.200	.200	.150	.100	.065														.000	2.1.1) AN/SSQ-101 (Multistatic Coherent Receiver) QZ006																			Calendar Year 2022												Prior Years Deliveries: 23275																															3	2016	NAVY	9.190	9.190	.000																										.000	3	2017	NAVY	8.662	8.662	.000																										.000	3	2018	NAVY	9.976	9.000	.976	.976																								.000	3	2019	NAVY	11.267	.000	11.267	-	-	1.000	1.000	1.500	1.500	1.500	1.500	1.500	1.250	1.017	1.000												.000	✓ 3	2019	NAVY	.063	.000	.063	-	-	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007												.000	2.1.2) AN/SSQ-125 (Multistatic Coherent Source) QZ010 <sup>(4)</sup>																			Calendar Year 2023												Prior Years Deliveries: 36313																															4	2017	NAVY	5.150	5.150	.000																										.000	4	2018	NAVY	8.002	7.200	.802	.802																								.000	5	2019	NAVY	11.139	.000	11.139	-	-	1.000	1.000	1.000	1.500	2.000	2.000	1.000	1.000	.639														.000	✓ 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**UNCLASSIFIED**

Exhibit P-21, Production Schedule: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 1			P-1 Line Item Number / Title: 4048 / Sonobuoys - All Types						Item Number / Title [DODIC]: 1 / Sonobuoys, All Types			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	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	ERAPSCO - Columbia City IN	45,000	62,000	135,000	24	3	12	15	0	0	0	0
2	ERAPSCO - Columbia City IN	7,000	26,000	67,000	24	1	12	13	0	0	0	0
3	ERAPSCO - Columbia City IN	2,000	8,000	16,000	24	5	12	17	0	0	0	0
4	ERAPSCO - Columbia City IN	2,000	7,000	19,500	24	2	12	14	0	0	0	0
5	Not Selected <sup>(7)</sup> - TBD				24	2	12	14	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:**

<sup>(7)</sup> FY2019 AN/SSQ-125A Full and Open Competition.

**UNCLASSIFIED**

Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity:					P-1 Line Item Number / Title:										
1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment					4204 / Weapons Range Support Equipment										
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A					Other Related Program Elements: N/A							
Line Item MDAP/MAIS Code: N/A															
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total			
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-			
Gross/Weapon System Cost (\$ in Millions)	585.611	58.116	72.110	93.864	0.000	93.864	85.269	73.794	99.618	103.549	Continuing	Continuing			
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-			
Net Procurement (P-1) (\$ in Millions)	585.611	58.116	72.110	93.864	0.000	93.864	85.269	73.794	99.618	103.549	Continuing	Continuing			
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-			
<b>Total Obligation Authority (\$ in Millions)</b>	<b>585.611</b>	<b>58.116</b>	<b>72.110</b>	<b>93.864</b>	<b>0.000</b>	<b>93.864</b>	<b>85.269</b>	<b>73.794</b>	<b>99.618</b>	<b>103.549</b>	<b>Continuing</b>	<b>Continuing</b>			
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>															
Initial Spares (\$ in Millions)	-	3.820	5.329	6.762	-	6.762	4.081	4.401	5.067	5.172	Continuing	Continuing			
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-			
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-			
<b>Description:</b>															
This budget line item provides the resources to implement the Navy Fleet Training Range (FTR) Instrumentation Program Plan. These FTRs provide the primary means of fleet combat readiness training. The plan addresses the following major procurement areas: Electronic Warfare (EW) simulators, Systems Replacement and Modernization (SRAM), and generic systems such as range computer systems, simulation, surveillance systems, Aerial Targets Range Support equipment includes Moving Land Targets (MLT) and Target Threat Simulation Program (TTSP) equipment; MLT includes vehicles, vehicle components, and Engineering Change Proposals to upgrade hardware; TTSP equipment includes EW & Threat Payload simulations, electronic countermeasures equipment and active emitter augmentation equipment, Tactical Combat Training System (TCCTS), Large Area Tracking Range (LATR), Undersea Warfare Training Range/ Pacific Fleet Portable Antisubmarine Warfare (ASW) Range, and range infrastructure necessary to enable Live Virtual Constructive (LVC) training capability. The integral parts of these major range programs include but are not limited to the following: voice communications, weapons scoring systems, display consoles, radars, tracking subsystems, control/ computation subsystems, display/ debriefing subsystems, processors, HF/ VHF/ UHF receivers, transmitters/ transceivers, multiplexers, intercom circuits, encoding devices, frequency interface control systems, peculiar support equipment, and other specialized equipment.															
[P5 / SC004 SRAM - Systems Replacement and Modernization]: The SRAM program provides for the procurement of numerous non-recurring range equipment replacement and modernization efforts that are needed at all Navy training ranges. SRAM procurements replace and modernize economically un-maintainable systems and equipment in order to increase range efficiency. Funding for installation of minor equipment is required in all years for all ranges. Sample procurements include antenna replacement, datalink replacement, electrical generators, and range safety lighting equipment.															
[P5 / SC012 OS - Ocean Systems]: Funds the procurement and upgrade of fixed underwater training ranges at Pacific Missile Range Facility (PMRF), Barking Sands, HI and Southern California ASW Range (SOAR), CA, as well portable underwater range systems supporting Forward Deployed Naval Forces (FDNF) in the Pacific. Upgrades include cyber security enhancements, increased range accuracy, and splash detection capabilities. The underwater ranges are used to provide individual and unit level training for basic antisubmarine warfare (ASW) skills. Large exercises such as Composite Training Unit Exercises (COMTUEX), Fleet Exercises (FLEETEX), and Joint Task Force Exercises (JTFX) are conducted in the vicinity of the fixed underwater training ranges. Items procured under this cost element include hydrophones, undersea cable, and shore system electronics. Funded programs include Portable Undersea Training Range (PUTR), Barking Sands Tactical Underwater Range (BARSTUR) refurbishment, and West Coast Undersea Warfare Training Range (WC USWTR).															
[P5 / SC161 OS - East Coast USWTR]: The purpose of the East Coast USWTR is to establish a shallow-water training range capability on the East Coast. The primary USWTR mission will be to support Fleet readiness through training and tactical development of submarine, surface ship, and aircraft undersea warfare (USW), surface warfare (SUW), and mine warfare (MIW). Secondary missions will include training in shallow water, regional conflict operations involving the naval special warfare (NSW), electronic warfare (EW), and amphibious warfare (AMW) mission/ operational capability areas. Additionally, joint mission areas that may be supported include joint littoral warfare and joint surveillance and warning. Previously subsumed within Ocean Systems, East Coast USWTR has been broken out separately in accordance															

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<b>Exhibit P-40, Budget Line Item Justification: PB 2019 Navy</b>		<b>Date:</b> February 2018
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment		<b>P-1 Line Item Number / Title:</b> 4204 / Weapons Range Support Equipment
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
with the FY 2007 Defense Appropriations Act. Items procured under this cost element include hydrophones, undersea cable, and shore system electronics for East Coast USWTR. End result is a single in-water training range.		
[P5 / SC034 LATR Shipboard Rotary Technology Upgrade]: The Large Area Tracking Range (LATR) Shipboard and Rotary Wing Technology Upgrade (LSRTU) will replace obsolete components in the legacy shipboard and rotary wing tracking instrumentation and will deliver enhanced Beyond Line of Sight (BLOS) tracking capability for Large Force Exercise support.		
[P5 / SC132 LATR Navigation Technology Refresh]: Produce and field a Navigation Technology Refresh for Large Area Tracking Range (LATR) Airborne Instrumentation Package-Fixed Wing (AIP-FW) pods to continue training instrumentation support for Large Force Exercises such as COMTUEX and JTFEX. The current AIP-FW pods exhibit tracking anomalies cause by internal navigation system degradation. These pods have been deployed since 1996 and many flight hours have accumulated resulting in stress on the aging internal components. LATR tracks and integrates participating surface and air platforms into an overall training range display for mission feedback. LATR Navigation Technology Refresh will keep LATR operational through the projected sunset date of FY 2030.		
[P5 / SC158 TCTS Ground Subsystem]: The Tactical Combat Training System (TCTS) will procure fixed range instrumentation equipment for both shore-based (aircrew training) and deployable (ship/sub/aircrew training) applications. TCTS instrumentation will transmit exercise scenarios; simulate/stimulate all exercise participants sensors/weapons with the exercise scenario; track all exercise participants and events, e.g., weapons engagements; and provide accurate, realistic, and timely feedback. TCTS is building on technology developed for existing tactical training range systems. TCTS consists of airborne instrumentation called Participant Subsystems and Ground Subsystems. Increment 1 systems have been procured and fielded. Future procurements will be for Increment 2 systems with encrypted communication capability.		
[P5 / SC140 TCTS - Remote Range Unit]: The Tactical Combat Training System (TCTS) will procure fixed, transportable, and mobile range instrumentation equipment for both shore-based (aircrew training) and deployable (ship/sub/aircrew training) applications. TCTS instrumentation will transmit exercise scenarios; simulate/stimulate all exercise participants sensors/weapons with the exercise scenario; track all exercise participants and events, e.g., weapons engagements; and provide accurate, realistic, and timely feedback. TCTS is building on technology developed for existing tactical training range systems. TCTS consists of airborne instrumentation called Participant Subsystems and Ground Subsystems. Increment 1 systems have been procured and fielded. Future procurements will be for Increment 2 systems with encrypted communication capability.		
[P5 / SC105 EW - Threat Presentation]: Threat Presentation includes all the necessary components and elements associated with presenting friendly training event participants with an opposing force (OPFOR) operating environment that replicates the expected enemy order of battle. The capability of a range to recreate any Electronic Combat electronic order of battle requires a range to simulate or emulate basic elements of Electronic Combat such as search, acquisition and tracking radars, anti-aircraft artillery (AAA) systems, surface-to-air missile (SAM) systems, infrared (IR) systems, jammers, coastal threats, airborne simulators, and information warfare/ command and control systems. Individual pieces procured vary from year to year.		
[P5 / SC151 MLT]: The Moving Land Target (MLT) Program will provide Moving Land Target vehicles to train aircrews in the demands of Close Air Support (CAS), Time Sensitive Targeting (TST), Target Identification, and Forward Air Controller (FAC) procedures within a Network Centric Warfighting force. MLT provides aircrews with threat representative targets that provide infrared reactivity, mobility, and realistic radar cross-section targets to meet their combat training needs. The MLT program procures Moving Land Target vehicles, vehicle components, and Engineering Change Proposals to upgrade hardware.		
[P5 / SC106 TTSP]: The Target Threat Simulation Program (TTSP) replicates various threats dependent upon the objectives of the test and evaluation event(s). TTSP procures the payload equipment required to electronically enhance aerial/surface targets to provide threat representative Radio Frequency signatures, specifically the Electronic Attack and Threat Radar Emissions (Active Emitters). TTSP accomplishes this through a collection of modules which are integrated into the target in various configurations, providing the ability to simulate the RF environment.		
[P5 / SC711 LVC Range Integration]: Funds Range Live Virtual Constructive (LVC) integration allowing real-time telemetry to be received from new aircraft reaching the fleet. Establish persistent integrated training between AEGIS, CVW, Maritime & UAS training assets by enabling LVC capability with live aircraft on Tactical Training Range (TTR) sites. Effort will modify range infrastructure at multiple range sites to provide secure network connectivity to provide robust integrated training capability. Allows range communications, networking, and mission brief, display, and debrief capabilities at multiple levels of security.		
[P5 / SC158 - TCTS Block Upgrade]: The Tactical Combat Training System (TCTS) will procure fixed range instrumentation equipment for both shore-based (aircrew training) and deployable (ship/sub/aircrew training) applications. TCTS instrumentation will transmit exercise scenarios; simulate/stimulate all exercise participants sensors/weapons with the exercise scenario; track all exercise participants and		

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2019 Navy		<b>Date:</b> February 2018
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment		<b>P-1 Line Item Number / Title:</b> 4204 / Weapons Range Support Equipment
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A	events, e.g., weapons engagements; and provide accurate, realistic, and timely feedback. TCTS is building on technology developed for existing tactical training range systems. TCTS consists of airborne instrumentation called Participant Subsystems and Ground Subsystems. Increment 1 systems have been procured and fielded. Annual block upgrade software packages will be released to fielded Increment 1 systems to correct system deficiencies. These block upgrades were previously budgeted under SC920, TCTS Non-Recurring. Software block upgrades will deliver the capability to integrate and merge F-35 range participant information with TCTS time-space position information (TSPI) at TCTS ground systems for training exercise display and debrief at multiple Tactical Training Range (TTR) sites.	

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<b>Exhibit P-40, Budget Line Item Justification: PB 2019 Navy</b>							<b>Date:</b> February 2018		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment				<b>P-1 Line Item Number / Title:</b> 4204 / Weapons Range Support Equipment					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A				<b>Program Elements for Code B Items:</b> N/A					
<b>Line Item MDAP/MAIS Code:</b> N/A				<b>Other Related Program Elements:</b> N/A					
<b>Exhibits Schedule</b>				<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
<b>Exhibit Type</b>	<b>Title*</b>	<b>Subexhibits</b>	<b>ID CD</b>	<b>MDAP/MAIS Code</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>
P-5	1 / Weapons Range Support Equipment	P-5a			- / 585.611	- / 58.116	- / 72.110	- / 93.864	- / 0.000
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 585.611</b>	<b>- / 58.116</b>	<b>- / 72.110</b>	<b>- / 93.864</b>	<b>- / 0.000</b>
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.									
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.									

**Justification:**

The funding increase from FY 2018 to FY2019 in SC012 Ocean Systems funds replacement of the in-water sensor system and shore electronics at the Barking Sands Tactical Underwater Range (BARSTUR) at PMRF, HI under cost code SC012. Existing BARSTUR instrumentation is past its 20 year service life, which has led to multiple cable failures and degraded range tracking and communication capability. BARSTUR effort includes replacement of failed Barking Sands Underwater Range Expansion (BSURE) high frequency projector capability required for BSURE range safety.

The increase in SC105 Electronic Warfare (EW) Threat Presentation funds procurement of Opposing Force (OPFOR) command and control (C2) Integrated Air Defense System (IADS) and Electronic Attack (EA) threat presentation capability at multiple CONUS tactical training ranges under cost code SC105 as part of the greater Fleet Training Wholeness (FTW) initiative. FTW will provide high-end strike group training in a contested A2/AD environment and provides the Fleet necessary training capability to validate warfighter ability to defeat the enemy in a major combat operation (MCO). Classified details available.

SC711 Live-Virtual-Constructive (LVC) Range Integration funds various efforts at multiple range sites as needed to establish distributed training capability. FY19 funds are required to procure range communication equipment, network equipment, and mission brief, display, and debrief equipment capable of operation at multiple security levels for building P-420, the Air Wing Training Facility, at the Naval Aviation Warfighting Development Center (NAWDC), Fallon, NV.

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy													<b>Date:</b> February 2018					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4204 / Weapons Range Support Equipment										<b>Item Number / Title [DODIC]:</b> 1 / Weapons Range Support Equipment					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :													<b>MDAP/MAIS Code:</b>					
<b>Resource Summary</b>				<b>Prior Years</b>			<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>			
Procurement Quantity ( <i>Units in Each</i> )				-			-		-		-		-		-			
Gross/Weapon System Cost (\$ in Millions)				585.611			58.116		72.110		93.864		0.000		93.864			
Less PY Advance Procurement (\$ in Millions)				-			-		-		-		-		-			
Net Procurement (P-1) (\$ in Millions)				585.611			58.116		72.110		93.864		0.000		93.864			
Plus CY Advance Procurement (\$ in Millions)				-			-		-		-		-		-			
<b>Total Obligation Authority</b> (\$ in Millions)				<b>585.611</b>			<b>58.116</b>		<b>72.110</b>		<b>93.864</b>		<b>0.000</b>		<b>93.864</b>			
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-			3.820		5.329		6.762		-		6.762			
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.																		
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2017</b>			<b>FY 2018</b>			<b>FY 2019 Base</b>			<b>FY 2019 OCO</b>			<b>FY 2019 Total</b>		
	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 - Systems Replacement and Modernization Cost																		
Recurring Cost																		
1.1.1) SC004 SRAM - Systems Replacement and Modernization	-	-	160.804	-	-	10.148	-	-	9.043	-	-	9.764	-	-	-	-	-	9.764
<i>Subtotal: Recurring Cost</i>	-	-	<b>160.804</b>	-	-	<b>10.148</b>	-	-	<b>9.043</b>	-	-	<b>9.764</b>	-	-	-	-	-	<b>9.764</b>
<i>Subtotal: Hardware - Systems Replacement and Modernization Cost</i>	-	-	<b>160.804</b>	-	-	<b>10.148</b>	-	-	<b>9.043</b>	-	-	<b>9.764</b>	-	-	-	-	-	<b>9.764</b>
Hardware - Ocean Systems Cost																		
Recurring Cost																		
2.1.1) SC012 OS - Ocean Systems (1)	-	-	63.370	-	-	-	-	-	0.100	-	-	3.151	-	-	-	-	-	3.151
2.1.2) SC161 OS - East Coast USWTR	-	-	108.957	-	-	15.115	-	-	16.353	-	-	17.410	-	-	-	-	-	17.410
<i>Subtotal: Recurring Cost</i>	-	-	<b>172.327</b>	-	-	<b>15.115</b>	-	-	<b>16.453</b>	-	-	<b>20.561</b>	-	-	-	-	-	<b>20.561</b>
<i>Subtotal: Hardware - Ocean Systems Cost</i>	-	-	<b>172.327</b>	-	-	<b>15.115</b>	-	-	<b>16.453</b>	-	-	<b>20.561</b>	-	-	-	-	-	<b>20.561</b>
Hardware - Large Area Tracking Range Cost																		
Recurring Cost																		
3.1.1) SC034 LATR Shipboard Rotary Technology Upgrade	-	-	3.308	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy													<b>Date:</b> February 2018																
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3				<b>P-1 Line Item Number / Title:</b> 4204 / Weapons Range Support Equipment									<b>Item Number / Title [DODIC]:</b> 1 / Weapons Range Support Equipment																
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :													<b>MDAP/MAIS Code:</b>																
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																													
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2017</b>			<b>FY 2018</b>			<b>FY 2019 Base</b>			<b>FY 2019 OCO</b>			<b>FY 2019 Total</b>													
	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)											
3.1.2) SC132 LATR Navigation Technology Refresh	-	-	-	-	-	-	-	-	3.930	-	-	-	-	-	-	-	-	-											
<i>Subtotal: Recurring Cost</i>	-	-	3.308	-	-	-	-	-	3.930	-	-	-	-	-	-	-	-	-											
<i>Subtotal: Hardware - Large Area Tracking Range Cost</i>	-	-	3.308	-	-	-	-	-	3.930	-	-	-	-	-	-	-	-	-											
Hardware - Tactical Combat Training System Cost																													
Recurring Cost																													
4.1.2) SC140 TCTS - Remote Range Unit	-	-	0.145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
<i>Subtotal: Recurring Cost</i>	-	-	0.145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
<i>Subtotal: Hardware - Tactical Combat Training System Cost</i>	-	-	0.145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
Hardware - Electronic Warfare Training Equipment Cost																													
Recurring Cost																													
5.1.1) SC105 EW - Threat Presentation <sup>(2)</sup>	-	-	76.959	-	-	19.463	-	-	14.640	-	-	32.258	-	-	-	-	-	32.258											
<i>Subtotal: Recurring Cost</i>	-	-	76.959	-	-	19.463	-	-	14.640	-	-	32.258	-	-	-	-	-	32.258											
<i>Subtotal: Hardware - Electronic Warfare Training Equipment Cost</i>	-	-	76.959	-	-	19.463	-	-	14.640	-	-	32.258	-	-	-	-	-	32.258											
Hardware - Aerial Targets Range Support Equipment (PMA208) Cost																													
Recurring Cost																													
6.1.1) SC151 MLT <sup>(t)</sup> <sup>(3)</sup>	132,653.85	104	13.796	106,555.55	3	0.320	106,555.55	18	1.918	96,944.44	18	1.745	-	-	-	96,944.44	18	1.745											
6.1.2) SC152 MLT Engineering Change Proposals <sup>(4)</sup>	-	-	-	-	-	0.725	-	-	0.035	-	-	0.035	-	-	-	-	-	0.035											
6.1.3) SC106 TTSP <sup>(5)</sup>	-	-	-	-	-	-	-	-	-	-	-	0.104	-	-	-	-	-	0.104											
<i>Subtotal: Recurring Cost</i>	-	-	13.796	-	-	1.045	-	-	1.953	-	-	1.884	-	-	-	-	-	1.884											
<i>Subtotal: Hardware - Aerial Targets Range Support Equipment (PMA208) Cost</i>	-	-	13.796	-	-	1.045	-	-	1.953	-	-	1.884	-	-	-	-	-	1.884											
Hardware - Live-Virtual-Constructive Cost																													
Recurring Cost																													
7.1.1) SC711 LVC Range Integration <sup>(6)</sup>	-	-	-	-	-	-	-	-	5.169	-	-	6.570	-	-	-	-	-	6.570											

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy													<b>Date:</b> February 2018													
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3				<b>P-1 Line Item Number / Title:</b> 4204 / Weapons Range Support Equipment									<b>Item Number / Title [DODIC]:</b> 1 / Weapons Range Support Equipment													
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :													<b>MDAP/MAIS Code:</b>													
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																										
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2017</b>			<b>FY 2018</b>			<b>FY 2019 Base</b>			<b>FY 2019 OCO</b>			<b>FY 2019 Total</b>										
	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)								
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	5.169	-	-	6.570	-	-	-	-	6.570									
<i>Subtotal: Hardware - Live-Virtual-Constructive Cost</i>	-	-	-	-	-	-	-	-	5.169	-	-	6.570	-	-	-	-	6.570									
Software - SC158 TCTS Block Upgrade Cost																										
Recurring Cost																										
8.1.1) SC158 - TCTS Block Upgrade	-	-	3.243	-	-	1.421	-	-	2.360	-	-	2.442	-	-	-	-	2.442									
<i>Subtotal: Recurring Cost</i>	-	-	3.243	-	-	1.421	-	-	2.360	-	-	2.442	-	-	-	-	2.442									
<i>Subtotal: Software - SC158 TCTS Block Upgrade Cost</i>	-	-	3.243	-	-	1.421	-	-	2.360	-	-	2.442	-	-	-	-	2.442									
Support - Integrated Logistics Cost																										
9.1) SC800 SRAM	-	-	1.960	-	-	0.217	-	-	0.295	-	-	0.315	-	-	-	-	0.315									
9.2) SC800 Ocean Systems	-	-	2.245	-	-	0.462	-	-	0.488	-	-	0.544	-	-	-	-	0.544									
9.3) SC800 LATR	-	-	0.050	-	-	-	-	-	0.238	-	-	-	-	-	-	-	-									
9.4) SC800 TCTS	-	-	1.833	-	-	0.035	-	-	0.166	-	-	0.170	-	-	-	-	0.170									
9.5) SC800 EW	-	-	2.005	-	-	0.227	-	-	0.290	-	-	0.200	-	-	-	-	0.200									
9.6) SC800 Prior Years	-	-	9.317	-	-	-	-	-	-	-	-	-	-	-	-	-	-									
<i>Subtotal: Support - Integrated Logistics Cost</i>	-	-	17.410	-	-	0.941	-	-	1.477	-	-	1.229	-	-	-	-	1.229									
Support - Production Support Cost																										
10.1) SC820 Ocean Systems	-	-	5.473	-	-	1.252	-	-	1.393	-	-	1.585	-	-	-	-	1.585									
10.2) SC820 LATR	-	-	-	-	-	-	-	-	0.774	-	-	-	-	-	-	-	-									
10.3) SC820 TCTS	-	-	0.835	-	-	0.162	-	-	0.170	-	-	0.174	-	-	-	-	0.174									
10.4) SC820 EW	-	-	1.175	-	-	0.211	-	-	0.130	-	-	0.133	-	-	-	-	0.133									
<i>Subtotal: Support - Production Support Cost</i>	-	-	7.483	-	-	1.625	-	-	2.467	-	-	1.892	-	-	-	-	1.892									
Support - Production Engineering Cost																										
11.1) SC831 SRAM	-	-	7.062	-	-	0.933	-	-	1.300	-	-	1.218	-	-	-	-	1.218									
11.2) SC831 Ocean Systems <sup>(7)</sup>	-	-	23.454	-	-	1.929	-	-	5.459	-	-	4.490	-	-	-	-	4.490									
11.3) SC831 LATR	-	-	0.351	-	-	-	-	-	1.040	-	-	-	-	-	-	-	-									
11.4) SC831 TCTS	-	-	15.775	-	-	2.352	-	-	0.774	-	-	0.789	-	-	-	-	0.789									
11.5) SC831 EW <sup>(8)</sup>	-	-	16.922	-	-	2.294	-	-	3.639	-	-	9.020	-	-	-	-	9.020									
11.6) SC832 MLT	-	-	1.050	-	-	0.400	-	-	0.422	-	-	0.428	-	-	-	-	0.428									

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy													<b>Date:</b> February 2018																
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3				<b>P-1 Line Item Number / Title:</b> 4204 / Weapons Range Support Equipment									<b>Item Number / Title [DODIC]:</b> 1 / Weapons Range Support Equipment																
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :													<b>MDAP/MAIS Code:</b>																
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																													
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2017</b>			<b>FY 2018</b>			<b>FY 2019 Base</b>			<b>FY 2019 OCO</b>			<b>FY 2019 Total</b>													
	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)											
11.7) SC831 LVC Range Integration	-	-	-	-	-	-	-	-	0.944	-	-	0.370	-	-	-	-	-	0.370											
11.8) SC831 Prior Years	-	-	58.652	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	<b>123.266</b>	-	-	<b>7.908</b>	-	-	<b>13.578</b>	-	-	<b>16.315</b>	-	-	-	-	-	<b>16.315</b>											
Support - Acceptance Testing Cost																													
12.1) SC860 SRAM	-	-	1.473	-	-	0.168	-	-	0.295	-	-	0.245	-	-	-	-	-	0.245											
12.2) SC860 Ocean Systems	-	-	1.654	-	-	0.221	-	-	0.407	-	-	0.465	-	-	-	-	-	0.465											
12.3) SC860 LATR	-	-	-	-	-	-	-	-	0.104	-	-	-	-	-	-	-	-	-											
12.4) SC860 TCTS	-	-	-	-	-	0.061	-	-	0.234	-	-	0.239	-	-	-	-	-	0.239											
12.5) SC860 EW	-	-	0.200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
12.6) SC860 Prior Years	-	-	3.543	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
<i>Subtotal: Support - Acceptance Testing Cost</i>	-	-	<b>6.870</b>	-	-	<b>0.450</b>	-	-	<b>1.040</b>	-	-	<b>0.949</b>	-	-	-	-	-	<b>0.949</b>											
<b>Gross/Weapon System Cost</b>	-	-	<b>585.611</b>	-	-	<b>58.116</b>	-	-	<b>72.110</b>	-	-	<b>93.864</b>	-	-	<b>0.000</b>	-	-	<b>93.864</b>											

(†) indicates the presence of a P-5a

**Footnotes:**

- (1) SC012 Ocean Systems: Funds various fixed and portable anti-submarine warfare (ASW) training ranges in California and Hawaii. The funding increase from FY 2018 to FY2019 funds a replacement of the in-water sensor system and shore electronics at the Barking Sands Tactical Underwater Range (BARSTUR) at PMRF, HI under cost code SC012. Existing BARSTUR instrumentation is past its 20 year service life, which has led to multiple cable failures and degraded range tracking and communication capability. BARSTUR effort includes replacement of failed Barking Sands Underwater Range Expansion (BSURE) high frequency projector capability required for BSURE range safety.
- (2) SC105 EW Threat Presentation: Fluctuations in funding from year to year reflect U.S. Fleet Forces and OPNAV prioritization of various Electronic Warfare (EW) Threat Presentation devices for use at multiple Tactical Training Range (TTR) sites, including Fallon, NV; Yuma, AZ; SCORE, CA; and MAEWR, VA. Increase from FY 2018 to FY 2019 will procure Opposing Force (OPFOR) command and control (C2) Integrated Air Defense System (IADS) and Electronic Attack (EA) threat presentation capability at multiple CONUS tactical training ranges as part of the greater Fleet Training Wholeness (FTW) initiative. FTW will provide high-end strike group training in a contested A2/AD environment and provide the Fleet necessary training capability to validate warfighter ability to defeat the enemy in a major combat operation (MCO). Classified details available.
- (3) SC151 MLT: The unit costs and quantities include not just Vehicles, but also hardware kits (ie: weaponization kits, specialty tires/ wheels, GCS, & Protection Kits). Some of the kits are more expensive than others and the kits being procured depend on the operational demand/ requirements of the fleet, therefore the unit costs and quantities vary from year to year.
- (4) SC152 MLT ECP: Costs include the procurement of Engineering Change Proposals for critical hardware updates (ie: Information Assurance / Windows)
- (5) SC 106 - TTSP hardware quantities and unit costs are dependent upon which threat simulation equipment is being procured; some equipment is more expensive than others and the type of equipment being procured is dependent upon Fleet requirements and consumption. It is critical to maintain adequate inventory levels as these assets are required to establish readiness capability for the Fleet.

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy		<b>Date:</b> February 2018		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3	<b>P-1 Line Item Number / Title:</b> 4204 / Weapons Range Support Equipment	<b>Item Number / Title [DODIC]:</b> 1 / Weapons Range Support Equipment		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>			
(6) SC711 LVC Range Integration - FY18 and FY19 funding procures initial outfitting of commercial off the shelf (COTS) communications, networking, and audio-visual equipment for Building P-420, the Air Wing Training Facility (AWTF) at NAWDC, Fallon, NV. Construction of building 420 is expected to complete in 3Q FY18. FY18 funding procures equipment to be installed concurrent with building construction. Increase in funding from FY18 to FY19 reflects necessary equipment fielding schedule for equipment to be procured in FY19 after building completion and occupancy. The AWTF will provide the capability to plan, brief, conduct, and debrief air wing level distributed and integrated training events at appropriate classification levels, and will house the Fallon Range Operations Center (ROC). AWTF will interface with building P-440, the Integrated Training Facility, to link Live range training with Virtual-Constructive training within an expanded battlespace to enable full system-of-systems kill web training.				
(7) SC831: Ocean Systems - The Undersea Warfare Training Range (USWTR) is an approved time phased procurement and associated government support efforts will vary from year to year in order to support a complex Integrated Master Schedule (IMS).				
(8) SC831: Increase in Electronic Warfare (EW) production engineering funding from FY18 to FY19 reflects increased engineering support necessary to procure and field Opposing Force (OPFOR) command and control (C2) Integrated Air Defense System (IADS) and Electronic Attack (EA) threat presentation equipment funded under SC105 as part of the greater Fleet Training Wholeness (FTW) initiative.				

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								<b>Date:</b> February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3			P-1 Line Item Number / Title: 4204 / Weapons Range Support Equipment					Item Number / Title [DODIC]: 1 / Weapons Range Support Equipment				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
6.1.1) SC151 MLT		2017 <sup>(9)</sup>	Kairos / Sandy, UT	C / FFP	NAVAIR, Patuxent River, MD	Mar 2018	Jul 2018	3	106,555.55	Y		May 2016
6.1.1) SC151 MLT		2018	Kairos / Sandy, UT	C / FFP	NAVAIR, Patuxent River, MD	Mar 2018	Jul 2018	18	106,555.55	Y		May 2016
6.1.1) SC151 MLT		2019	Kairos / Sandy, UT	C / FFP	NAVAIR, Patuxent River, MD	Nov 2018	Mar 2019	18	96,944.44	Y		May 2016

**Footnotes:**

<sup>(9)</sup> FY17 contract award has been delayed due to proposal delays in the contracting process. The initial award for the new contract will be a joint buy using FY17 and FY18 funds.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity:					P-1 Line Item Number / Title:											
1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment					4213 / Aircraft Support Equipment											
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: 0204112N					Other Related Program Elements: 0604512N, 0604112N, 0604530N								
<b>Line Item MDAP/MAIS Code: N/A</b>																
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total				
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-				
Gross/Weapon System Cost (\$ in Millions)	182.969	115.551	108.482	111.724	0.000	111.724	141.345	119.732	121.185	132.686	Continuing	Continuing				
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-				
Net Procurement (P-1) (\$ in Millions)	182.969	115.551	108.482	111.724	0.000	111.724	141.345	119.732	121.185	132.686	Continuing	Continuing				
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-				
<b>Total Obligation Authority (\$ in Millions)</b>	<b>182.969</b>	<b>115.551</b>	<b>108.482</b>	<b>111.724</b>	<b>0.000</b>	<b>111.724</b>	<b>141.345</b>	<b>119.732</b>	<b>121.185</b>	<b>132.686</b>	<b>Continuing</b>	<b>Continuing</b>				
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																
Initial Spares (\$ in Millions)	-	1.189	4.387	1.413	-	1.413	0.221	0.147	0.124	0.127	Continuing	Continuing				
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-				
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-				
<b>Description:</b>																
AVIATION SUPPORT EQUIPMENT provides funds for the procurement of air-launched anti-submarine (ASW) detection and other general support equipment associated with aircraft systems. Other support equipment includes ground electronics equipment, aircraft launch and recovery equipment, photographic equipment, reconnaissance and electronic warfare process.																
The items contained within this budget line item were previously funded under the following line items in FY14 and prior:																
4208 Expeditionary Airfields																
4214 Aircraft Rearming Equipment																
4216 Aircraft Launch and Recovery Equipment																
4255 LAMPS MK III Shipboard Equipment																
[P5 / Expeditionary Airfields]: This program provides for procurement of aircraft recovery equipment, landing mat and accessories, airfield lighting and Visual Landing Aids for Naval Aviation Expeditionary Airfields (EAF.) EAF recovery equipment consists of the M31 arresting gear and its accessories. This equipment is used to stop aircraft in less than 1000 ft. EAF landing mats and accessories are used to construct airfields of varying configurations such as, 5000+ ft conventional airport runways and taxiways, Forward Arming and Refueling Points (FARPs), Forward Operating Bases (FOBs), Landing Zones (LZs) and Heli Pads. EAF Lighting equipment augments the many types of EAFs with lighting of the runways, taxiways, LZs, FARPs, FOBs and Heli pads. Much of the EAF Lighting utilizes Infra Red Lighting for use with Night Vision Devices for night operations by all Type/Model/Series aircraft. Fresnel Lens Optical Landing Systems and Precision Approach Path Indicator systems are used to guide aircraft to the proper landing or arresting gear area of the EAF. This core funding level directly supports the procurement and fielding of operational EAF systems for three Active Marine Aircraft Wings (MAW) and one Reserve MAW, testing and training installations, and provides assets for use by the Marine Expeditionary Forces during contingency operations.																
[P5 - 2 / Acft Rearming Equip]: This program funds the procurement of common Armament Support Equipment (ASE), and Weapons Support Equipment (WSE) under the procurement and inventory control of the Naval Inventory Control Point and the Naval Air Systems Command. This budget line supports: (a) initial outfitting for all in-production weapons systems; (b) procurement of new Support Equipment, and (c) procurement of replacement items for obsolete Support Equipment. These items support sustained operations and surge deployments of the CV battle groups. Shipboard/Shorebased WSE is utilized by weapons departments to handle, transport, and maintain weapons. Shipboard/Shorebased ASE is utilized by squadrons and supporting activities to load and service aircraft weapons and guns.																
[P5 - 3 / Air Launch & Recovery Equip]: This program provides for the procurement of aircraft launch, recovery, visual landing aids, and related information systems as well as ancillary items required for installation aboard aircraft carriers, air capable combatant vessels, amphibious assault ships and shore stations. It also provides cyber resiliency within the Aviation Land and Launch Enclave (ALLE) for ALRE.																

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2019 Navy		<b>Date:</b> February 2018
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment		<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> 0204112N	<b>Other Related Program Elements:</b> 0604512N, 0604112N, 0604530N
<b>Line Item MDAP/MAIS Code:</b> N/A		
ALRE works jointly through ALLE with PMA-213 Air Traffic and Control (ATC) and Landing System and will enhance network segmentation, device hardening, centralized monitoring, increased cyber situational awareness and incident response within the enclave. Procurements are initiated due to a variety of reasons including fleet-generated reports associated with safe and reliable operations of existing equipment, support of fixed and rotary wing aircraft on Air Capable Ships, and maintaining reliability, availability and maintainability of ALRE equipment. Engineering Change Proposals (ECPs) are generated and processed via a Configuration Control Board. Once approved, the ECP final product is a service change kit. These kits are identified for installation aboard applicable ships as well as shore-based installations in the ECP. Major shipboard equipment items are generally installed by shipyard personnel, alteration installation teams or fleet readiness centers voyage repair teams during routine or restricted availabilities of the various ships. Service change kits support corrective actions that result from changes in operational conditions, obsolescence, and improvements in reliability, availability and maintainability.		
FY14 and prior years funded under Aircraft Support Equipment (BLI 4216).		
[P3A - 4 / LAMPS MK III - SRQ(KU)-4 (S1010): LAMPS MK III, AN/SRQ-4 (Ku), is an over the horizon information dominance system with a high-speed, air-to-ground, digital data link that transmits reconnaissance and other data from MH-60 helicopters to surface ships (cruisers and destroyers) to enable data, imagery, electronic support measures, communications, and radar information via the Ku-band link.		

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<b>Exhibit P-40, Budget Line Item Justification: PB 2019 Navy</b>								<b>Date:</b> February 2018																																																																																																												
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<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4">Exhibits Schedule</th> <th>Prior Years</th> <th>FY 2017</th> <th>FY 2018</th> <th>FY 2019 Base</th> <th>FY 2019 OCO</th> <th>FY 2019 Total</th> </tr> <tr> <th>Exhibit Type</th> <th>Title*</th> <th>Subexhibits</th> <th>ID CD</th> <th>MDAP/MAIS Code</th> <th>Quantity / Total Cost (Each) / (\$ M)</th> </tr> </thead> <tbody> <tr> <td>P-5</td><td>1 / Expeditionary Airfields</td><td>P-5a</td><td></td><td></td><td>- / 15.848</td><td>- / 6.866</td><td>- / 8.230</td><td>- / 8.484</td><td>- / 0.000</td><td>- / 8.484</td></tr> <tr> <td>P-5</td><td>2 / Acft Rearming Equip</td><td>P-5a, P-21</td><td></td><td></td><td>- / 23.583</td><td>- / 11.251</td><td>- / 11.643</td><td>- / 12.040</td><td>- / 0.000</td><td>- / 12.040</td></tr> <tr> <td>P-5</td><td>3 / Air Launch &amp; Recovery Equip</td><td></td><td></td><td></td><td>- / 42.875</td><td>- / 44.951</td><td>- / 43.017</td><td>- / 41.209</td><td>- / 0.000</td><td>- / 41.209</td></tr> <tr> <td>P-3a</td><td>1 / ALRE - Advanced Arresting Gear (SJ301) (Advanced Arresting Gear (SJ301))</td><td></td><td></td><td></td><td>- / 13.340</td><td>- / 2.234</td><td>- / 0.000</td><td>- / 0.000</td><td>- / 0.000</td><td>- / 0.000</td></tr> <tr> <td>P-3a</td><td>2 / ALRE - ADMACS Block Upgrade (SJ302) (Increase Capability)</td><td></td><td></td><td></td><td>- / 53.392</td><td>- / 33.186</td><td>- / 15.963</td><td>- / 17.565</td><td>- / 0.000</td><td>- / 17.565</td></tr> <tr> <td>P-3a</td><td>3 / ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306) (Reliability and Maintainability)</td><td></td><td></td><td></td><td>- / 0.000</td><td>- / 1.057</td><td>- / 4.715</td><td>- / 6.685</td><td>- / 0.000</td><td>- / 6.685</td></tr> <tr> <td>P-3a</td><td>4 / LAMPS MK III - SRQ(KU)-4 (S1010) (Non-Organic)</td><td></td><td></td><td></td><td>- / 33.931</td><td>- / 16.006</td><td>- / 24.914</td><td>- / 25.741</td><td>- / 0.000</td><td>- / 25.741</td></tr> <tr> <td><b>P-40</b></td><td><b>Total Gross/Weapon System Cost</b></td><td></td><td></td><td></td><td><b>- / 182.969</b></td><td><b>- / 115.551</b></td><td><b>- / 108.482</b></td><td><b>- / 111.724</b></td><td><b>- / 0.000</b></td><td><b>- / 111.724</b></td></tr> </tbody> </table>									Exhibits Schedule				Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total 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 / Expeditionary Airfields	P-5a			- / 15.848	- / 6.866	- / 8.230	- / 8.484	- / 0.000	- / 8.484	P-5	2 / Acft Rearming Equip	P-5a, P-21			- / 23.583	- / 11.251	- / 11.643	- / 12.040	- / 0.000	- / 12.040	P-5	3 / Air Launch & Recovery Equip				- / 42.875	- / 44.951	- / 43.017	- / 41.209	- / 0.000	- / 41.209	P-3a	1 / ALRE - Advanced Arresting Gear (SJ301) (Advanced Arresting Gear (SJ301))				- / 13.340	- / 2.234	- / 0.000	- / 0.000	- / 0.000	- / 0.000	P-3a	2 / ALRE - ADMACS Block Upgrade (SJ302) (Increase Capability)				- / 53.392	- / 33.186	- / 15.963	- / 17.565	- / 0.000	- / 17.565	P-3a	3 / ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306) (Reliability and Maintainability)				- / 0.000	- / 1.057	- / 4.715	- / 6.685	- / 0.000	- / 6.685	P-3a	4 / LAMPS MK III - SRQ(KU)-4 (S1010) (Non-Organic)				- / 33.931	- / 16.006	- / 24.914	- / 25.741	- / 0.000	- / 25.741	<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 182.969</b>	<b>- / 115.551</b>	<b>- / 108.482</b>	<b>- / 111.724</b>	<b>- / 0.000</b>	<b>- / 111.724</b>
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P-3a	4 / LAMPS MK III - SRQ(KU)-4 (S1010) (Non-Organic)				- / 33.931	- / 16.006	- / 24.914	- / 25.741	- / 0.000	- / 25.741																																																																																																										
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 182.969</b>	<b>- / 115.551</b>	<b>- / 108.482</b>	<b>- / 111.724</b>	<b>- / 0.000</b>	<b>- / 111.724</b>																																																																																																										
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4">Exhibits Schedule</th> <th>FY 2020</th> <th>FY 2021</th> <th>FY 2022</th> <th>FY 2023</th> <th>To Complete</th> <th>Total</th> </tr> <tr> <th>Exhibit Type</th> <th>Title*</th> <th>Subexhibits</th> <th>ID CD</th> <th>MDAP/MAIS Code</th> <th>Quantity / Total Cost (Each) / (\$ M)</th> </tr> </thead> <tbody> <tr> <td>P-5</td><td>1 / Expeditionary Airfields</td><td>P-5a</td><td></td><td></td><td>- / -</td><td>- / -</td><td>- / -</td><td>- / -</td><td>- / -</td><td>- / -</td></tr> <tr> <td>P-5</td><td>2 / Acft Rearming Equip</td><td>P-5a, P-21</td><td></td><td></td><td>- / -</td><td>- / -</td><td>- / -</td><td>- / -</td><td>- / -</td><td>- / -</td></tr> <tr> <td>P-5</td><td>3 / Air Launch &amp; Recovery Equip</td><td></td><td></td><td></td><td>- / -</td><td>- / -</td><td>- / -</td><td>- / -</td><td>- / -</td><td>- / -</td></tr> <tr> <td>P-3a</td><td>1 / ALRE - Advanced Arresting Gear (SJ301) (Advanced Arresting Gear (SJ301))</td><td></td><td></td><td></td><td>- / 0.000</td><td>- / 0.000</td><td>- / 0.000</td><td>- / 0.000</td><td>Continuing</td><td>Continuing</td></tr> <tr> <td>P-3a</td><td>2 / ALRE - ADMACS Block Upgrade (SJ302) (Increase Capability)</td><td></td><td></td><td></td><td>- / 18.989</td><td>- / 19.663</td><td>- / 20.047</td><td>- / 20.563</td><td>Continuing</td><td>Continuing</td></tr> <tr> <td>P-3a</td><td>3 / ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306) (Reliability and Maintainability)</td><td></td><td></td><td></td><td>- / 18.598</td><td>- / 5.771</td><td>- / 3.905</td><td>- / 4.075</td><td>Continuing</td><td>Continuing</td></tr> <tr> <td>P-3a</td><td>4 / LAMPS MK III - SRQ(KU)-4 (S1010) (Non-Organic)</td><td></td><td></td><td></td><td>- / 25.372</td><td>- / 25.913</td><td>- / 26.412</td><td>- / 26.974</td><td>Continuing</td><td>Continuing</td></tr> <tr> <td><b>P-40</b></td><td><b>Total Gross/Weapon System Cost</b></td><td></td><td></td><td></td><td><b>- / 141.345</b></td><td><b>- / 119.732</b></td><td><b>- / 121.185</b></td><td><b>- / 132.686</b></td><td><b>Continuing</b></td><td><b>Continuing</b></td></tr> </tbody> </table>									Exhibits Schedule				FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	P-5	1 / Expeditionary Airfields	P-5a			- / -	- / -	- / -	- / -	- / -	- / -	P-5	2 / Acft Rearming Equip	P-5a, P-21			- / -	- / -	- / -	- / -	- / -	- / -	P-5	3 / Air Launch & Recovery Equip				- / -	- / -	- / -	- / -	- / -	- / -	P-3a	1 / ALRE - Advanced Arresting Gear (SJ301) (Advanced Arresting Gear (SJ301))				- / 0.000	- / 0.000	- / 0.000	- / 0.000	Continuing	Continuing	P-3a	2 / ALRE - ADMACS Block Upgrade (SJ302) (Increase Capability)				- / 18.989	- / 19.663	- / 20.047	- / 20.563	Continuing	Continuing	P-3a	3 / ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306) (Reliability and Maintainability)				- / 18.598	- / 5.771	- / 3.905	- / 4.075	Continuing	Continuing	P-3a	4 / LAMPS MK III - SRQ(KU)-4 (S1010) (Non-Organic)				- / 25.372	- / 25.913	- / 26.412	- / 26.974	Continuing	Continuing	<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 141.345</b>	<b>- / 119.732</b>	<b>- / 121.185</b>	<b>- / 132.686</b>	<b>Continuing</b>	<b>Continuing</b>
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Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.																																																																																																																				
<p><b>Justification:</b>          Expeditionary Airfields (EAF) - FY 2019 baseline funding is required for EAF Surfacing equipment, EAF Lighting Equipment, EAF Arresting Gear, associated ECPs and support. The increase from FY18 to FY19 for EAF is due to an increase in the purchase of AM2 Matting in support of the Expeditionary Airfield 2000.1 design to support the Table of Basic Allowance (TBA) set by Headquarters Marine Corps Aviation Ground Support (APX-34) for a quantity to field 6000 foot scalable aircraft runways.</p> <p>Aircraft Rearming Equipment - FY 2019 baseline funding is required for MHU-191/M CILOP, AERO-83A ADAPTER TRANSPORT, FARP Ordnance Loading SE and associated support costs. The increase from FY18 to FY19 supports procurement of the AERO-83A Adapter Transport and the FARP Ordnance Loading Support Equipment.</p>																																																																																																																				

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2019 Navy		<b>Date:</b> February 2018
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment		<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> 0204112N	<b>Other Related Program Elements:</b> 0604512N, 0604112N, 0604530N
<b>Line Item MDAP/MAIS Code:</b> N/A		
Aircraft Launch and Recovery Equipment (ALRE) - FY 2019 baseline funding is required for ALRE equipment, Electromagnetic Aircraft Launch System (EMALS), Aviation Data Management and Control System (ADMACS) Block Upgrade, Aviation Land and Launch Enclave (ALLE), and associated support. Increases from FY18 to FY19 occur in all areas of the ALRE budget to support Hardware purchases and Non-recurring engineering efforts for multiple ECP's for several Fielded Systems as well as FMP (ship based) and Non-FMP (shore based) installs. The biggest increase to the FMP Installation line is for Moriah Wind System (MWS) installation on LHD 3 and 4 in FY19. The increase was also due to additional funding for Aviation Land and Launch Enclave (ALLE) to support critical cyber-security boundary defense issues for Carrier aviation critical systems.		
LAMPS MK III Shipboard Equipment - The FY 2019 baseline funding is required for the procurement of 8 AN/SRQ-4(Ku) field install kits and associated support and installation costs to meet the MH-60R deployment schedule. The increase from FY 2018 to FY 2019 funds one additional AN/SRQ-4(Ku) field install kit to meet the MH-60R deployment schedule and align with ship availability periods for installation.		

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3			P-1 Line Item Number / Title: 4213 / Aircraft Support Equipment										Item Number / Title [DODIC]: 1 / Expeditionary Airfields					
ID Code (A=Service Ready, B=Not Service Ready) :													MDAP/MAIS Code:					
<b>Resource Summary</b>				<b>Prior Years</b>			<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>			
Procurement Quantity ( <i>Units in Each</i> )				-			-		-		-		-		-			
Gross/Weapon System Cost (\$ in Millions)				15.848			6.866		8.230		8.484		0.000		8.484			
Less PY Advance Procurement (\$ in Millions)				-			-		-		-		-		-			
Net Procurement (P-1) (\$ in Millions)				15.848			6.866		8.230		8.484		0.000		8.484			
Plus CY Advance Procurement (\$ in Millions)				-			-		-		-		-		-			
<b>Total Obligation Authority</b> (\$ in Millions)				<b>15.848</b>			<b>6.866</b>		<b>8.230</b>		<b>8.484</b>		<b>0.000</b>		<b>8.484</b>			
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-			-		-		-		-		-			
Gross/Weapon System Unit Cost (\$ in 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 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 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 - (SE010) EAF Surfacing Equipment Cost																		
Recurring Cost																		
1.1.1) AM-2-Matting (F72)( <sup>1</sup> )	7,152.54	59	0.422	7,162.00	32	0.229	7,162.00	81	0.580	7,162.00	53	0.380	-	-	0.000	7,162.00	53	0.380
1.1.2) AM-2 Matting (F73)( <sup>1</sup> )	9,333.33	3	0.028	9,495.00	2	0.019	9,495.00	2	0.019	9,495.00	4	0.038	-	-	0.000	9,495.00	4	0.038
1.1.3) AM-2 Matting (F71)( <sup>1</sup> )	11,381.44	97	1.104	11,375.00	48	0.546	11,375.00	69	0.785	11,375.00	100	1.138	-	-	0.000	11,375.00	100	1.138
1.1.4) AM-2 Accessory Packs (1) <sup>(2)</sup>	-	-	0.693	-	-	0.307	-	-	0.376	-	-	0.391	-	-	0.000	-	-	0.391
1.1.5) Surfacing engineering change proposals <sup>(3)</sup>	-	-	3.855	-	-	2.196	-	-	2.240	-	-	2.389	-	-	0.000	-	-	2.389
<i>Subtotal: Recurring Cost</i>	-	-	<b>6.102</b>	-	-	<b>3.297</b>	-	-	<b>4.000</b>	-	-	<b>4.336</b>	-	-	<b>0.000</b>	-	-	<b>4.336</b>
<i>Subtotal: Hardware - (SE010) EAF Surfacing Equipment Cost</i>	-	-	<b>6.102</b>	-	-	<b>3.297</b>	-	-	<b>4.000</b>	-	-	<b>4.336</b>	-	-	<b>0.000</b>	-	-	<b>4.336</b>
Hardware - (SE860) Acceptance Testing and Evaluation - Surfacing Cost																		
Recurring Cost																		
2.1.1) EAF Surfacing Equipment	-	-	0.470	-	-	0.712	-	-	0.389	-	-	0.232	-	-	0.000	-	-	0.232
<i>Subtotal: Recurring Cost</i>	-	-	<b>0.470</b>	-	-	<b>0.712</b>	-	-	<b>0.389</b>	-	-	<b>0.232</b>	-	-	<b>0.000</b>	-	-	<b>0.232</b>
<i>Subtotal: Hardware - (SE860) Acceptance Testing</i>	-	-	<b>0.470</b>	-	-	<b>0.712</b>	-	-	<b>0.389</b>	-	-	<b>0.232</b>	-	-	<b>0.000</b>	-	-	<b>0.232</b>

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy													<b>Date:</b> February 2018																
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3				<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment									<b>Item Number / Title [DODIC]:</b> 1 / Expeditionary Airfields																
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :													<b>MDAP/MAIS Code:</b>																
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<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2017</b>			<b>FY 2018</b>			<b>FY 2019 Base</b>			<b>FY 2019 OCO</b>			<b>FY 2019 Total</b>													
	<b>Unit Cost</b> (\$)	<b>Qty</b> <i>(Each)</i>	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> <i>(Each)</i>	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> <i>(Each)</i>	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> <i>(Each)</i>	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> <i>(Each)</i>	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> <i>(Each)</i>	<b>Total Cost</b> (\$ M)											
and Evaluation - Surfacing Cost																													
Hardware - (SE010) EAF Lighting Equipment Cost																													
Recurring Cost																													
3.1.1) Archive - EAF Lighting Equipment	-	-	1.362	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000											
3.1.2) Lighting Engineering Change Proposals <sup>(4)</sup>	-	-	2.924	-	-	1.000	-	-	1.982	-	-	1.739	-	-	0.000	-	-	1.739											
Subtotal: Recurring Cost	-	-	4.286	-	-	1.000	-	-	1.982	-	-	1.739	-	-	0.000	-	-	1.739											
Subtotal: Hardware - (SE010) EAF Lighting Equipment Cost	-	-	4.286	-	-	1.000	-	-	1.982	-	-	1.739	-	-	0.000	-	-	1.739											
Hardware - Acceptance Testing - Lighting Cost																													
Recurring Cost																													
4.1.1) EAF Lighting Equipment <sup>(5)</sup>	-	-	1.282	-	-	0.020	-	-	0.150	-	-	0.366	-	-	0.000	-	-	0.366											
Subtotal: Recurring Cost	-	-	1.282	-	-	0.020	-	-	0.150	-	-	0.366	-	-	0.000	-	-	0.366											
Subtotal: Hardware - Acceptance Testing - Lighting Cost	-	-	1.282	-	-	0.020	-	-	0.150	-	-	0.366	-	-	0.000	-	-	0.366											
Hardware - (SE0210) EAF Arresting Gear Cost																													
Recurring Cost																													
5.1.1) M-31 Engineering Change Proposals <sup>(6)</sup>	-	-	0.675	-	-	0.587	-	-	0.462	-	-	0.524	-	-	0.000	-	-	0.524											
Subtotal: Recurring Cost	-	-	0.675	-	-	0.587	-	-	0.462	-	-	0.524	-	-	0.000	-	-	0.524											
Subtotal: Hardware - (SE0210) EAF Arresting Gear Cost	-	-	0.675	-	-	0.587	-	-	0.462	-	-	0.524	-	-	0.000	-	-	0.524											
Hardware - Acceptance Testing - Arresting Gear Cost																													
Recurring Cost																													
6.1.1) EAF Arresting Gear <sup>(7)</sup>	-	-	0.335	-	-	0.029	-	-	0.031	-	-	0.059	-	-	0.000	-	-	0.059											
Subtotal: Recurring Cost	-	-	0.335	-	-	0.029	-	-	0.031	-	-	0.059	-	-	0.000	-	-	0.059											
Subtotal: Hardware - Acceptance Testing - Arresting Gear Cost	-	-	0.335	-	-	0.029	-	-	0.031	-	-	0.059	-	-	0.000	-	-	0.059											
Support - (SE800) Integrated Logistics Cost																													

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy												<b>Date:</b> February 2018													
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3				<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment								<b>Item Number / Title [DODIC]:</b> 1 / Expeditionary Airfields													
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :												<b>MDAP/MAIS Code:</b>													
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																									
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2017</b>			<b>FY 2018</b>			<b>FY 2019 Base</b>			<b>FY 2019 OCO</b>			<b>FY 2019 Total</b>									
	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)							
7.1) EAF Surfacing Equipment	-	-	1.039	-	-	0.477	-	-	0.436	-	-	0.397	-	-	0.000	-	-	0.397							
7.2) EAF Lighting Equipment	-	-	0.186	-	-	0.041	-	-	0.039	-	-	0.044	-	-	0.000	-	-	0.044							
7.3) EAF Arresting Gear	-	-	0.201	-	-	0.035	-	-	0.032	-	-	0.042	-	-	0.000	-	-	0.042							
<i>Subtotal: Support - (SE800) Integrated Logistics Cost</i>	-	-	<b>1.426</b>	-	-	<b>0.553</b>	-	-	<b>0.507</b>	-	-	<b>0.483</b>	-	-	<b>0.000</b>	-	-	<b>0.483</b>							
Support - (SE830) Production Engineering Cost																									
8.1) EAF Surfacing Equipment	-	-	0.687	-	-	0.480	-	-	0.467	-	-	0.515	-	-	0.000	-	-	0.515							
8.2) EAF Lighting Equipment	-	-	0.265	-	-	0.107	-	-	0.088	-	-	0.071	-	-	0.000	-	-	0.071							
8.3) EAF Arresting Gear	-	-	0.320	-	-	0.081	-	-	0.154	-	-	0.159	-	-	0.000	-	-	0.159							
<i>Subtotal: Support - (SE830) Production Engineering Cost</i>	-	-	<b>1.272</b>	-	-	<b>0.668</b>	-	-	<b>0.709</b>	-	-	<b>0.745</b>	-	-	<b>0.000</b>	-	-	<b>0.745</b>							
<b>Gross/Weapon System Cost</b>	-	-	<b>15.848</b>	-	-	<b>6.866</b>	-	-	<b>8.230</b>	-	-	<b>8.484</b>	-	-	<b>0.000</b>	-	-	<b>8.484</b>							

**Remarks:**

The quantities of AM-2 and Light Weight Matting procured vary depending on the type of matting and service change requirements each year. The equipment, accessories and service changes are procured and fielded with these funds. Equipment procurements are based on inventory shortfalls, product improvements to fill or correct deficiencies, modernizing EAF equipment to improve maintainability, reliability and safety-of-flight and to keep pace with new aircraft and aircraft systems.

(†) indicates the presence of a P-5a

**Footnotes:**

(1) AM2 Matting (cost elements 1.1.1 - 1.1.3) Unit costs will remain constant throughout the FYDP. The cost of the AM2 is based on a yearly rate of 50,000 square feet which is used to account for lost and damaged AM2. This yearly rate is 400,000 square feet short of the APX-34 Headquarters Marine Corps requirement of replacement of 5% of the total AM2 installed currently around 9,000,000 square feet. This rate ensures that the assets in the Table of Basic Allowance are maintained. This does not include the addition of AM2 assets to the inventory, but sustainment only due to loss and damage. AM2 Matting (cost elements 1.1.1 - 1.1.3) quantity changes based on tracking of EAF projected fleet requirements from the Table of Basic Allowance and the Marine Wing Support Squadron available assets to determine what needs to be procured on an annual basis. Increases in AM2 Matting is result of APX-34 and NAVAIR changing the AM2 surfacing lay pattern increasing the amount of AM2 Matting required in the Table of Basic Allowance.

(2) AM-2 Accessory Packs (1.1.4) consist of multiple low priced items. There are several types of hardware configurations that are procured each year, therefore, individual quantities are not provided for some Expeditionary equipment. Accessory Packs are required per the Table of Basic Allowance and hardware component items required change based on fleet asset reports back to NAVAIR as a result of increased requirements per APX-34 or damaged accessories that require replacement.

(3) Surfacing Engineering Change Proposals (1.1.5) supports the procurement of hardware to support multiple Surfacing ECPs and the associated engineering support. Surfacing ECPs are required to adapt to diverse airfield operating environments which drive changes to tool kits necessary for matting installation, accommodating new aircraft heat signatures (i.e. JSF) as well as variable soil compositions.

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy		<b>Date:</b> February 2018		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3	<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment	<b>Item Number / Title [DODIC]:</b> 1 / Expeditionary Airfields		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>			
(4) Lighting Engineering Change Proposals (3.1.2) address the obsolescence and reliability of an aging legacy system. The ECP work for the Minimum Operating Strip Lighting System (MOSLS) and Man Portable Lights provides upgrades to obsolescent incandescent bulbs, unreliable battery systems, poor mobility, and other deficiencies. MOSLS obsolescence issues have increased for the need of an ECP to correct and allow for sustainability and capability the fleet lacks due to obsolescence. It will improve readiness and safety to ensure Navy/Marine Corps aircraft can land at night in austere environments.				
(5) Lighting Equipment Acceptance Test & Evaluation (4.1.1) address the Acceptance Testing required to support multiple Lighting ECPs. The increase in FY 2019 is driven by the Acceptance Testing required to support the Minimum Operating Strip Lighting System (MOSLS) ECP to undergo acceptance testing to finalize the ECP and allow procurement of MOSLS ECP hardware kits.				
(6) M-31 Engineering Change Proposals (5.1.1) supports the aging M-31 Marine Corps Expeditionary Arresting Gear System by providing ECP Hardware and engineering support to improve readiness, increase safety, and replacement of obsolescent assemblies. FY 2017 - FY 2019 was updated to reflect current execution and planning to support the engineering support and procurements associated with the M-31 Sand & Weak Soil ECP and hardware kits.				
(7) EAF Arresting Gear (6.1.1) increase in FY 2019 supports the Acceptance Testing required to support the Sand & Weak Soil ECP. The increase in FY 2020 - 2023 support the acceptance testing required to ensure proper staking hardware configuration kits are being procured to satisfy the installation staking ECP, along with the testing required to accept and prove the improved readiness, safety, and correct the obsolescent deficiencies of the aging M-31 arresting gear system.				

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3			P-1 Line Item Number / Title: 4213 / Aircraft Support Equipment					Item Number / Title [DODIC]: 1 / Expeditionary Airfields				
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) AM-2-Matting (F72)		2017	ALFAB / Montgomery, AL	C / FFP	LKE	Feb 2017	May 2017	32	7,162.00	Y		Sep 2011
1.1.1) AM-2-Matting (F72)		2018	TBD <sup>(8)</sup> / TBD	TBD	LKE	Jan 2018	Jan 2018	81	7,162.00	Y		Aug 2017
1.1.1) AM-2-Matting (F72)		2019	TBD <sup>(8)</sup> / TBD	TBD	LKE	Jan 2019	Jan 2019	53	7,162.00	Y		Aug 2017
1.1.2) AM-2 Matting (F73)		2017	ALFAB / Montgomery, AL	C / FFP	LKE	Feb 2017	May 2017	2	9,495.00	Y		Sep 2011
1.1.2) AM-2 Matting (F73)		2018	TBD <sup>(9)</sup> / TBD	TBD	LKE	Jan 2018	Jan 2018	2	9,495.00	Y		Aug 2017
1.1.2) AM-2 Matting (F73)		2019	TBD <sup>(9)</sup> / TBD	TBD	LKE	Jan 2019	Jan 2019	4	9,495.00	Y		Aug 2017
1.1.3) AM-2 Matting (F71)		2017	ALFAB / Montgomery, AL	C / FFP	LKE	Feb 2017	May 2017	48	11,375.00	Y		Sep 2011
1.1.3) AM-2 Matting (F71)		2018	TBD <sup>(10)</sup> / TBD	TBD	LKE	Feb 2018	Feb 2018	69	11,375.00	Y		Aug 2017
1.1.3) AM-2 Matting (F71)		2019	TBD <sup>(10)</sup> / TBD	TBD	LKE	Oct 2018	Oct 2018	100	11,375.00	Y		Aug 2017

**Footnotes:**

<sup>(8)</sup> FY 2018 & FY2019 annual production rates TBD, contract award scheduled January 2018.

<sup>(9)</sup> FY 2018 & FY2019 annual production rates TBD, contract award scheduled January 2018.

<sup>(10)</sup> FY 2018 & FY2019 annual production rates TBD, contract award scheduled January 2018.

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3			P-1 Line Item Number / Title: 4213 / Aircraft Support Equipment										Item Number / Title [DODIC]: 2 / Acft Rearming Equip					
ID Code (A=Service Ready, B=Not Service Ready) :													MDAP/MAIS Code:					
<b>Resource Summary</b>				<b>Prior Years</b>			<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>			
Procurement Quantity ( <i>Units in Each</i> )				-			-		-		-		-		-			
Gross/Weapon System Cost (\$ in Millions)				23.583			11.251		11.643		12.040		0.000		12.040			
Less PY Advance Procurement (\$ in Millions)				-			-		-		-		-		-			
Net Procurement (P-1) (\$ in Millions)				23.583			11.251		11.643		12.040		0.000		12.040			
Plus CY Advance Procurement (\$ in Millions)				-			-		-		-		-		-			
<b>Total Obligation Authority (\$ in Millions)</b>				<b>23.583</b>			<b>11.251</b>		<b>11.643</b>		<b>12.040</b>		<b>0.000</b>		<b>12.040</b>			
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-			-		-		-		-		-			
Gross/Weapon System Unit Cost (\$ in 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 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 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 - HARDWARE - Ordnance Assembly Cost																		
Recurring Cost																		
1.1.1) SH042 - USMC WEAPONS ASSEMBLY STATION (A/E32K-11 LIFTING ASSLY) <sup>(†)</sup>	293,200.00	5	1.466	176,000.00	1	0.176	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
<i>Subtotal: Recurring Cost</i>	-	-	<b>1.466</b>	-	-	<b>0.176</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>
<i>Subtotal: Hardware - HARDWARE - Ordnance Assembly Cost</i>	-	-	<b>1.466</b>	-	-	<b>0.176</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>
Hardware - HARDWARE - Ordnance Transport Cost																		
Recurring Cost																		
2.1.1) SH036 - USMC A/M32K-4A MUN TRLR REPLACEMENT - (A/M32K-10 MUN TRLR) <sup>(†)</sup>	56,296.30	216	12.160	61,800.00	35	2.163	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
2.1.2) SH043 - MHU-191/M CILOP - MHU-191A/M MUN TRANSPORTER <sup>(†)</sup>	5,128.18	866	4.441	5,890.00	600	3.534	6,367.25	600	3.820	6,494.59	600	3.897	-	-	0.000	6,494.59	600	3.897
2.1.3) SH045 - MHU-126/202 TRLR REPLACEMENT - (MHU-230/M) <sup>(†)</sup>	-	-	0.000	-	-	0.000	250,000.00	4	1.000	-	-	0.000	-	-	0.000	-	-	0.000

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018													
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3				P-1 Line Item Number / Title: 4213 / Aircraft Support Equipment									Item Number / Title [DODIC]: 2 / Acft Rearming Equip													
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 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 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)								
2.1.4) SH048 - AERO-83A ADAPTER, TRANSPORT <sup>(†)</sup>	-	-	0.000	-	-	0.000	-	-	0.000	50,000.00	4	0.200	-	-	0.000	50,000.00	4	0.200								
<i>Subtotal: Recurring Cost</i>	-	-	<b>16.601</b>	-	-	<b>5.697</b>	-	-	<b>4.820</b>	-	-	<b>4.097</b>	-	-	<b>0.000</b>	-	-	<b>4.097</b>								
<i>Subtotal: Hardware - HARDWARE - Ordnance Transport Cost</i>	-	-	<b>16.601</b>	-	-	<b>5.697</b>	-	-	<b>4.820</b>	-	-	<b>4.097</b>	-	-	<b>0.000</b>	-	-	<b>4.097</b>								
Hardware - HARDWARE - Ordnance Loading Cost																										
Recurring Cost																										
3.1.1) SH046 - USMC A/S32K-1E WEAPONS LOADER REPLACEMENT <sup>(†)</sup>	-	-	0.000	-	-	0.000	647,000.00	4	2.588	-	-	0.000	-	-	0.000	-	-	0.000								
3.1.3) SH049 - FARP ORDNANCE LOADING SE <sup>(†)</sup>	-	-	0.000	-	-	0.000	159,375.00	1	0.159	159,375.00	32	5.100	-	-	0.000	159,375.00	32	5.100								
<i>Subtotal: Recurring Cost</i>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>2.747</b>	-	-	<b>5.100</b>	-	-	<b>0.000</b>	-	-	<b>5.100</b>								
<i>Subtotal: Hardware - HARDWARE - Ordnance Loading Cost</i>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>2.747</b>	-	-	<b>5.100</b>	-	-	<b>0.000</b>	-	-	<b>5.100</b>								
Hardware - SH920 NON-RECURRING Cost																										
Non Recurring Cost																										
4.1.1) Ordnance Assembly	-	-	0.000	-	-	0.115	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000								
4.1.2) Ordnance Transport	-	-	0.544	-	-	2.397	-	-	0.300	-	-	0.335	-	-	0.000	-	-	0.335								
4.1.3) Ordnance Loading	-	-	0.000	-	-	0.000	-	-	2.276	-	-	0.500	-	-	0.000	-	-	0.500								
<i>Subtotal: Non Recurring Cost</i>	-	-	<b>0.544</b>	-	-	<b>2.512</b>	-	-	<b>2.576</b>	-	-	<b>0.835</b>	-	-	<b>0.000</b>	-	-	<b>0.835</b>								
<i>Subtotal: Hardware - SH920 NON-RECURRING Cost</i>	-	-	<b>0.544</b>	-	-	<b>2.512</b>	-	-	<b>2.576</b>	-	-	<b>0.835</b>	-	-	<b>0.000</b>	-	-	<b>0.835</b>								
Hardware - SH10 ECP Cost																										
Recurring Cost																										
5.1.1) Ordnance Transport ECP	-	-	1.135	-	-	1.145	-	-	0.094	-	-	0.089	-	-	0.000	-	-	0.089								
5.1.2) Ordnance Loading ECP	-	-	0.109	-	-	0.112	-	-	0.094	-	-	0.090	-	-	0.000	-	-	0.090								
<i>Subtotal: Recurring Cost</i>	-	-	<b>1.244</b>	-	-	<b>1.257</b>	-	-	<b>0.188</b>	-	-	<b>0.179</b>	-	-	<b>0.000</b>	-	-	<b>0.179</b>								

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy													<b>Date:</b> February 2018															
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3					<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment								<b>Item Number / Title [DODIC]:</b> 2 / Acft Rearming Equip															
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :													<b>MDAP/MAIS Code:</b>															
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																												
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2017</b>			<b>FY 2018</b>			<b>FY 2019 Base</b>			<b>FY 2019 OCO</b>			<b>FY 2019 Total</b>												
	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)										
<i>Subtotal: Hardware - SH010 ECP Cost</i>	-	-	<b>1.244</b>	-	-	<b>1.257</b>	-	-	<b>0.188</b>	-	-	<b>0.179</b>	-	-	<b>0.000</b>	-	-	<b>0.179</b>										
Hardware - SH860 Acceptance Test & Eval Cost																												
Recurring Cost																												
6.1.1) Ordnance Assembly Acceptance Testing	-	-	0.109	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000										
6.1.2) Ordnance Transport Acceptance Testing	-	-	0.251	-	-	0.215	-	-	0.177	-	-	0.277	-	-	0.000	-	-	0.277										
6.1.3) Ordnance Loading Acceptance Testing	-	-	0.316	-	-	0.284	-	-	0.209	-	-	0.306	-	-	0.000	-	-	0.306										
<i>Subtotal: Recurring Cost</i>	-	-	<b>0.676</b>	-	-	<b>0.499</b>	-	-	<b>0.386</b>	-	-	<b>0.583</b>	-	-	<b>0.000</b>	-	-	<b>0.583</b>										
<i>Subtotal: Hardware - SH860 Acceptance Test &amp; Eval Cost</i>	-	-	<b>0.676</b>	-	-	<b>0.499</b>	-	-	<b>0.386</b>	-	-	<b>0.583</b>	-	-	<b>0.000</b>	-	-	<b>0.583</b>										
Support - SH800 ILS Cost																												
7.1) Ordnance Assembly	-	-	0.286	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000										
7.2) Ordnance Transport	-	-	0.362	-	-	0.199	-	-	0.164	-	-	0.212	-	-	0.000	-	-	0.212										
7.3) Ordnance Loading	-	-	0.503	-	-	0.379	-	-	0.281	-	-	0.303	-	-	0.000	-	-	0.303										
<i>Subtotal: Support - SH800 ILS Cost</i>	-	-	<b>1.151</b>	-	-	<b>0.578</b>	-	-	<b>0.445</b>	-	-	<b>0.515</b>	-	-	<b>0.000</b>	-	-	<b>0.515</b>										
Support - SH830 Production Engineering Cost																												
8.1) Ordnance Assembly PE	-	-	0.697	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000										
8.2) Ordnance Transport PE	-	-	0.507	-	-	0.271	-	-	0.227	-	-	0.370	-	-	0.000	-	-	0.370										
8.3) Ordnance Loading PE	-	-	0.697	-	-	0.261	-	-	0.254	-	-	0.361	-	-	0.000	-	-	0.361										
<i>Subtotal: Support - SH830 Production Engineering Cost</i>	-	-	<b>1.901</b>	-	-	<b>0.532</b>	-	-	<b>0.481</b>	-	-	<b>0.731</b>	-	-	<b>0.000</b>	-	-	<b>0.731</b>										
<b>Gross/Weapon System Cost</b>	-	-	<b>23.583</b>	-	-	<b>11.251</b>	-	-	<b>11.643</b>	-	-	<b>12.040</b>	-	-	<b>0.000</b>	-	-	<b>12.040</b>										

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

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3			P-1 Line Item Number / Title: 4213 / Aircraft Support Equipment					Item Number / Title [DODIC]: 2 / Acft Rearming Equip				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) SH042 - USMC WEAPONS ASSEMBLY STATION (A/E32K-11 LIFTING ASSLY)		2015 <sup>(11)</sup>	CAROLINA GROWLER / STAR, NC	C / FFP	NAWCADLKE	May 2017	Jan 2018	3	293,333.33	Y		Mar 2010
1.1.1) SH042 - USMC WEAPONS ASSEMBLY STATION (A/E32K-11 LIFTING ASSLY)		2016	CAROLINA GROWLER / STAR, NC	C / FFP	NAWCADLKE	May 2017	Nov 2017	2	293,000.00	Y		Mar 2010
1.1.1) SH042 - USMC WEAPONS ASSEMBLY STATION (A/E32K-11 LIFTING ASSLY)		2017	CAROLINA GROWLER / STAR, NC	C / FFP	NAWCADLKE	May 2017	Oct 2017	1	176,000.00	Y		Mar 2010
2.1.1) SH036 - USMC A/M32K-4A MUN TRLR REPLACEMENT - (A/M32K-10 MUN TRLR)		2017	CAROLINA GROWLER / STAR, NC	C / FFP	NAWCADLKE	Feb 2017	Oct 2017	35	61,800.00	Y		Nov 2010
2.1.2) SH043 - MHU-191/M CILOP - MHU-191A/M MUN TRANSPORTER		2016	DEVAL CORPORATION / PHILADELPHIA, PA	C / FFP	NAWCADLKE	Feb 2016	Oct 2016	656	4,907.01	Y		Jun 2011
2.1.2) SH043 - MHU-191/M CILOP - MHU-191A/M MUN TRANSPORTER		2017	DEVAL CORPORATION / PHILADELPHIA, PA	C / FFP	NAWCADLKE	Jan 2017	Sep 2017	600	5,890.00	Y		Jun 2011
2.1.2) SH043 - MHU-191/M CILOP - MHU-191A/M MUN TRANSPORTER		2018	DEVAL CORPORATION / PHILADELPHIA, PA	C / FFP	NAWCADLKE	Jan 2018	Sep 2018	600	6,367.25	Y		Jun 2011
2.1.2) SH043 - MHU-191/M CILOP - MHU-191A/M MUN TRANSPORTER		2019	DEVAL CORPORATION / PHILADELPHIA, PA	C / TBD	NAWCADLKE	Jan 2019	Sep 2019	600	6,494.59	Y		Jun 2011
2.1.3) SH045 - MHU-126/202 TRLR REPLACEMENT - (MHU-230/M)		2018	TBD / TBD	C / FFP	NAWCADLKE	Jun 2018	Feb 2019	4	250,000.00	Y		Mar 2018
2.1.4) SH048 - AERO-83A ADAPTER, TRANSPORT		2019	TBD / TBD	C / FFP	NAWCADLKE	Mar 2019	Dec 2019	4	50,000.00	Y		Oct 2018
3.1.1) SH046 - USMC A/S32K-1E WEAPONS LOADER REPLACEMENT		2018	TBD / TBD	C / FFP	NAWCADLKE	Aug 2018	May 2019	4	647,000.00	Y		Mar 2018
3.1.3) SH049 - FARP ORDNANCE LOADING SE <sup>(†)</sup>		2018	TBD / TBD	C / FFP	NAWCADLKE	Aug 2018	Feb 2019	1	159,375.00	Y		Mar 2018
3.1.3) SH049 - FARP ORDNANCE LOADING SE <sup>(†)</sup>		2019	TBD / TBD	C / FFP	NAWCADLKE	Feb 2019	Mar 2019	32	159,375.00	Y		Oct 2018

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

**Footnotes:**

<sup>(11)</sup> (SH042) SH042 - USMC WEAPONS ASSEMBLY STATION (A/E32K-11 LIFTING ASSLY) The difference in unit cost due to step ladder pricing.

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																																																																																																																																	
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3																				Item Number / Title [DODIC]: 2 / Acft Rearming Equip																																																																																																																																	
Cost Elements (Units in Each)																				Fiscal Year 2016																																																																																																																																	
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Exhibit P-21, Production Schedule: PB 2019 Navy																					Date: February 2018																																																																																																																																																												
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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018															
Appropriation / Budget Activity / Budget Sub Activity:										P-1 Line Item Number / Title:										Item Number / Title [DODIC]:															
1810N / 03 / 3										4213 / Aircraft Support Equipment										2 / Acft Rearming Equip															
Cost Elements (Units in Each)										Fiscal Year 2020										Fiscal Year 2021															
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L A N C E					
3.1.3) SH049 - FARP ORDNANCE LOADING SE																														0					
1	2018	NAVY	1	1	0																										0				
1	2019	NAVY	32	17	15	3	3	3	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	0

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<b>Exhibit P-21, Production Schedule: PB 2019 Navy</b>								<b>Date:</b> February 2018				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment					<b>Item Number / Title [DODIC]:</b> 2 / Acft Rearming Equip				
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	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				0	0	6	6	0	0	1	1

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

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

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy													<b>Date:</b> February 2018					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment										<b>Item Number / Title [DODIC]:</b> 3 / Air Launch & Recovery Equip					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :													<b>MDAP/MAIS Code:</b>					
<b>Resource Summary</b>				<b>Prior Years</b>			<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>			
Procurement Quantity ( <i>Units in Each</i> )				-			-		-		-		-		-			
Gross/Weapon System Cost (\$ in Millions)				42.875			44.951		43.017		41.209		0.000		41.209			
Less PY Advance Procurement (\$ in Millions)				-			-		-		-		-		-			
Net Procurement (P-1) (\$ in Millions)				42.875			44.951		43.017		41.209		0.000		41.209			
Plus CY Advance Procurement (\$ in Millions)				-			-		-		-		-		-			
<b>Total Obligation Authority</b> (\$ in Millions)				<b>42.875</b>			<b>44.951</b>		<b>43.017</b>		<b>41.209</b>		<b>0.000</b>		<b>41.209</b>			
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-			-		-		-		-		-			
Gross/Weapon System Unit Cost (\$ in Dollars)				-			-		-		-		-		-			
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2017</b>			<b>FY 2018</b>			<b>FY 2019 Base</b>			<b>FY 2019 OCO</b>			<b>FY 2019 Total</b>		
	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 - SJ040 - Service Change Kits Cost																		
Recurring Cost																		
1.1.1) Information Systems (SJ040)	-	-	1.697	-	-	3.807	-	-	4.122	-	-	1.970	-	-	0.000	-	-	1.970
1.1.2) Visual Landing Aids (SJ040)	-	-	7.520	-	-	7.256	-	-	1.401	-	-	1.864	-	-	0.000	-	-	1.864
1.1.3) Launcher (SJ040) <sup>(12)</sup>	-	-	0.065	-	-	1.853	-	-	0.380	-	-	1.173	-	-	0.000	-	-	1.173
1.1.4) Recovery (SJ040)	-	-	0.967	-	-	5.793	-	-	5.318	-	-	5.509	-	-	0.000	-	-	5.509
1.1.6) ALLE <sup>(13)</sup>	-	-	0.000	-	-	0.000	-	-	0.336	-	-	0.772	-	-	0.000	-	-	0.772
<i>Subtotal: Recurring Cost</i>	-	-	<b>10.249</b>	-	-	<b>18.709</b>	-	-	<b>11.557</b>	-	-	<b>11.288</b>	-	-	<b>0.000</b>	-	-	<b>11.288</b>
<i>Subtotal: Hardware - SJ040 - Service Change Kits Cost</i>	-	-	<b>10.249</b>	-	-	<b>18.709</b>	-	-	<b>11.557</b>	-	-	<b>11.288</b>	-	-	<b>0.000</b>	-	-	<b>11.288</b>
Hardware - SJ305 - Non-Recurring Engineering Cost																		
Non Recurring Cost																		
2.1.1) Information Systems - NRE	-	-	7.150	-	-	4.497	-	-	2.278	-	-	1.862	-	-	0.000	-	-	1.862
2.1.2) Visual Landing Aids <sup>(14)</sup>	-	-	4.721	-	-	5.525	-	-	4.912	-	-	5.229	-	-	0.000	-	-	5.229
2.1.3) Launcher	-	-	1.656	-	-	1.047	-	-	1.300	-	-	1.721	-	-	0.000	-	-	1.721
2.1.4) Recovery	-	-	2.964	-	-	5.124	-	-	4.394	-	-	4.745	-	-	0.000	-	-	4.745
2.1.5) ALLE	-	-	0.000	-	-	0.000	-	-	3.123	-	-	2.626	-	-	0.000	-	-	2.626

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy													<b>Date:</b> February 2018																
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<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2017</b>			<b>FY 2018</b>			<b>FY 2019 Base</b>			<b>FY 2019 OCO</b>			<b>FY 2019 Total</b>													
	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)											
<i>Subtotal: Non Recurring Cost</i>	-	-	16.491	-	-	16.193	-	-	16.007	-	-	16.183	-	-	0.000	-	-	16.183											
<i>Subtotal: Hardware -- SJ305 - Non-Recurring Engineering Cost</i>	-	-	16.491	-	-	16.193	-	-	16.007	-	-	16.183	-	-	0.000	-	-	16.183											
Support - SJ800 - Integrated Logistics Cost																													
3.1) Information Systems (15)	-	-	0.592	-	-	0.297	-	-	0.770	-	-	0.776	-	-	0.000	-	-	0.776											
3.2) Visual Landing Aids	-	-	0.697	-	-	0.333	-	-	0.643	-	-	0.227	-	-	0.000	-	-	0.227											
3.3) Launcher	-	-	0.375	-	-	0.220	-	-	0.119	-	-	0.139	-	-	0.000	-	-	0.139											
3.4) Recovery	-	-	1.248	-	-	0.647	-	-	0.534	-	-	0.812	-	-	0.000	-	-	0.812											
3.6) ALLE	-	-	0.000	-	-	0.000	-	-	0.314	-	-	0.320	-	-	0.000	-	-	0.320											
<i>Subtotal: Support - SJ800 - Integrated Logistics Cost</i>	-	-	2.912	-	-	1.497	-	-	2.380	-	-	2.274	-	-	0.000	-	-	2.274											
Support - SJ830 - Production Engineering Cost																													
4.1) Information Systems	-	-	1.613	-	-	1.029	-	-	1.523	-	-	1.066	-	-	0.000	-	-	1.066											
4.2) Visual Landing Aids	-	-	2.712	-	-	1.094	-	-	2.685	-	-	0.969	-	-	0.000	-	-	0.969											
4.3) Launcher	-	-	0.809	-	-	0.335	-	-	0.145	-	-	0.277	-	-	0.000	-	-	0.277											
4.4) Recovery	-	-	2.316	-	-	1.152	-	-	1.370	-	-	0.755	-	-	0.000	-	-	0.755											
4.6) ALLE	-	-	0.000	-	-	0.000	-	-	0.354	-	-	0.353	-	-	0.000	-	-	0.353											
<i>Subtotal: Support - SJ830 - Production Engineering Cost</i>	-	-	7.450	-	-	3.610	-	-	6.077	-	-	3.420	-	-	0.000	-	-	3.420											
Support - SJ900 - Installation -NonFMP Cost																													
5.1) Information Systems (16)	-	-	0.485	-	-	0.235	-	-	0.000	-	-	0.272	-	-	0.000	-	-	0.272											
5.2) Visual Landing Aids	-	-	0.000	-	-	0.457	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000											
5.4) Recovery	-	-	0.017	-	-	0.000	-	-	0.081	-	-	0.079	-	-	0.000	-	-	0.079											
<i>Subtotal: Support - SJ900 - Installation -NonFMP Cost</i>	-	-	0.502	-	-	0.692	-	-	0.081	-	-	0.351	-	-	0.000	-	-	0.351											
Support - SJ910 - Installation -FMP Cost																													
6.1) Information Systems (17)	-	-	1.278	-	-	1.147	-	-	0.737	-	-	3.395	-	-	0.000	-	-	3.395											
6.2) Visual Landing Aids (18)	-	-	1.537	-	-	1.087	-	-	2.495	-	-	2.473	-	-	0.000	-	-	2.473											
6.3) Launcher (19)	-	-	1.148	-	-	0.771	-	-	1.225	-	-	0.069	-	-	0.000	-	-	0.069											
6.4) Recovery (20)	-	-	1.308	-	-	1.245	-	-	2.458	-	-	1.642	-	-	0.000	-	-	1.642											
6.6) ALLE	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.114	-	-	0.000	-	-	0.114											

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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3				<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment									<b>Item Number / Title [DODIC]:</b> 3 / Air Launch & Recovery Equip															
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :													<b>MDAP/MAIS Code:</b>															
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																												
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2017</b>			<b>FY 2018</b>			<b>FY 2019 Base</b>			<b>FY 2019 OCO</b>			<b>FY 2019 Total</b>												
	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)										
<i>Subtotal: Support - SJ910 - Installation -FMP Cost</i>	-	-	5.271	-	-	4.250	-	-	6.915	-	-	7.693	-	-	0.000	-	-	7.693										
<b>Gross/Weapon System Cost</b>	-	-	42.875	-	-	44.951	-	-	43.017	-	-	41.209	-	-	0.000	-	-	41.209										

**Remarks:**

[Hardware/Recurring] The recurring hardware funding shown is a combination of many planned hardware upgrades to a variety of Aircraft Launch and Recovery Systems and to a variety of ships/classes including Carrier Vessel Nuclear (CVNs), Amphibious Assault Ships (AAS), and Air Capable Ships (ACS), which include various unit costs/quantities for differing fiscal years. As such, hardware recurring costs will vary significantly year to year and within each item.

[Hardware] Non-Recurring Engineering costs are associated with design, development, systems test and evaluation, tooling, logistics, systems engineering and project management of hardware or software Engineering Changes.

[Support Cost] Recurring Engineering Support costs are associated with the non-level of effort (organic) labor at NAWCAD Lakehurst directly supporting the manufacture of hardware, assembly kits and installation kits for many of the service changes.

**Footnotes:**

- (12) C.E. 1.1.3 (Launcher) The increase from FY18 to FY19 is driven by hardware procurements for water preventative maintenance modification ECP.
- (13) C.E. 1.1.6, 2.1.5, 3.6, 4.6, 6.6 Aviation Land and Launch Enclave (ALLE) - Cost elements added to provide traceability of the funding added to establish the Aviation Land and Launch Enclave. ALLE efforts will enhance network segmentation, device hardening, centralized monitoring, increase cyber situational awareness and incident responses within the enclave which includes multiple products within the ALRE portfolio. The ALLE program has continually executed its program plan with emphasis on flexibility, risk mitigation, and contingency planning in an environment of extreme budget fluctuation. Ship installations are predominately software installations that require software engineers, testers, and a Shipboard Operational Verification Test (SOVT), which goes beyond a simple functional operation check.
- (14) C.E. 2.1.2 (VLA) Increase in FY19 from FY18 due to the escalation of non-recurring engineering on two ECPs. The two ECPs in the Visual Landing Aids portfolio are for Landbased IMOVLAS (Improved Manually Operated Visual Landing Aid System), which updates the look of MOVLAS to the look of the IFLOLS (Improved Fresnel Lens Optical Landing System) display onboard carriers, and Low Cost Land Based IFLOLS, which addresses system quantity shortages due to the high cost of training assets. This ECP provides a low cost alternative and allows the Fleet to meet training demand.
- (15) C.E. 3.1 (Information Systems) Increase from PB18 submission is due to critical efforts to support LSODS obsolescence issues, as well as for logistics and engineering support required to field Moriah Wind System on L Class and ACS ships.
- (16) C.E. 5.1 (Information System) Fluctuation in cost due to ship availability.
- (17) C.E. 6.1 (Information Systems) Increase in FY19 from FY18 due to change in ship availability; installs rescheduled accordingly. Annual fluctuation in cost due to ship availability.
- (18) C.E. 6.2 (VLA) Fluctuation in cost due to ship availability; installs rescheduled accordingly.
- (19) 6.3. Fluctuation in cost due to ship availability; installs rescheduled accordingly.
- (20) C.E. 6.4 (Recovery) Fluctuation in cost due to ship availability; installs rescheduled accordingly.

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy										<b>Date:</b> February 2018		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment						<b>Modification Number / Title:</b> 1 / ALRE - Advanced Arresting Gear (SJ301)			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :										<b>MDAP/MAIS Code:</b>		
<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	13.340	2.234	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	13.340	2.234	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>13.340</b>	<b>2.234</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>Continuing</b>	<b>Continuing</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Description:</b> Advanced Arresting Gear (AAG) will replace the legacy Mark 7 arresting gear aboard Ford class aircraft carriers. AAG will provide the U.S. Navy with the ability to recover existing and projected aircraft carrier based air vehicles well into the 21st century. AAG will provide increased operational availability, while reducing manning, maintenance and support costs. FY14 and prior funded under Aircraft Support Equipment (BLI 4216). FY18 and out funded under Advanced Arresting Gear (AAG) (BLI 4217) for OSD MDAP Transparency.												

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy										<b>Date:</b> February 2018			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment							<b>Modification Number / Title:</b> 1 / ALRE - Advanced Arresting Gear (SJ301)			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :										<b>MDAP/MAIS Code:</b>			
<b>Models of Systems Affected:</b> MK-7 Legacy - Shorebased			<b>Modification Type:</b> Advanced Arresting Gear (SJ301)					<b>Related RDT&amp;E PEs:</b> 0604512N, 0604530N					
<b>Financial Plan</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
<b>Procurement</b>													
<i>Modification Item 1 of 1: ALRE - Advanced Arresting Gear (SJ301)</i>													
B Kits													
Non-Recurring													
1.1.1) Non-Recurring Engineering - Organic (21)	- / 6.577	- / 1.596	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
1.1.2) Data - Organic - Organic	- / 2.982	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
<i>Subtotal: Non-Recurring</i>	- / 9.559	- / 1.596	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
<i>Subtotal: ALRE - Advanced Arresting Gear (SJ301)</i>	- / 9.559	- / 1.596	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
<i>Subtotal: Procurement, All Modification Items</i>	- / 9.559	- / 1.596	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
<b>Support (All Modification Items)</b>													
2.1) ILS	- / 0.794	- / 0.186	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	Continuing	Continuing
2.2) PE	- / 2.987	- / 0.452	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	Continuing	Continuing
<i>Subtotal: Support</i>	- / 3.781	- / 0.638	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
<b>Installation</b>													
<i>Subtotal: Installation</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
<b>Total</b>													
<b>Total Cost (Procurement + Support + Installation)</b>	13.340	2.234	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy		<b>Date:</b> February 2018
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3	<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment	<b>Modification Number / Title:</b> 1 / ALRE - Advanced Arresting Gear (SJ301)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>
<b>Modification Item 1 of 1:</b> ALRE - Advanced Arresting Gear (SJ301)		
<b>Footnotes:</b> (21) 1.2.1 - FY18 and out funded under Advanced Arresting Gear (AAG) (BLI 4217) for OSD MDAP Transparency.		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy										<b>Date:</b> February 2018			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment						<b>Modification Number / Title:</b> 2 / ALRE - ADMACS Block Upgrade (SJ302)				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>	
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-	
Gross/Weapon System Cost (\$ in Millions)	53.392	33.186	15.963	17.565	0.000	17.565	18.989	19.663	20.047	20.563	Continuing	Continuing	
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-	
Net Procurement (P-1) (\$ in Millions)	53.392	33.186	15.963	17.565	0.000	17.565	18.989	19.663	20.047	20.563	Continuing	Continuing	
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Total Obligation Authority (\$ in Millions)</b>	<b>53.392</b>	<b>33.186</b>	<b>15.963</b>	<b>17.565</b>	<b>0.000</b>	<b>17.565</b>	<b>18.989</b>	<b>19.663</b>	<b>20.047</b>	<b>20.563</b>	<b>Continuing</b>	<b>Continuing</b>	
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)													
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-	
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Description:</b>													
The Aviation Data Management and Control System (ADMACS) is an integrated, network-centric, shipboard aviation operations information management system, which provides data required for aircraft carriers aviation operations planning, execution and readiness assessment. ADMACS communicates aviation and command related data elements across the ADMACS Local Area Network and Integrated Shipboard Network System that electronically displays position and location of aircraft on the flight and hangar decks, status of aircraft, Aircraft Launch and Recovery Equipment, fuel, weapons types and quantity as well as a wide variety of other aviation related and ship information.													
The Milestone Decision Authority (MDA) approved the ADMACS Block (Blk) II program rebaseline in 2013. The ADMACS program experienced an MDA directed rebaseline due to software deficiencies found during final Developmental Testing (DT)/Shipboard testing and the resultant need to defer Initial Operational Test and Evaluation. The rebaselined program addressed DT identified software deficiencies as well as all outstanding Information Assurance (IA) requirements/mandates and will provide for necessary obsolescence upgrades on this largely Commercial-Off-The-Shelf system, which addresses long term supportability. The rebaseline targets the Blk I ISNS ships first and then the remaining Blk I ships from an IA requirements perspective. The rebaselined program provides for a common configuration across Nimitz and Ford Class Carriers. The program rebaseline effort will conclude with the completion of the CVN76 installation in FY20.													
ADMACS will transition in FY19 from a common configuration effort to a system upgrade effort to address obsolescence and deficiencies. Efforts are heavily focused in the non-recurring budget elements to integrate field technical solutions which vary in complexity and cost. Given the constraints of Carrier availabilities, upgrades are planned based upon OPNAV controlled Carrier Availability Schedule.													
ADMACS deficiencies can be discovered during test through System Trouble Reports (STRs), in operation which can result from Casualty Reports (CASREPs), or in engineering investigations, hardware (HW) obsolescence or cybersecurity mandates as required by the Navy's Defense-in-Depth Functional Implementation Architecture (DFIA) standard. In FY19 ADMACS will execute technical solutions for cybersecurity patching, HW obsolescence, and the resolution of STRs through ECP-463 (software build upgrades), ECP 505 (addresses cybersecurity vulnerabilities), ECP 475 (addresses Private IP complication specific to shipboard), as well as several other critical ADMACS ECPs.													
BlkI/ISNS Kits - (Full) ADMACS Installation Modification Item 1 of 2 and 2 of 2: Installation costs include the advance planning costs (i.e. ship-check) for ADMACS which are funded and occur in the year prior to actual system installation. ADMACS installation information - Installation Cost: ADMACS Block II Phase 1 is the common configuration planned for all CVNs. Depending on the system (Block I, Block I/ISNS or Block II) currently fielded, there is wide variance in the procurement and/or installation costs depending upon whether a full, completion, or upgrade Block II kit is procured or installed; current Blk I CVNs (68/72/73/74/76) and Blk I/ISNS CVNs (70/77) generally required a Full Blk II kit and a full installation; current Blk II CVNs (69/71/75) required an upgrade kit only. Specifically, CVN77 requires a completion kit.													
FY14 and prior funded under Aircraft Support Equipment (BLI 4216)													

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy											<b>Date:</b> February 2018		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment								<b>Modification Number / Title:</b> 2 / ALRE - ADMACS Block Upgrade (SJ302)		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :											<b>MDAP/MAIS Code:</b>		
<b>Models of Systems Affected:</b> ADMACS Block 2			<b>Modification Type:</b> Increase Capability					<b>Related RDT&amp;E PEs:</b> 0604512N					
<b>Financial Plan</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
<b>Procurement</b>													
<b>Modification Item 1 of 2:</b> Block I and Block I/ISNS													
B Kits													
Recurring													
1.1.1) Blk I/ISNS Kits - (Full) - NonOrganic (22)	3 / 11.799	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3 / 11.799
1.1.2) Hardware Obsolescence ECPs - Organic	- / 4.434	- / 2.691	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 17.125
1.1.3) Cybersecurity - Organic	- / 5.415	- / 3.232	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 18.647
1.1.4) Systems Integration & Installation - Organic	- / 4.310	- / 3.187	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 17.497
<i>Subtotal: Recurring</i>	- / 25.958	- / 9.110	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000
<i>Subtotal: Block I and Block I/ISNS</i>	3 / 25.958	- / 9.110	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3 / 35.068
<b>Modification Item 2 of 2:</b> Block II													
B Kits													
Recurring													
2.1.1) Hardware Obsolescence ECPs - Organic (23)	- / 2.797	- / 2.434	21 / 0.453	- / -	- / -	- / -	21 / 0.474	- / -	21 / 0.575	- / -	Continuing	Continuing	
2.1.2) Cyber Security - Organic (24)	- / 3.197	- / 4.985	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
2.1.3) Systems SW Integration and Installation - Organic (25)	- / 2.714	- / 3.151	- / 0.513	- / 0.828	- / -	- / 0.828	- / 0.911	- / 1.044	- / 1.220	- / 1.333	Continuing	Continuing	
<i>Subtotal: Recurring</i>	- / 8.708	- / 10.570	- / 0.966	- / 0.828	- / -	- / 0.828	- / 1.385	- / 1.044	- / 1.795	- / 1.333	Continuing	Continuing	
Non-Recurring													
2.2.1) Block II Upgrade Kits - NonOrganic (26)	3 / 0.000	2 / 0.573	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
2.2.2) Hardware Obsolescence ECPs NRE - Organic	- / -	- / -	- / 3.365	- / 4.193	- / -	- / 4.193	- / 2.392	- / 3.925	- / 0.483	- / 1.859	- / -	- / -	- / 16.217
2.2.3) Cybersecurity ECPs NRE - Organic (27)	- / -	- / -	- / 5.811	- / 5.711	- / -	- / 5.711	- / 8.765	- / 11.416	- / 12.345	- / 13.764	- / -	- / -	- / 57.812
2.2.4) Systems SW Build Integration - Organic (28)	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.663	- / -	- / 1.902	- / -	- / -	- / -	- / 3.565
<i>Subtotal: Non-Recurring</i>	- / 0.000	- / 0.573	- / 9.176	- / 9.904	- / -	- / 9.904	- / 12.820	- / 15.341	- / 14.730	- / 15.623	Continuing	Continuing	
<i>Subtotal: Block II</i>	3 / 8.708	2 / 11.143	21 / 10.142	- / 10.732	- / -	- / 10.732	21 / 14.205	- / 16.385	21 / 16.525	- / 16.956	Continuing	Continuing	
<i>Subtotal: Procurement, All Modification Items</i>	- / 34.666	- / 20.253	- / 10.142	- / 10.732	- / -	- / 10.732	- / 14.205	- / 16.385	- / 16.525	- / 16.956	Continuing	Continuing	
<b>Support (All Modification Items)</b>													
3.1) ILS (29)	- / 2.625	- / 1.952	- / 0.499	- / 0.545	- / -	- / 0.545	- / 0.359	- / 0.128	- / 0.139	- / 0.140	Continuing	Continuing	
3.2) PE (30)	- / 6.910	- / 4.585	- / 2.599	- / 2.801	- / -	- / 2.801	- / 2.893	- / 3.150	- / 3.383	- / 3.467	Continuing	Continuing	

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy										<b>Date:</b> February 2018		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment							<b>Modification Number / Title:</b> 2 / ALRE - ADMACS Block Upgrade (SJ302)		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :										<b>MDAP/MAIS Code:</b>		
<b>Models of Systems Affected:</b> ADMACS Block 2			<b>Modification Type:</b> Increase Capability				<b>Related RDT&amp;E PEs:</b> 0604512N					
<b>Financial Plan</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
<i>Subtotal: Support</i>	- / 9.535	- / 6.537	- / 3.098	- / 3.346	- / -	- / 3.346	- / 3.252	- / 3.278	- / 3.522	- / 3.607	Continuing	Continuing
<b>Installation</b>												
<i>Modification Item 1 of 2: Block I and Block I/ISNS</i>	- / 4.213	- / 4.256	- / 2.661	- / 3.487	- / 0.000	- / 3.487	- / 1.532	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 16.149
<i>Modification Item 2 of 2: Block II</i>	- / 4.978	- / 2.140	- / 0.062	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 17.180
<i>Subtotal: Installation</i>	- / 9.191	- / 6.396	- / 2.723	- / 3.487	- / -	- / 3.487	- / 1.532	- / -	- / -	- / -	- / 0.000	- / 23.329
<b>Total</b>												
<b>Total Cost (Procurement + Support + Installation)</b>	<b>53.392</b>	<b>33.186</b>	<b>15.963</b>	<b>17.565</b>	<b>0.000</b>	<b>17.565</b>	<b>18.989</b>	<b>19.663</b>	<b>20.047</b>	<b>20.563</b>	<b>Continuing</b>	<b>Continuing</b>

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy												<b>Date:</b> February 2018																		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3				<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment								<b>Modification Number / Title:</b> 2 / ALRE - ADMACS Block Upgrade (SJ302)																		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :				<b>MDAP/MAIS Code:</b>																										
<b>Modification Item 1 of 2:</b> Block I and Block I/ISNS																														
<b>Manufacturer Information</b>																														
Manufacturer Name: Bowhead Manufacturing Technology - Blk I/ISNS Kits - (Full) <sup>(31)</sup>						Manufacturer Location: Plano, TX																								
Administrative Leadtime (in Months): 2						Production Leadtime (in Months): 11																								
Dates	FY 2017	FY 2018		FY 2019		FY 2020		FY 2021		FY 2022		FY 2023																		
Contract Dates																														
Delivery Dates																														
<b>Installation Information</b>																														
<b>Method of Implementation:</b> AIT:: Installation Name: Blk I/ISNS Kits - (Full)																														
<b>Installation Cost</b>			<b>Prior Years</b>		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total															
			Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)														
Prior Years			1 / 4.213	1 / 4.256	1 / 2.661	0 / 3.487	0 / 0.000	0 / 3.487	0 / 1.532	- / -	- / -	- / -	- / -	0 / 0.000	3 / 16.149															
FY 2017			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2018			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2019			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2020			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2021			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2022			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2023			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
To Complete			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
Total			1 / 4.213	1 / 4.256	1 / 2.661	0 / 3.487	0 / 0.000	0 / 3.487	0 / 1.532	- / -	- / -	- / -	- / -	0 / 0.000	3 / 16.149															
<b>Installation Schedule</b>																														
PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
In	1	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3				
Out	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	3				

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy												<b>Date:</b> February 2018																		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3				<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment								<b>Modification Number / Title:</b> 2 / ALRE - ADMACS Block Upgrade (SJ302)																		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :				MDAP/MAIS Code:																										
<b>Modification Item 2 of 2:</b> Block II																														
<b>Manufacturer Information</b>																														
Manufacturer Name: Bowhead Manufacturing Technology - Blk II Upgrage Kits - (Full)						Manufacturer Location: Plano, TX																								
Administrative Leadtime ( <i>in Months</i> ): 2						Production Leadtime ( <i>in Months</i> ): 11																								
<b>Dates</b>		<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020</b>		<b>FY 2021</b>		<b>FY 2022</b>		<b>FY 2023</b>																
Contract Dates																														
Delivery Dates																														
<b>Installation Information</b>																														
<b>Method of Implementation:</b> AIT:: Installation Name: Block II Upgrade Kits																														
<b>Installation Cost</b>			<b>Prior Years</b>		<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>		<b>FY 2020</b>		<b>FY 2021</b>		<b>FY 2022</b>		<b>FY 2023</b>		<b>To Complete</b>		<b>Total</b>					
			Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)					
Prior Years			2 / 4.978		1 / 2.140		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		3 / 7.118					
FY 2017			- / -		- / -		2 / 0.062		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		2 / 0.062					
FY 2018			- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2019			- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2020			- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2021			- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2022			- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2023			- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
To Complete			- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		- / -			
Total			2 / 4.978		1 / 2.140		2 / 0.062		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		5 / 7.180			
<b>Installation Schedule</b>																														
<b>PYS</b>	<b>FY 2017</b>				<b>FY 2018</b>				<b>FY 2019</b>				<b>FY 2020</b>				<b>FY 2021</b>				<b>FY 2022</b>				<b>FY 2023</b>				<b>TC</b>	<b>Tot</b>
	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>						
In	2	-	-	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5				
Out	-	-	2	-	-	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5				
<b>Method of Implementation (Organic):</b> Hardware Obsolescence ECPs - Not Installed																<b>Installation Quantity:</b> 63														
<b>Footnotes:</b>																														

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy		<b>Date:</b> February 2018
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3	<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment	<b>Modification Number / Title:</b> 2 / ALRE - ADMACS Block Upgrade (SJ302)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>
(22) C.E. 1.1.1 - The 3 kits procured in FY16 are full kits. The 3 Block II upgrade kits procured in FY14 are shown under BLI 4216 Budget. They are part of the Oct 2013 Milestone Decision Authority approved re-baseline, which are Block II upgrade kits for currently fielded Block II systems. The kits procured in FY14 are planned to be installed as follows: 2 in FY16 (Blk II upgrade to CVN 71 and 75) and 1 in FY17 (Blk II upgrade to CVN69). The time from procurement to installation varies due to: 1) constantly shifting CVN availabilities, and 2) the need to bundle procurements of several kits and do 2-year rolling obsolescence upgrade ECPs for each bundle.		
(23) C.E. 2.1.1 Service change kits for ADMACS are only required for hardware (HW) ECPs. These kits are procured in a single fiscal year for all ships and land based lab sites due to the rate at which these components become obsolete. Attempting to procure HW annualized with installs would result in multiple different shipboard configurations due to obsolescence and excessive cost spent on annual requalification of updated HW. Bundled procurements of several kits are required in order to do 2-year rolling obsolescence upgrade ECPs. Software (SW) upgrades and installs do not require kit procurement because the upgrade is developed and installed organically.		
(24) C.E. 2.1.2 Cybersecurity costs moved to new cost element added, 2.2.3. These costs are more accurately classified as non-recurring.		
(25) C.E. 2.1.3 Costs include the install of hardware and software obsolescence updates performed by an organic team (government labor, travel, etc.). Cost for organic systems SW integration and installation were revised to take advantage of planned efficiencies among active ECPs and Carrier availability schedules. Some cost was moved from 2.1.3 to 2.2.3 and 2.2.4, as required for the program transition to a non-recurring engineering focus.		
(26) C.E. 2.2.1 - Costs moved from 2.2.1 to newly added cost elements 2.2.2-2.2.4 in order to more correctly classify cost as non-recurring ECP efforts.		
(27) C.E. 2.2.3 Cybersecurity ECPs represent the organic work required to mitigate emerging CYBER threats as well as software obsolescence. Integration and installation of these ECPs is performed organically under cost element 2.1.3.		
(28) C.E. 2.2.4 Systems Software Build Integration non-recurring engineering represents the organic work required to integrate software (SW) developed under individual ECPs into a SW build to integrate into the ADMACS SW baseline. This task is performed in builds (as opposed to ECP by ECP) to improve the efficiency of common tasking that must take place for each, and reduce the cost of the overall integration task. SW build efforts occur every second year beginning in 2020 in order to capture efficiencies among ECPs and reduce costs associated with annual builds. Once integrated, the ADMACS SW version number is changed, and that version is approved for organic install under cost element 2.1.3.		
(29) C.E. 3.1 Increases in ILS in FY18 and FY19 are a result of cost estimating updates of support to complete logistics products updates (Tech Manuals, Maintenance Plan, MRCs, Training) for the ADMACS Block II Rebaseline.		
(30) C.E. 3.2 Increase in cost from FY18 to FY19 is due to increase in requirements for hardware obsolescence and cybersecurity engineering efforts.		
(31) The time from procurement to installation varies due to: 1) constantly shifting CVN availabilities, and 2) the need to bundle procurements of several kits and do 2-year rolling obsolescence upgrade ECPs for each bundle. ADMACS installation requires at least a 6 month ship availability, however CVN76 is only available for 4 months in years before 2023. Due to the nature of the availability schedule of this forward deployed Carrier, three separate ship availabilities are required to complete the install aboard CVN76. Therefore the installation for CVN76 must take place over 3 Carrier availabilities in FY18, FY19, and FY20. The higher cumulative cost associated with the CVN76 install in FY18-FY20 is due to additional government labor, contract cost, modification work OCONUS in Japan, and administrative coordination for three availabilities rather than one. The CVN 76 install quantity of 1 is shown in FY18 and a quantity of 0 is shown in FY19 and FY20.		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy								<b>Date:</b> February 2018				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment						<b>Modification Number / Title:</b> 3 / ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :								<b>MDAP/MAIS Code:</b>				
<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	0.000	1.057	4.715	6.685	0.000	6.685	18.598	5.771	3.905	4.075	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	0.000	1.057	4.715	6.685	0.000	6.685	18.598	5.771	3.905	4.075	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>0.000</b>	<b>1.057</b>	<b>4.715</b>	<b>6.685</b>	<b>0.000</b>	<b>6.685</b>	<b>18.598</b>	<b>5.771</b>	<b>3.905</b>	<b>4.075</b>	<b>Continuing</b>	<b>Continuing</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Description:</b> The Electromagnetic Aircraft Launch System (EMALS) is replacing the C13 Steam Catapult System aboard Ford class carriers and is an advanced technology aircraft launch system which provides better control of applied forces, improved reliability and maintainability, reduced manning workload and increased operational availability.  FY19 baseline funding is required for software/hardware procurements and updates to address emerging cyber security threats to maintain authority to operate (ATO), to modify the Transformer Rectifier Fuse Detection and Actuator to increase the reliability of the Transformer Rectifier, and to modify the Position Sensor Block to increase reliability and replace obsolete parts. Non-recurring engineering funding is required for CVN-78 Engineering Change Proposals and to modify the Halfbridges to incorporate the next generation of Integrated Gate Bust Transfer (IGBT) to improve reliability and replace obsolete prior generation IGBT.												

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy										<b>Date:</b> February 2018			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment							<b>Modification Number / Title:</b> 3 / ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :										<b>MDAP/MAIS Code:</b>			
<b>Models of Systems Affected:</b> C13-2 Steam Catapult			<b>Modification Type:</b> Reliability and Maintainability					<b>Related RDT&amp;E PEs:</b> 0604112N					
<b>Financial Plan</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
<b>Procurement</b>													
<b>Modification Item 1 of 1:</b> ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)													
B Kits													
Recurring													
1.1.1) Software / Cybersecurity - NonOrganic <sup>(32)</sup>	- / -	- / -	- / -	31 / 0.670	- / -	31 / 0.670	- / -	- / -	- / -	- / -	Continuing	Continuing	
1.1.2) Transformer Rectifier Fuse Detection Actuator - NonOrganic <sup>(33)</sup>	- / -	- / -	- / -	4 / 0.047	- / -	4 / 0.047	- / -	- / -	- / -	- / -	- / -	4 / 0.047	
1.1.3) Position Sensor - NonOrganic <sup>(34)</sup>	- / -	- / -	2 / 1.652	3 / 2.454	- / -	3 / 2.454	- / -	- / -	- / -	- / -	- / -	5 / 4.106	
1.1.4) Hardware Obsolescence - NonOrganic	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 1.897	5 / 1.897	4 / 1.367	Continuing	Continuing	
1.1.5) Torsion Brake - NonOrganic <sup>(35)</sup>	- / -	- / -	14 / 0.115	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	14 / 0.115	
1.1.6) CVN78 REIs - NonOrganic	- / -	- / -	- / -	- / -	- / -	- / -	20 / 3.387	- / -	- / -	- / -	- / -	20 / 3.387	
1.1.7) Halfbridges - NonOrganic	- / -	- / -	- / -	- / -	- / -	- / -	15 / 3.298	- / -	- / -	- / -	- / -	15 / 3.298	
1.1.8) Sixnet Switches - NonOrganic	- / -	- / -	5 / 1.042	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 1.042	
1.1.9) Transformer Rectifier - Organic	- / -	- / -	- / -	- / -	- / -	- / -	3 / 9.727	- / -	- / -	- / -	- / -	3 / 9.727	
<b>Subtotal: Recurring</b>	- / 0.000	- / -	- / 2.809	- / 3.171	- / -	- / 3.171	- / 16.412	- / 1.897	- / 1.897	- / 1.367	Continuing	Continuing	
Non-Recurring													
1.2.1) Non-Recurring Engineering - Organic <sup>(36)</sup>	- / -	- / 0.349	- / 1.446	- / 3.086	- / -	- / 3.086	- / 0.632	- / 2.583	- / 0.060	- / 0.507	Continuing	Continuing	
<b>Subtotal: Non-Recurring</b>	- / 0.000	- / 0.349	- / 1.446	- / 3.086	- / -	- / 3.086	- / 0.632	- / 2.583	- / 0.060	- / 0.507	Continuing	Continuing	
<b>Subtotal: ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)</b>	- / -	- / 0.349	21 / 4.255	38 / 6.257	- / -	38 / 6.257	38 / 17.044	5 / 4.480	5 / 1.957	4 / 1.874	Continuing	Continuing	
<b>Subtotal: Procurement, All Modification Items</b>	- / 0.000	- / 0.349	- / 4.255	- / 6.257	- / -	- / 6.257	- / 17.044	- / 4.480	- / 1.957	- / 1.874	Continuing	Continuing	
<b>Support (All Modification Items)</b>													
2.1) PE	- / -	- / 0.602	- / 0.143	- / 0.072	- / -	- / 0.072	- / 0.393	- / 0.266	- / 0.267	- / 0.371	Continuing	Continuing	
2.2) ILS	- / -	- / 0.106	- / 0.182	- / 0.279	- / -	- / 0.279	- / 0.503	- / 0.171	- / 0.174	- / 0.320	Continuing	Continuing	
<b>Subtotal: Support</b>	- / 0.000	- / 0.708	- / 0.325	- / 0.351	- / -	- / 0.351	- / 0.896	- / 0.437	- / 0.441	- / 0.691	Continuing	Continuing	
<b>Installation</b>													
<b>Modification Item 1 of 1:</b> ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)	- / 0.000	- / 0.000	- / 0.135	- / 0.077	- / 0.000	- / 0.077	- / 0.658	- / 0.854	- / 1.507	- / 1.510	- / 1.247	- / 5.988	
<b>Subtotal: Installation</b>	- / 0.000	- / -	- / 0.135	- / 0.077	- / -	- / 0.077	- / 0.658	- / 0.854	- / 1.507	- / 1.510	- / 1.247	- / 5.988	
<b>Total</b>													

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy										<b>Date:</b> February 2018		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment							<b>Modification Number / Title:</b> 3 / ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :										<b>MDAP/MAIS Code:</b>		
<b>Models of Systems Affected:</b> C13-2 Steam Catapult			<b>Modification Type:</b> Reliability and Maintainability				<b>Related RDT&amp;E PEs:</b> 0604112N					
<b>Financial Plan</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
<b>Total Cost (Procurement + Support + Installation)</b>	0.000	1.057	4.715	6.685	0.000	6.685	18.598	5.771	3.905	4.075	Continuing	Continuing

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy				<b>Date:</b> February 2018									
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3		<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment				<b>Modification Number / Title:</b> 3 / ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)							
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :				<b>MDAP/MAIS Code:</b>									
<b>Modification Item 1 of 1:</b> ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)													
<b>Manufacturer Information</b>													
Manufacturer Name: General Atomics				Manufacturer Location: San Diego, CA									
Administrative Leadtime (in Months): 3				Production Leadtime (in Months): 6									
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023						
Contract Dates				Dec 2019									
Delivery Dates				Jun 2020									
Manufacturer Name: General Atomics				Manufacturer Location: San Diego, CA									
Administrative Leadtime (in Months): 3				Production Leadtime (in Months): 2									
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023						
Contract Dates					Dec 2020	Dec 2021	Dec 2022						
Delivery Dates					Jun 2021	Jun 2022	Jun 2023						
Manufacturer Name: General Atomics				Manufacturer Location: San Diego, CA									
Administrative Leadtime (in Months): 3				Production Leadtime (in Months): 6									
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023						
Contract Dates		Jan 2018	Jan 2019										
Delivery Dates		Jul 2018	Jul 2019										
Manufacturer Name: General Atomics				Manufacturer Location: San Diego, CA									
Administrative Leadtime (in Months): 3				Production Leadtime (in Months): 6									
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023						
Contract Dates				Dec 2019									
Delivery Dates				Jun 2020									
Manufacturer Name: General Atomics				Manufacturer Location: San Diego, CA									
Administrative Leadtime (in Months): 3				Production Leadtime (in Months): 6									
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023						
Contract Dates		Jul 2018											
Delivery Dates		Jul 2018											
Manufacturer Name: General Atomics				Manufacturer Location: San Diego, CA									
Administrative Leadtime (in Months): 3				Production Leadtime (in Months): 6									
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023						
Contract Dates				Dec 2018									

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy								<b>Date:</b> February 2018															
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment					<b>Modification Number / Title:</b> 3 / ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)															
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :				<b>MDAP/MAIS Code:</b>																			
<i>Modification Item 1 of 1: ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)</i>																							
<b>Manufacturer Information</b>																							
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023																
Delivery Dates			Jun 2019																				
Manufacturer Name: General Atomics				Manufacturer Location: San Diego, CA																			
Administrative Leadtime (in Months): 3				Production Leadtime (in Months): 3																			
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023																
Contract Dates			Dec 2018																				
Delivery Dates			Mar 2019																				
Manufacturer Name: General Atomics				Manufacturer Location: San Diego, CA																			
Administrative Leadtime (in Months): 3				Production Leadtime (in Months): 2																			
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023																
Contract Dates		Jan 2018																					
Delivery Dates		Mar 2018																					
<b>Installation Information</b>																							
<b>Method of Implementation:</b> AIT:: Installation Name: 1.1.1) Software / Cybersecurity																							
<b>Installation Cost</b>	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total											
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)											
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -											
FY 2017	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -											
FY 2018	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -											
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	31 / 0.068	- / -	- / -	- / -	0 / 0.000											
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -											
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -											
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -											
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -											
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -											
Total	- / -	- / -	- / -	- / -	- / -	- / -	- / -	31 / 0.068	- / -	- / -	- / -	0 / 0.000											
												31 / 0.068											

**UNCLASSIFIED**

Exhibit P-3a, Individual Modification: PB 2019 Navy																			Date: February 2018											
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3												P-1 Line Item Number / Title: 4213 / Aircraft Support Equipment											Modification Number / Title: 3 / ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)							
ID Code (A=Service Ready, B=Not Service Ready) :												MDAP/MAIS Code:																		
Modification Item 1 of 1: ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)																														
Installation Information																														
Method of Implementation: AIT:: Installation Name: 1.1.1) Software / Cybersecurity																														
Installation Schedule																														
PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	-	-	-	-	-	-	-	-	-	31				
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	-	-	-	-	-	-	-	-	31				
Method of Implementation: AIT:: Installation Name: 1.1.2) Transformer Rectifier Fuse Detection Actuator																														
Installation Cost				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete	Total					
				Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)					
Prior Years	-	/	-	-	/	-	-	-	/	-	-	-	/	-	-	/	-	-	-	-	-	-	-	-						
FY 2017	-	/	-	-	/	-	-	-	/	-	-	-	/	-	-	/	-	-	-	-	-	-	-	-						
FY 2018	-	/	-	-	/	-	-	-	/	-	-	-	/	-	-	/	-	-	-	-	-	-	-	-						
FY 2019	-	/	-	-	/	-	-	-	/	0.058	-	-	0/0.000	-	-	0/0.058	-	-	0/0.539	-	-	-	-	0/0.000	4/0.597					
FY 2020	-	/	-	-	/	-	-	-	/	-	-	-	/	-	-	/	-	-	-	-	-	-	-	-						
FY 2021	-	/	-	-	/	-	-	-	/	-	-	-	/	-	-	/	-	-	-	-	-	-	-	-						
FY 2022	-	/	-	-	/	-	-	-	/	-	-	-	/	-	-	/	-	-	-	-	-	-	-	-						
FY 2023	-	/	-	-	/	-	-	-	/	-	-	-	/	-	-	/	-	-	-	-	-	-	-	-						
To Complete	-	/	-	-	/	-	-	-	/	-	-	-	/	-	-	/	-	-	-	-	-	-	-	-						
Total	-	/	-	-	/	-	-	-	/	0.058	-	-	0/0.000	-	-	0/0.058	-	-	3/0.539	-	-	-	-	0/0.000	4/0.597					
Installation Schedule																														
PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
In	-	-	-	-	-	-	-	-	-	-	-	1	-	-	3	-	-	-	-	-	-	-	-	-	4					
Out	-	-	-	-	-	-	-	-	-	-	-	1	-	-	3	-	-	-	-	-	-	-	-	-	4					

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<b>Exhibit P-3a, Individual Modification: PB 2019 Navy</b>												<b>Date:</b> February 2018																		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3				<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment								<b>Modification Number / Title:</b> 3 / ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)																		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :												<b>MDAP/MAIS Code:</b>																		
<b>Modification Item 1 of 1:</b> ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)																														
<b>Installation Information</b>																														
<b>Method of Implementation:</b> AIT:: Installation Name: 1.1.3) Position Sensor																														
<b>Installation Cost</b>				<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>															
				Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)														
Prior Years				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2017				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2018				- / -	- / -	- / -	2 / 0.019	0 / 0.000	2 / 0.019	- / -	- / -	- / -	- / -	0 / 0.000	2 / 0.019															
FY 2019				- / -	- / -	- / -	- / -	- / -	- / -	3 / 0.051	- / -	- / -	- / -	0 / 0.000	3 / 0.051															
FY 2020				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2021				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2022				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2023				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
To Complete				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
Total				- / -	- / -	- / -	2 / 0.019	0 / 0.000	2 / 0.019	3 / 0.051	- / -	- / -	- / -	0 / 0.000	5 / 0.070															
<b>Installation Schedule</b>																														
PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	2	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	5				
Out	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-	-	-	-	-	-	-	-	-	-	-	5				
<b>Method of Implementation:</b> AIT:: Installation Name: 1.1.4) Hardware Obsolescence																														
<b>Installation Cost</b>				<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>															
				Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)												
Prior Years				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2017				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2018				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2019				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2020				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2021				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 1.507	- / -	- / -	0 / 0.000	5 / 1.507	- / -						
FY 2022				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 1.510	0 / 0.000	5 / 1.510	- / -	- / -	- / -						
FY 2023				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	4 / 1.247	4 / 1.247	- / -	- / -	- / -	- / -						

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy												<b>Date:</b> February 2018																			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3				<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment								<b>Modification Number / Title:</b> 3 / ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)																			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :												<b>MDAP/MAIS Code:</b>																			
<i>Modification Item 1 of 1: ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)</i>																															
<b>Installation Information</b>																															
<b>Method of Implementation:</b> AIT:: Installation Name: 1.1.4) Hardware Obsolescence																															
<b>Installation Cost</b>				Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total																
				Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)															
To Complete				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
Total				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 1.507	5 / 1.510	4 / 1.247	14 / 4.264																
<b>Installation Schedule</b>																															
PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	5	-	-	-	4	14					
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	4	-	-	1	4	4	14						
<b>Method of Implementation:</b> AIT:: Installation Name: 1.1.5) Torsion Brake																															
<b>Installation Cost</b>				Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total																
				Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)															
Prior Years				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -														
FY 2017				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -														
FY 2018				- / -	- / -	14 / 0.067	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	14 / 0.067													
FY 2019				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -														
FY 2020				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -														
FY 2021				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -														
FY 2022				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -														
FY 2023				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -														
To Complete				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -														
Total				- / -	- / -	- / -	14 / 0.067	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	14 / 0.067													

**UNCLASSIFIED**

Exhibit P-3a, Individual Modification: PB 2019 Navy																		Date: February 2018												
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3												P-1 Line Item Number / Title: 4213 / Aircraft Support Equipment										Modification Number / Title: 3 / ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)								
ID Code (A=Service Ready, B=Not Service Ready) :												MDAP/MAIS Code:																		
Modification Item 1 of 1: ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)																														
Installation Information																														
Method of Implementation: AIT:: Installation Name: 1.1.5) Torsion Brake																														
Installation Schedule																														
PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
In	-	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14					
Out	-	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	14					
Method of Implementation: AIT:: Installation Name: 1.1.6) CVN78 REIs																														
Installation Cost				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete	Total					
				Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)	Qty (Each) I	Total Cost (\$ M)					
Prior Years					- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2017					- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2018					- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2019					- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2020					- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	20 / 0.674	- / -	- / -	- / -	0 / 0.000	20 / 0.674	- / -	- / -						
FY 2021					- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2022					- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2023					- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
To Complete					- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
Total					- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	20 / 0.674	- / -	- / -	- / -	0 / 0.000	20 / 0.674	- / -	- / -						
Installation Schedule																														
PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	20					
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-	-	-	20					

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy												<b>Date:</b> February 2018																		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3				<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment								<b>Modification Number / Title:</b> 3 / ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)																		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :												<b>MDAP/MAIS Code:</b>																		
<b>Modification Item 1 of 1:</b> ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)																														
<b>Installation Information</b>																														
<b>Method of Implementation:</b> AIT:: Installation Name: 1.1.7) Halfbridges																														
<b>Installation Cost</b>				<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>															
				Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)														
Prior Years				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2017				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2018				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2019				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2020				- / -	- / -	- / -	- / -	- / -	- / -	- / -	15 / 0.180	- / -	- / -	0 / 0.000	15 / 0.180															
FY 2021				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2022				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2023				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
To Complete				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
Total				- / -	- / -	- / -	- / -	- / -	- / -	- / -	15 / 0.180	- / -	- / -	0 / 0.000	15 / 0.180															
<b>Installation Schedule</b>																														
PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	15					
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	7	-	-	-	-	-	-	-	-	15				
<b>Method of Implementation:</b> AIT:: Installation Name: 1.1.8) Sixnet Switches																														
<b>Installation Cost</b>				<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>															
				Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)												
Prior Years				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2017				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2018				- / -	- / -	5 / 0.068	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	5 / 0.068	-	-	-						
FY 2019				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2020				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2021				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2022				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2023				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy												<b>Date:</b> February 2018																		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3				<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment								<b>Modification Number / Title:</b> 3 / ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)																		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :												<b>MDAP/MAIS Code:</b>																		
<i>Modification Item 1 of 1: ALRE - Electromagnetic Aircraft Launch System (EMALS) (SJ306)</i>																														
<b>Installation Information</b>																														
<b>Method of Implementation:</b> AIT:: Installation Name: 1.1.8) Sixnet Switches																														
<b>Installation Cost</b>				<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>															
				Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)														
To Complete				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
Total				- / -	- / -	5 / 0.068	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	5 / 0.068															
<b>Installation Schedule</b>																														
<b>PYS</b>	<b>FY 2017</b>				<b>FY 2018</b>				<b>FY 2019</b>				<b>FY 2020</b>				<b>FY 2021</b>				<b>FY 2022</b>				<b>FY 2023</b>				<b>TC</b>	<b>Tot</b>
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5					
Out	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5					
<b>Method of Implementation (Organic):</b> Transformer Rectifier - Not Installed												<b>Installation Quantity:</b> 3																		
<b>Footnotes:</b>																														
(32) 1.1.1 FY19 Funding required for various software and hardware updates to address emerging mandates, quantities represent the number of affected components within a ship set.																														
(33) 1.1.2. FY19 Funding is required to increase the reliability of the Transformer Rectifier (TR) by adding a new circuit to detect the functionality of the control fuse. Additionally the existing actuator is being replaced with a more reliable and robust unit.																														
(34) 1.1.3. Funding has been re-prioritized in FY18 and FY19 to address emerging high failure rates on the Position Sensor Block (PSB) aboard CVN78. The issue has been traced to high impact loading caused by the Armature as it passes each block. This change adds vibration and shock absorber material to the PSB mounting reducing the load on the PSB and increasing reliability and service life. Quantities represent catapults to be updated each FY.																														
(35) 1.1.5. Funding has been re-aligned to FY18 to support an emerging issue discovered aboard CVN78 with the Torsion Brake performance. The present design does not meet requirements therefore a replacement is required. There are a pair of Torsion Brakes for each catapult (X4) plus a spare armature for a quantity of 10 on the ship, and an addition 4 are required for the test site.																														
(36) CE 1.2.1 - Non-Recurring Engineering addresses engineering changes, obsolescence of hardware, correction of deficiencies found during integration test and development test evaluation, and to maintain cyber security compliance and field critical software updates.																														

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy								<b>Date:</b> February 2018				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment					<b>Modification Number / Title:</b> 4 / LAMPS MK III - SRQ(KU)-4 (S1010)				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :								<b>MDAP/MAIS Code:</b>				
<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	33.931	16.006	24.914	25.741	0.000	25.741	25.372	25.913	26.412	26.974	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	33.931	16.006	24.914	25.741	0.000	25.741	25.372	25.913	26.412	26.974	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>33.931</b>	<b>16.006</b>	<b>24.914</b>	<b>25.741</b>	<b>0.000</b>	<b>25.741</b>	<b>25.372</b>	<b>25.913</b>	<b>26.412</b>	<b>26.974</b>	<b>Continuing</b>	<b>Continuing</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

LAMPS MK III, AN/SRQ-4 (Ku), is an over the horizon information dominance system with a high speed, air-to-ground, digital data link that transmits reconnaissance and other data from MH-60 helicopters to surface ships (cruisers and destroyers) to enable data, imagery, electronic support measures, communications and radar information via the Ku-band link.

Program provides for non-recurring engineering, procurement and associated installation and support of AN/SRQ-4(Ku) field install kits. This system encompasses hardware and software to transmit sensor data from the Light Airborne Multi-Purpose System (LAMPS) MK III MH-60R aircraft to the host ship classes.

The FY 2019 request funds the procurement of 8 AN/SRQ-4(Ku) field install kits and associated support and installation costs to meet the MH-60R deployment schedule.

Objective Inventory is 100 kits. (68 Destroyers [DDGs], 22 Cruisers [CGs], & 10 Shore sites). 22 kits were previously installed in line item 4255 and 78 kits will be installed in line item 4213.

Notes for installation schedule:

1. Kits procured in Budget Line Item 4255 (FY 2014 and Prior) are being installed in this Budget Line Item commencing in FY 2015.
2. Installations are subject to changes with ship availability schedules.
3. The year-to-year unit installation cost varies significantly and can exceed the projected yearly inflation rate. The varying unit cost is due to the hardware installation cost being dependent on quantity, location (i.e., Japan, Norfolk, San Diego, etc.), ship class (i.e., DDG or CG), Shipyard (i.e. Bath or Ingalls), ship baseline configuration (i.e., Navigation System installed, A-Kit pre-install), and ship availability period overlaps.
4. Production lead time includes pre-installation checkouts, kitting with other installation hardware and drawings, and time to ship the hardware to the installation site.

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy										<b>Date:</b> February 2018			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment							<b>Modification Number / Title:</b> 4 / LAMPS MK III - SRQ(KU)-4 (S1010)			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :										<b>MDAP/MAIS Code:</b>			
<b>Models of Systems Affected:</b> LAMPS MK III			<b>Modification Type:</b> Non-Organic					<b>Related RDT&amp;E PEs:</b>					
<b>Financial Plan</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
<b>Procurement</b>													
<b>Modification Item 1 of 1:</b> LAMPS MK III - SRQ(KU)-4 (S1010)													
B Kits													
Recurring													
1.1.1) SRQ(KU)-4 - NonOrganic		34 / 15.016	4 / 5.060	7 / 8.614	8 / 9.758	- / -	8 / 9.758	8 / 9.999	8 / 10.266	7 / 9.154	2 / 2.665	- / -	78 / 70.532
Subtotal: Recurring		- / 15.016	- / 5.060	- / 8.614	- / 9.758	- / -	- / 9.758	- / 9.999	- / 10.266	- / 9.154	- / 2.665	- / 0.000	- / 70.532
Non-Recurring													
1.2.1) NRE - Organic <sup>(37)</sup>		- / -	- / 2.919	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 3.853	- / -	- / 6.772
Subtotal: Non-Recurring		- / 0.000	- / 2.919	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 3.853	- / 0.000	- / 6.772
Subtotal: LAMPS MK III - SRQ(KU)-4 (S1010)		34 / 15.016	4 / 7.979	7 / 8.614	8 / 9.758	- / -	8 / 9.758	8 / 9.999	8 / 10.266	7 / 9.154	2 / 6.518	- / -	78 / 77.304
Subtotal: Procurement, All Modification Items		- / 15.016	- / 7.979	- / 8.614	- / 9.758	- / -	- / 9.758	- / 9.999	- / 10.266	- / 9.154	- / 6.518	- / 0.000	- / 77.304
<b>Support (All Modification Items)</b>													
2.1) Data <sup>(38)</sup>		- / 0.726	- / 0.456	- / 0.376	- / 0.573	- / -	- / 0.573	- / 0.643	- / 0.562	- / 0.975	- / 0.401	Continuing	Continuing
2.2) Support Equipment <sup>(39)</sup>		- / 0.420	- / -	- / 1.087	- / 1.106	- / -	- / 1.106	- / 1.126	- / 1.146	- / -	- / -	Continuing	Continuing
2.3) ILS		- / 2.048	- / 1.646	- / 1.893	- / 1.928	- / -	- / 1.928	- / 2.022	- / 2.058	- / 2.095	- / 4.304	Continuing	Continuing
2.4) Government Engineering <sup>(40)</sup>		- / 2.600	- / 0.684	- / 1.454	- / 2.383	- / -	- / 2.383	- / 2.435	- / 2.469	- / 2.836	- / 5.826	Continuing	Continuing
2.5) Acceptance Test & Evaluation		- / 0.084	- / 0.091	- / 0.086	- / 0.088	- / -	- / 0.088	- / 0.207	- / 0.211	- / 0.215	- / 0.219	Continuing	Continuing
2.6) GFE		- / 0.999	- / 0.346	- / 0.356	- / 0.363	- / -	- / 0.363	- / 0.369	- / 0.376	- / 0.383	- / 0.390	Continuing	Continuing
2.7) Production Line Support <sup>(41)</sup>		- / -	- / -	- / 3.100	- / 2.890	- / -	- / 2.890	- / 1.141	- / 1.161	- / 1.785	- / 1.500	- / -	- / 11.577
Subtotal: Support		- / 6.877	- / 3.223	- / 8.352	- / 9.331	- / -	- / 9.331	- / 7.943	- / 7.983	- / 8.289	- / 12.640	Continuing	Continuing
<b>Installation</b>													
<b>Modification Item 1 of 1:</b> LAMPS MK III - SRQ(KU)-4 (S1010)		- / 12.038	- / 4.804	- / 7.948	- / 6.652	- / 0.000	- / 6.652	- / 7.430	- / 7.664	- / 8.969	- / 7.816	- / 15.694	- / 79.015
Subtotal: Installation		- / 12.038	- / 4.804	- / 7.948	- / 6.652	- / -	- / 6.652	- / 7.430	- / 7.664	- / 8.969	- / 7.816	- / 15.694	- / 79.015
<b>Total</b>													
Total Cost (Procurement + Support + Installation)		33.931	16.006	24.914	25.741	0.000	25.741	25.372	25.913	26.412	26.974	Continuing	Continuing

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy												<b>Date:</b> February 2018																			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3				<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment								<b>Modification Number / Title:</b> 4 / LAMPS MK III - SRQ(KU)-4 (S1010)																			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :												<b>MDAP/MAIS Code:</b>																			
<b>Modification Item 1 of 1:</b> LAMPS MK III - SRQ(KU)-4 (S1010)																															
<b>Manufacturer Information</b>																															
Manufacturer Name: TBD (Competitive Procurement) (42)								Manufacturer Location: TBD (Competitive Procurement)																							
Administrative Leadtime ( <i>in Months</i> ): 3								Production Leadtime ( <i>in Months</i> ): 24																							
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023																								
Contract Dates	Jan 2018	Jan 2018	Jan 2019																												
Delivery Dates	Jan 2020	May 2020	Jan 2021																												
<b>Installation Information</b>																															
<b>Method of Implementation:</b> NAWCAD St. Inigoes Installation Team:: Installation Name: AN/SRQ-4 Installations																															
<b>Installation Cost</b>			<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>																	
			Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)														
Prior Years			15 / 12.038	7 / 4.804	8 / 7.948	4 / 6.652	0 / 0.000	4 / 6.652	- / -	- / -	- / -	- / -	- / -	0 / 0.000	34 / 31.442																
FY 2017			- / -	- / -	- / -	- / -	- / -	- / -	4 / 3.302	- / -	- / -	- / -	- / -	0 / 0.000	4 / 3.302																
FY 2018			- / -	- / -	- / -	- / -	- / -	- / -	5 / 4.128	2 / 1.916	- / -	- / -	- / -	0 / 0.000	7 / 6.044																
FY 2019			- / -	- / -	- / -	- / -	- / -	- / -	6 / 5.748	2 / 2.563	- / -	- / -	- / -	0 / 0.000	8 / 8.311																
FY 2020			- / -	- / -	- / -	- / -	- / -	- / -	5 / 6.406	3 / 2.931	- / -	- / -	- / -	0 / 0.000	8 / 9.337																
FY 2021			- / -	- / -	- / -	- / -	- / -	- / -	5 / 4.885	3 / 3.363	- / -	- / -	- / -	0 / 0.000	8 / 8.248																
FY 2022			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	7 / 9.192	7 / 9.192																
FY 2023			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 3.139	2 / 3.139																
To Complete			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																
Total			15 / 12.038	7 / 4.804	8 / 7.948	4 / 6.652	0 / 0.000	4 / 6.652	9 / 7.430	8 / 7.664	7 / 8.969	8 / 7.816	12 / 15.694	78 / 79.015																	
<b>Installation Schedule</b>																															
PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4							
In	15	2	1	2	2	3	2	1	2	3	1	-	-	-	2	3	4	1	1	3	3	2	-	2	3	1	2	2	3	12	78
Out	15	1	2	2	2	3	2	1	2	3	1	-	-	-	2	3	4	1	1	3	3	2	-	2	3	1	2	2	3	12	78
<b>Footnotes:</b>																															
(37) Cost Element 1.2.1 FY 2017 NRE funding supports correction of several component level obsolescence issues on the SRQ(KU)-4 production line.																															
(38) Cost Element 2.1, Data funding, supports ship installation documentation and Ship Change Proposals on multiple CG and DDG class ships scheduled for ship check and modernization changes as part of the fielding plan. This cost element provides the funds to procure the data packages one to two years prior to the ship installations. Data costs vary year to year due to Cruiser (CG) packages being significantly more expensive as compared to Destroyers (DDG)s due to the age and individuality of the CGs.																															

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy		<b>Date:</b> February 2018
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3	<b>P-1 Line Item Number / Title:</b> 4213 / Aircraft Support Equipment	<b>Modification Number / Title:</b> 4 / LAMPS MK III - SRQ(KU)-4 (S1010)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>	
(39) Cost Element 2.2, Support Equipment is for the procurement of Test Set-4120s that allows testing of the LAMPS MK III system without using a helicopter.		
(40) Cost Element 2.4, Government Engineering, funding is required for engineering support for acquisition, configuration/documentation management, GFE, support equipment, scheduling of ship installation activities, and test support required to produce, deliver and install the SRQ(KU)-4 kits onboard CG and DDG class ships. Funding increases from FY 2018 to FY 2019 to support the increase in units in the production cycle and to support the increase in data requirements in FY 2019.		
(41) Cost Element 2.7, Production Line Support, was previously budgeted in Cost Element 1.1.1 as part of the SRQ(KU)-4 recurring B kit unit cost. For the FY 2019 President's Budget Submission the costs have been broken out to provide a better fidelity of total costs. These costs are for Prime contractor support required to produce and deliver SRQ(KU)-4 installation kits.		
(42) FY 2017 and FY 2018 hardware contracts were bundled in order to achieve cost savings required due to FY 2017 Congressional reduction. Therefore, FY 2018 kits will begin delivering after final FY 2017 kit is delivered.		

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<b>Exhibit P-40, Budget Line Item Justification: PB 2019 Navy</b>										<b>Date:</b> February 2018			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment										<b>P-1 Line Item Number / Title:</b> 4217 / Advanced Arresting Gear (AAG)			
<b>ID Code (A=Service Ready, B=Not Service Ready): A</b>										<b>Program Elements for Code B Items:</b> 0204112N			
<b>Line Item MDAP/MAIS Code:</b> 529													
<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>	
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-	
Gross/Weapon System Cost (\$ in Millions)	0.000	0.000	10.900	11.054	0.000	11.054	4.723	3.137	2.460	2.513	263.910	298.697	
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-	
Net Procurement (P-1) (\$ in Millions)	0.000	0.000	10.900	11.054	0.000	11.054	4.723	3.137	2.460	2.513	263.910	298.697	
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Total Obligation Authority (\$ in Millions)</b>	<b>0.000</b>	<b>0.000</b>	<b>10.900</b>	<b>11.054</b>	<b>0.000</b>	<b>11.054</b>	<b>4.723</b>	<b>3.137</b>	<b>2.460</b>	<b>2.513</b>	<b>263.910</b>	<b>298.697</b>	
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>													
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-	
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-	
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Description:</b>													
This budget line item funds the procurement for Advanced Arresting Gear (AAG) life cycle support modifications and upgrades required aboard Ford Class Carriers, Jet Car Track Site (JCTS) and Runway Arrested Landing Site (RALS) systems. Modifications included in the budget support fatigue life, obsolescence and performance enhancements to ensure the system remains operational throughout the life of the program. AAG will replace Mark 7 arresting gear aboard Ford Class aircraft carriers and will provide the U.S. Navy with the ability to recover existing and projected aircraft carrier based tail-hook equipped air vehicles well into the 21st century. AAG will enhance operational capability, provide increased operational availability, while reducing manning, maintenance and support costs. AAG is installed aboard CVN78 as well as two land based test sites JCTS and RALS.													
FY2017 (\$2.2M) and Prior Years (\$74.7M) funded under Aircraft Support Equipment (BLI 4213, and BLI 4216).													

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<b>Exhibit P-40, Budget Line Item Justification: PB 2019 Navy</b>							<b>Date:</b> February 2018					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment					<b>P-1 Line Item Number / Title:</b> 4217 / Advanced Arresting Gear (AAG)							
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A					<b>Program Elements for Code B Items:</b> 0204112N							
<b>Line Item MDAP/MAIS Code:</b> 529												
<b>Exhibits Schedule</b>					<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>		
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)		
P-3a	1 / Advanced Arresting Gear (AAG) (Advanced Arresting Gear (AAG))				- / 0.000	- / 0.000	- / 10.900	- / 11.054	- / 0.000	- / 11.054		
P-40	<b>Total Gross/Weapon System Cost</b>				- / 0.000	- / 0.000	- / 10.900	- / 11.054	- / 0.000	- / 11.054		
<b>Exhibits Schedule</b>					<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>		
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)		
P-3a	1 / Advanced Arresting Gear (AAG) (Advanced Arresting Gear (AAG))				- / 4.723	- / 3.137	- / 2.460	- / 2.513	- / 263.910	- / 298.697		
P-40	<b>Total Gross/Weapon System Cost</b>				- / 4.723	- / 3.137	- / 2.460	- / 2.513	- / 263.910	- / 298.697		

\*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:**

FY2019 baseline funding is required for post-delivery life cycle Water Twister improvement upgrade, and to address hardware obsolescence ECP's for the Advanced Arresting Gear (AAG).

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy								<b>Date:</b> February 2018				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4217 / Advanced Arresting Gear (AAG)					<b>Modification Number / Title:</b> 1 / Advanced Arresting Gear (AAG)				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :								<b>MDAP/MAIS Code:</b>				
<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	0.000	0.000	10.900	11.054	0.000	11.054	4.723	3.137	2.460	2.513	263.910	298.697
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	0.000	0.000	10.900	11.054	0.000	11.054	4.723	3.137	2.460	2.513	263.910	298.697
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>0.000</b>	<b>0.000</b>	<b>10.900</b>	<b>11.054</b>	<b>0.000</b>	<b>11.054</b>	<b>4.723</b>	<b>3.137</b>	<b>2.460</b>	<b>2.513</b>	<b>263.910</b>	<b>298.697</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

This budget line item funds the procurement for Advanced Arresting Gear (AAG) life cycle support modifications and upgrades required aboard Ford Class Carriers, Jet Car Track Site (JCTS) and Runway Arrested Landing Site (RALS) systems. Modifications included in the budget support fatigue life, obsolescence and performance enhancements to ensure the system remains operational throughout the life of the program. AAG will replace Mark 7 arresting gear aboard Ford Class aircraft carriers and will provide the U.S. Navy with the ability to recover existing and projected aircraft carrier based tail-hook equipped air vehicles well into the 21st century. AAG will enhance operational capability, provide increased operational availability, while reducing manning, maintenance and support costs. AAG is installed aboard CVN78 and in two land based test sites at JCTS and RALS.

CVN78 will deliver with several known deficiencies for AAG. FY2019 funding is provided to include the post-delivery life cycle component improvement upgrades to the system's Water Twisters as well as continue to address and field critical software updates, maintain cyber security compliance and hardware obsolescence ECP's onboard CVN78 and at RALS and JCTS. Water Twisters are being upgraded to meet the fatigue life requirements for the system onboard CVN78 and at RALS and JCTS.

CVN78 has a Planned Incremental Availability (PIA) in FY2020 when a significant amount of obsolescence issues will be addressed for CVN78 as well as the required updates at RALS and JCTS to maintain configuration across all three sites. The degree of complexity and nature of the ECP's are varying in cost as well as in quantities onboard CVN78 for RALS and JCTS depending on the conditions at each of the three sites.

FY2017 and prior funded under Aircraft Support Equipment (BLI 4213, and BLI 4216).

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy										<b>Date:</b> February 2018			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4217 / Advanced Arresting Gear (AAG)							<b>Modification Number / Title:</b> 1 / Advanced Arresting Gear (AAG)			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :										<b>MDAP/MAIS Code:</b>			
<b>Models of Systems Affected:</b> MK-15			<b>Modification Type:</b> Advanced Arresting Gear (AAG)					<b>Related RDT&amp;E PEs:</b> 0604512N, 0604530N					
<b>Financial Plan</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
<b>Procurement</b>													
<b>Modification Item 1 of 1:</b> Advanced Arresting Gear (AAG)													
B Kits													
Recurring													
1.1.1) Water Twister - NonOrganic <sup>(1)</sup>	- / -	- / -	6 / 8.288	4 / 7.147	- / -	4 / 7.147	- / -	- / -	- / -	- / -	- / -	- / -	10 / 15.435
1.1.2) Healthmap Blades Obsolescence - NonOrganic	- / -	- / -	- / -	- / -	- / -	- / -	2 / 0.039	- / -	- / -	- / -	- / -	- / -	2 / 0.039
1.1.3) PC104 Obsolescence - NonOrganic	- / -	- / -	- / -	- / -	- / -	- / -	5 / 0.273	- / -	- / -	- / -	- / -	- / -	5 / 0.273
1.1.4) Halfbridge Reliability, Performance, and Gen 3 Obsolescence - NonOrganic	- / -	- / -	- / -	- / -	- / -	- / -	48 / 1.735	- / -	- / -	- / -	- / -	- / -	48 / 1.735
1.1.5) Urgent Obsolescence Back Fit For CVN 78 - NonOrganic	- / -	- / -	- / -	- / -	- / -	- / -	5 / 0.735	5 / 0.559	- / -	- / -	- / -	- / -	10 / 1.294
1.1.6) AAG AES/EAS - PCD/CSA Sheave Grease Manifold - NonOrganic	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 1.065	- / -	- / -	- / -	12 / 1.065
<b>Subtotal: Recurring</b>	- / 0.000	- / -	- / 8.288	- / 7.147	- / -	- / 7.147	- / 2.782	- / 0.559	- / 1.065	- / -	- / 0.000	- / -	- / 19.841
Non-Recurring													
1.2.1) Non-Recurring Engineering - Organic <sup>(2)</sup>	- / -	- / -	- / 2.201	- / 3.486	- / -	- / 3.486	- / 0.778	- / 2.131	- / 1.151	- / 2.155	- / 235.754	- / 247.656	
<b>Subtotal: Non-Recurring</b>	- / 0.000	- / -	- / 2.201	- / 3.486	- / -	- / 3.486	- / 0.778	- / 2.131	- / 1.151	- / 2.155	- / 235.754	- / 247.656	
<b>Subtotal: Advanced Arresting Gear (AAG)</b>	- / -	- / -	6 / 10.489	4 / 10.633	- / -	4 / 10.633	60 / 3.560	5 / 2.690	12 / 2.216	- / 2.155	- / 235.754	- / 267.497	
<b>Subtotal: Procurement, All Modification Items</b>	- / 0.000	- / -	- / 10.489	- / 10.633	- / -	- / 10.633	- / 3.560	- / 2.690	- / 2.216	- / 2.155	- / 235.754	- / 267.497	
<b>Support (All Modification Items)</b>													
2.1) Integrated Logistics Support	- / -	- / -	- / 0.186	- / 0.189	- / -	- / 0.189	- / 0.091	- / 0.089	- / 0.081	- / 0.156	- / 11.208	- / 12.000	
2.2) Production Engineering Support	- / -	- / -	- / 0.225	- / 0.232	- / -	- / 0.232	- / 0.114	- / 0.112	- / 0.101	- / 0.098	- / 16.948	- / 17.830	
<b>Subtotal: Support</b>	- / 0.000	- / -	- / 0.411	- / 0.421	- / -	- / 0.421	- / 0.205	- / 0.201	- / 0.182	- / 0.254	- / 28.156	- / 29.830	
<b>Installation</b>													
<b>Modification Item 1 of 1:</b> Advanced Arresting Gear (AAG)	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.958	- / 0.246	- / 0.062	- / 0.104	- / 0.000	- / 1.370	
<b>Subtotal: Installation</b>	- / 0.000	- / -	- / -	- / -	- / -	- / -	- / 0.958	- / 0.246	- / 0.062	- / 0.104	- / 0.000	- / 1.370	
<b>Total</b>													
<b>Total Cost (Procurement + Support + Installation)</b>	0.000	0.000	10.900	11.054	0.000	11.054	4.723	3.137	2.460	2.513	263.910	298.697	

**UNCLASSIFIED**

Exhibit P-3a, Individual Modification: PB 2019 Navy				Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3		P-1 Line Item Number / Title: 4217 / Advanced Arresting Gear (AAG)				Modification Number / Title: 1 / Advanced Arresting Gear (AAG)			
ID Code (A=Service Ready, B=Not Service Ready) : <b>Modification Item 1 of 1:</b> Advanced Arresting Gear (AAG)				MDAP/MAIS Code:					
<b>Manufacturer Information</b>									
Manufacturer Name: General Atomics				Manufacturer Location: San Diego, CA					
Administrative Leadtime (in Months): 5				Production Leadtime (in Months): 11					
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023		
Contract Dates						Feb 2022			
Delivery Dates						Jan 2023			
Manufacturer Name: General Atomics				Manufacturer Location: San Diego, CA					
Administrative Leadtime (in Months): 6				Production Leadtime (in Months): 12					
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023		
Contract Dates		Mar 2018	Mar 2019						
Delivery Dates		Mar 2019	Mar 2020						
Manufacturer Name: General Atomics				Manufacturer Location: San Diego, CA					
Administrative Leadtime (in Months): 5				Production Leadtime (in Months): 12					
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023		
Contract Dates				Feb 2020	Feb 2021				
Delivery Dates				Feb 2021	Feb 2022				
Manufacturer Name: General Atomics				Manufacturer Location: San Diego, CA					
Administrative Leadtime (in Months): 5				Production Leadtime (in Months): 12					
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023		
Contract Dates				Feb 2020					
Delivery Dates				Feb 2021					
Manufacturer Name: General Atomics				Manufacturer Location: San Diego, CA					
Administrative Leadtime (in Months): 5				Production Leadtime (in Months): 12					
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023		
Contract Dates				Feb 2020					
Delivery Dates				Feb 2021					
Manufacturer Name: General Atomics				Manufacturer Location: San Diego, CA					
Administrative Leadtime (in Months): 5				Production Leadtime (in Months): 12					
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023		
Contract Dates				Feb 2020					
Delivery Dates				Feb 2021					

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy												<b>Date:</b> February 2018																		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3				<b>P-1 Line Item Number / Title:</b> 4217 / Advanced Arresting Gear (AAG)								<b>Modification Number / Title:</b> 1 / Advanced Arresting Gear (AAG)																		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :												<b>MDAP/MAIS Code:</b>																		
<i>Modification Item 1 of 1: Advanced Arresting Gear (AAG)</i>																														
<b>Installation Information</b>																														
<b>Method of Implementation:</b> AIT Install:: Installation Name: 1.1.1) Water Twister																														
<b>Installation Cost</b>			<b>Prior Years</b>		<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>		<b>FY 2020</b>		<b>FY 2021</b>		<b>FY 2022</b>		<b>FY 2023</b>		<b>To Complete</b>		<b>Total</b>					
			Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)							
Prior Years			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -									
FY 2017			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -									
FY 2018			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	6 / 0.766	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	6 / 0.766									
FY 2019			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	4 / 0.192	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	4 / 0.192									
FY 2020			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -									
FY 2021			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -									
FY 2022			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -									
FY 2023			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -									
To Complete			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -									
Total			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 0.958	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	10 / 0.958									
<b>Installation Schedule</b>																														
<b>PYS</b>	<b>FY 2017</b>				<b>FY 2018</b>				<b>FY 2019</b>				<b>FY 2020</b>				<b>FY 2021</b>				<b>FY 2022</b>				<b>FY 2023</b>				<b>TC</b>	<b>Tot</b>
	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>						
In	-	-	-	-	-	-	-	-	-	-	-	6	-	4	-	-	-	-	-	-	-	-	-	-	10					
Out	-	-	-	-	-	-	-	-	-	-	-	6	4	-	-	-	-	-	-	-	-	-	-	-	10					
<b>Method of Implementation:</b> AIT Install:: Installation Name: 1.1.2) Healthmap Blades Obsolescence																														
<b>Installation Cost</b>			<b>Prior Years</b>		<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>		<b>FY 2020</b>		<b>FY 2021</b>		<b>FY 2022</b>		<b>FY 2023</b>		<b>To Complete</b>		<b>Total</b>					
			Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)						
Prior Years			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -							
FY 2017			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -							
FY 2018			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -							
FY 2019			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -							
FY 2020			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 0.017	- / -	- / -	- / -	- / -	0 / 0.000	2 / 0.017							
FY 2021			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -							
FY 2022			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -							
FY 2023			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -							
To Complete			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -							

**UNCLASSIFIED**

Exhibit P-3a, Individual Modification: PB 2019 Navy													Date: February 2018																	
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3				P-1 Line Item Number / Title: 4217 / Advanced Arresting Gear (AAG)									Modification Number / Title: 1 / Advanced Arresting Gear (AAG)																	
ID Code (A=Service Ready, B=Not Service Ready) :													MDAP/MAIS Code:																	
Modification Item 1 of 1: Advanced Arresting Gear (AAG)																														
Installation Information																														
Method of Implementation: AIT Install:: Installation Name: 1.1.2) Healthmap Blades Obsolescence																														
Installation Cost				Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total															
				Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)															
Total				- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 0.017	- / -	- / -	0 / 0.000	2 / 0.017															
Installation Schedule																														
PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	2					
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2					
Method of Implementation: AIT Install:: Installation Name: 1.1.3) PC104 Obsolescence																														
Installation Cost				Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total															
				Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)														
Prior Years				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -													
FY 2017				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -													
FY 2018				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -													
FY 2019				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -													
FY 2020				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 0.004	- / -	- / -	- / -	0 / 0.000	5 / 0.004													
FY 2021				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -													
FY 2022				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -													
FY 2023				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -													
To Complete				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -													
Total				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 0.004	- / -	- / -	- / -	0 / 0.000	5 / 0.004													
Installation Schedule																														
PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5						
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5					

**UNCLASSIFIED**

Exhibit P-3a, Individual Modification: PB 2019 Navy												Date: February 2018																		
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3				P-1 Line Item Number / Title: 4217 / Advanced Arresting Gear (AAG)								Modification Number / Title: 1 / Advanced Arresting Gear (AAG)																		
ID Code (A=Service Ready, B=Not Service Ready) :												MDAP/MAIS Code:																		
Modification Item 1 of 1: Advanced Arresting Gear (AAG)																														
Installation Information																														
Method of Implementation: AIT Install:: Installation Name: 1.1.4) Halfbridge Reliability, Performance, and Gen 3 Obsolescence																														
Installation Cost			Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total																
			Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)															
Prior Years			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2017			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2018			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2019			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2020			- / -	- / -	- / -	- / -	- / -	- / -	- / -	48 / 0.143	- / -	- / -	0 / 0.000	48 / 0.143																
FY 2021			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2022			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
FY 2023			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
To Complete			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -															
Total			- / -	- / -	- / -	- / -	- / -	- / -	- / -	48 / 0.143	- / -	- / -	0 / 0.000	48 / 0.143																
Installation Schedule																														
PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	-	-	-	-	-	-	-	-	-	48					
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	-	-	-	-	-	-	-	-	-	48				
Method of Implementation: AIT Install:: Installation Name: 1.1.5) Urgent Obsolescence Back-fit for CVN-78																														
Installation Cost			Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total																
			Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)															
Prior Years			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -							
FY 2017			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2018			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2019			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2020			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	51 / 0.082	- / -	- / -	0 / 0.000	51 / 0.082															
FY 2021			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	51 / 0.062	- / -	- / -	0 / 0.000	51 / 0.062															
FY 2022			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
FY 2023			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -						
To Complete			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -					

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Exhibit P-3a, Individual Modification: PB 2019 Navy													Date: February 2018																		
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3				P-1 Line Item Number / Title: 4217 / Advanced Arresting Gear (AAG)									Modification Number / Title: 1 / Advanced Arresting Gear (AAG)																		
ID Code (A=Service Ready, B=Not Service Ready) :													MDAP/MAIS Code:																		
Modification Item 1 of 1: Advanced Arresting Gear (AAG)																															
Installation Information																															
Method of Implementation: AIT Install: Installation Name: 1.1.5) Urgent Obsolescence Back-fit for CVN-78																															
Installation Cost				Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total																
				Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)																
Total				- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 0.082	5 / 0.062	- / -	0 / 0.000	10 / 0.144																
Installation Schedule																															
PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	5	-	-	-	-	-	-	10					
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	5	-	-	-	-	-	10					
Method of Implementation: AIT Install: Installation Name: 1.1.6) AAG AES/EAS - PCD/CSA Sheave Grease Manifold																															
Installation Cost				Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total																
				Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)															
Prior Years				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -														
FY 2017				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -														
FY 2018				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -														
FY 2019				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -														
FY 2020				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -														
FY 2021				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -														
FY 2022				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 0.104	0 / 0.000	12 / 0.104															
FY 2023				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -														
To Complete				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -														
Total				- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 0.104	0 / 0.000	12 / 0.104															
Installation Schedule																															
PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	12					
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	12					

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy		<b>Date:</b> February 2018		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3	<b>P-1 Line Item Number / Title:</b> 4217 / Advanced Arresting Gear (AAG)	<b>Modification Number / Title:</b> 1 / Advanced Arresting Gear (AAG)		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>			
<b>Footnotes:</b>				
(1) Increased water twister kit costs in FY19 are associated with the addition of rotors in the kits to be procured that year.				
(2) Non-Recurring Engineering - The FY19 increase in NRE is driven by ship integration planning and ship drawings needed for ship installation beginning in FY2020. CVN78 will deliver with several known deficiencies for AAG that cannot be corrected prior to delivery. The non-recurring engineering addresses engineering changes, obsolescence of hardware, correction of deficiencies found during Integration Test, Development Test & Evaluation as well as Operational Test & Evaluation. It will also be used to maintain cyber security compliance for the system as well as field required critical software updates.				

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<b>Exhibit P-40, Budget Line Item Justification: PB 2019 Navy</b>										<b>Date:</b> February 2018					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment					<b>P-1 Line Item Number / Title:</b> 4226 / Meteorological Equipment										
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A			<b>Program Elements for Code B Items:</b> N/A					<b>Other Related Program Elements:</b> N/A							
<b>Line Item MDAP/MAIS Code:</b> N/A															
<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>			
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-			
Gross/Weapon System Cost (\$ in Millions)	109.700	29.015	21.137	21.072	0.000	21.072	36.470	47.657	20.360	20.860	Continuing	Continuing			
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-			
Net Procurement (P-1) (\$ in Millions)	109.700	29.015	21.137	21.072	0.000	21.072	36.470	47.657	20.360	20.860	Continuing	Continuing			
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-			
<b>Total Obligation Authority (\$ in Millions)</b>	<b>109.700</b>	<b>29.015</b>	<b>21.137</b>	<b>21.072</b>	<b>0.000</b>	<b>21.072</b>	<b>36.470</b>	<b>47.657</b>	<b>20.360</b>	<b>20.860</b>	<b>Continuing</b>	<b>Continuing</b>			
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>															
Initial Spares (\$ in Millions)	-	0.169	0.001	0.752	-	0.752	0.756	0.864	0.332	0.183	Continuing	Continuing			
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-			
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-			
<b>Description:</b>															
The Meteorological Equipment budget line item provides new and replacement meteorological equipment for Navy and Marine Corps Air Stations, Navy ships, United States Marine Corps (USMC) Operational Force units and other activities required to provide weather observations and provide safety of flight capabilities. It also provides new Intelligence Preparation of the Operational Environment (IPOE) equipment for submarines. The Meteorological Equipment procurement has been coordinated with other Department of Defense (DoD) and civilian agencies. Equipment is funded under the following programs:															
[P40A / SP051 Satellite Receiver Upgrades (Space)]: Environmental Satellite Receiver Systems receive and process remotely sensed data in L and S frequency bands from several National and International Meteorology and Oceanography (METOC) Satellite families such as the Defense Meteorological Program (DMSP) Polar Satellites, the National Oceanic and Atmospheric Administration (NOAA) satellites, and the Geostationary Satellite Families (GOES-R). Integration of next generation of polar and geostationary orbiting satellite families and new sensors of opportunity shall be developed and incorporated in hardware design and software upgrades to existing Environmental Receiver Systems. Geostationary upgrades include GOES-R, subsequent GOES-S and Himawari re-broadcast capability (C band).															
[P40A / SP550 METOC SASC Upgrades]: Procurement of Government Off-The-Shelf/Commercial Off-The-Shelf hardware, and associated software upgrades for the 67 fielded Automated Surface Observing Systems (ASOS) and the 9 fielded Supplemental Weather Radars (SWR). Both atmospheric sensing systems are essential for aviation safety, Naval Aviation operations and resource protection. ASOS procurements under this project will provide required system upgrades as required by the National Weather Service Interagency Agreement.															
[P40A / SP600 Littoral Battlespace Sensors - Unmanned Undersea Vehicles (LBS-UUV)]: Procures Unmanned Undersea Vehicle (UUV) ocean sensor systems. These include electrical powered, short duration (~days) Autonomous Undersea Vehicles (AUV) and long duration (~months) buoyancy driven ocean Gliders which carry sensors that characterize the ocean bottom (bathymetry, imagery, etc.) and sense ocean volume parameters (conductivity, temperature, depth, optical clarity, currents, etc.). The AUV submarine variant (AUV(S) Razorback) will provide Intelligence Preparation of the Operational Environment (IPOE) payload capabilities for submarine launched missions. The AUVs are preprogrammed with mission profiles and once launched are totally autonomous. The Ocean Gliders are controlled remotely from the Naval Oceanographic Office (NAVOCEANO), Stennis Space Center, Mississippi from the Glider Operations Center (GOC).															

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<b>Exhibit P-40, Budget Line Item Justification: PB 2019 Navy</b>							<b>Date:</b> February 2018			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment				<b>P-1 Line Item Number / Title:</b> 4226 / Meteorological Equipment						
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A				<b>Program Elements for Code B Items:</b> N/A						
<b>Line Item MDAP/MAIS Code:</b> N/A										
<b>Exhibits Schedule</b>				<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>			
<b>Exhibit Type</b>	<b>Title*</b>	<b>Subexhibits</b>	<b>ID CD</b>	<b>MDAP/MAIS Code</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>
P-40a	Meteorological Equipment	P-5a			- / 109.700	- / 29.015	- / 21.137	- / 21.072	- / -	- / 21.072
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 109.700</b>	<b>- / 29.015</b>	<b>- / 21.137</b>	<b>- / 21.072</b>	<b>- / 0.000</b>	<b>- / 21.072</b>

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

The primary focus for the FY19 request for the Littoral Battlespace Sensors-Unmanned Undersea Vehicles (LBS-UUV) is the procurement of 16 ocean Gliders, 2 (LBS-Autonomous Unmanned Vehicle (Submarine variant) LBS-AUV(S) Razorback, and one Dry Deck Shelter (DDS) Submarine Support Systems. The program will continue upgrades/backfits for LBS Gliders and Glider replacement units. The program will also continue upgrades to the environmental satellite data receivers/processors, and the Meteorological and Oceanographic Surface-based Atmospheric Sensing Capability (METOC SASC) family of systems.

In order to differentiate the LBS-AUV(S) from the LBS-AUV the program modified the nomenclature for the LBS-AUV(S). From this point forward the LBS-AUV(S) will be named LBS-AUV(S)-Razorback. There are no changes to the variant other than the name.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy														Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3					P-1 Line Item Number / Title: 4226 / Meteorological Equipment									Aggregated Items Title: Meteorological Equipment						
Item Number / Title [DODIC]	ID CD	MDAP/ MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>1) SP051 Satellite Receiver Upgrades (Space)</b>																				
1.1) AN/FMQ-17 GOES-R Antenna/Pedestal <sup>(†)</sup>	A		-	-	-	-	-	-	789.000	1	0.789	724.000	1	0.724	-	-	-	724.000	1	0.724
1.2) AN/FMQ-17 Himawari Receiver Processor <sup>(†)</sup>	A		-	-	-	-	-	-	196.000	1	0.196	-	-	-	-	-	-	-	-	-
1.3) AN/FMQ-17 Satellite Receiver Upgrade Kit <sup>(†)</sup>	A		89.632	19	1.703	449.000	1	0.449	-	-	-	-	-	-	-	-	-	-	-	-
1.4) AN/SMQ-11 Satellite Receiver Upgrade Kit <sup>(†)</sup>	A		50.739	23	1.167	551.000	1	0.551	524.000	1	0.524	544.000	1	0.544	-	-	-	544.000	1	0.544
1.5) AN/FMQ-17 Antenna Positioner Upgrade Kit <sup>(†)</sup>	A		245.000	1	0.245	251.000	1	0.251	-	-	-	-	-	-	-	-	-	-	-	-
1.6) AN/SMQ-11 Antenna Pedestal Upgrade Kit <sup>(†)</sup>	A		201.500	28	5.642	1,077.000	1	1.077	939.000	1	0.939	958.000	1	0.958	-	-	-	958.000	1	0.958
<i>Subtotal: 1) SP051 Satellite Receiver Upgrades (Space)</i>			-	-	8.757	-	-	2.328	-	-	2.448	-	-	2.226	-	-	-	-	-	2.226
<b>2) SP550 METOC SASC Upgrades</b>																				
2.1) ASOS Upgrades <sup>(1)(†)</sup>	A		43.388	325	14.101	48.771	48	2.341	77.606	33	2.561	75.176	34	2.556	-	-	-	75.176	34	2.556
2.2) SWR Upgrades <sup>(2)(†)</sup>	A		44.152	79	3.488	58.533	15	0.878	118.500	12	1.422	119.333	12	1.432	-	-	-	119.333	12	1.432
<i>Subtotal: 2) SP550 METOC SASC Upgrades</i>			-	-	17.589	-	-	3.219	-	-	3.983	-	-	3.988	-	-	-	-	-	3.988
<b>3) SP600 Littoral Battlespace Sensors - Unmanned Undersea Vehicles (LBS-UUV)<sup>(3)</sup></b>																				
3.1) Littoral Battlespace Sensors - Gliders (LBS-G) <sup>(†)</sup>	A		-	-	27.240	187.398	20	3.748	193.717	18	3.487	199.524	16	3.192	-	-	-	199.524	16	3.192
3.2) AUV(S) Razorback <sup>(†)</sup>	A		-	-	-	2,060.000	6	12.360	2,098.000	2	4.196	2,140.000	2	4.280	-	-	-	2,140.000	2	4.280
3.3) AUV(S) Razorback DDS Sub Spt Sys <sup>(†)</sup>	A		-	-	-	2,911.000	2	5.822	3,090.600	1	3.091	3,152.412	1	3.152	-	-	-	3,152.412	1	3.152
3.6) UUV Upgrades/Backfits	A		-	-	2.938	-	-	-	-	-	0.884	-	-	0.624	-	-	-	-	-	0.624
<i>Subtotal: 3) SP600 Littoral Battlespace Sensors - Unmanned Undersea Vehicles (LBS-UUV)</i>			-	-	30.178	-	-	21.930	-	-	11.658	-	-	11.248	-	-	-	-	-	11.248

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy														Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3					P-1 Line Item Number / Title: 4226 / Meteorological Equipment									Aggregated Items Title: Meteorological Equipment						
Item Number / Title [DODIC]	ID CD	MDAP/ MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ K)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)			
<b>4) SP555 Production Support</b>																				
4.1) Satellite Receiver Upgrades	A		-	-	0.436	-	-	0.129	-	-	0.147	-	-	0.138	-	-	-	-	0.138	
4.2) LBS-UUV	A		-	-	2.600	-	-	0.278	-	-	0.785	-	-	0.576	-	-	-	-	0.576	
<b><i>Subtotal: 4) SP555 Production Support</i></b>			-	-	<b>3.036</b>	-	-	<b>0.407</b>	-	-	<b>0.932</b>	-	-	<b>0.714</b>	-	-	-	-	<b>0.714</b>	
<b>5) SP776 Non-FMP</b>																				
5.1) Satellite Receiver Upgrades	A		-	-	1.238	-	-	0.701	-	-	0.051	-	-	0.102	-	-	-	-	0.102	
<b><i>Subtotal: 5) SP776 Non-FMP</i></b>			-	-	<b>1.238</b>	-	-	<b>0.701</b>	-	-	<b>0.051</b>	-	-	<b>0.102</b>	-	-	-	-	<b>0.102</b>	
<b>6) SP777 FMP <sup>(4)</sup></b>																				
6.1) LBS-AUV(S) Razorback DSA	A		-	-	-	-	-	-	-	-	1.291	-	-	0.712	-	-	-	-	0.712	
6.2) LBS-AUV(S) Razorback Install <sup>(5)</sup>	A		-	-	-	-	-	-	-	-	-	-	-	1.100	-	-	-	-	1.100	
6.3) Satellite Receiver Upgrades	A		-	-	2.178	-	-	0.430	-	-	0.774	-	-	0.982	-	-	-	-	0.982	
<b><i>Subtotal: 6) SP777 FMP</i></b>			-	-	<b>2.178</b>	-	-	<b>0.430</b>	-	-	<b>2.065</b>	-	-	<b>2.794</b>	-	-	-	-	<b>2.794</b>	
<b>7) Consolidated Prior Year Requirements <sup>(6)</sup></b>																				
7.1) Consolidated Prior Year Requirements	A		73.006	640	46.724	-	-	-	-	-	-	-	-	-	-	-	-	-		
<b><i>Subtotal: 7) Consolidated Prior Year Requirements</i></b>			-	-	<b>46.724</b>	-	-	-	-	-	-	-	-	-	-	-	-	-		
<b>Total</b>			-	-	<b>109.700</b>	-	-	<b>29.015</b>	-	-	<b>21.137</b>	-	-	<b>21.072</b>	-	-	-	-	<b>21.072</b>	

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) Quantities represent the number of equipment upgrades annually for ASOS and SWR Upgrades; multiple upgrades may occur at a single site in a given year. Upgrades are GOTS/COTS hardware and associated software for installed Automated Surface Observing System (ASOS). Unit costs represent the average unit cost of each planned Hardware/Software procurement or refresh which varies based on subsystem, site or platform. ASOS Upgrades - FY 2019 quantities represent 34 ACU Phase 1 (hardware and software) upgrades.

(2) Quantities represent the number of equipment upgrades annually for ASOS and SWR Upgrades; multiple upgrades may occur at a single site in a given year. Upgrades are GOTS/COTS hardware and associated software for installed Automated Surface Observing System (ASOS). Unit costs represent the average unit cost of each planned Hardware/Software procurement or refresh which varies based on subsystem, site or platform. SWR Upgrades - FY 2019 quantities represent 2 RCU Replacements and 10 replacement workstation procurements.

(3) Littoral Battlespace Sensors - Autonomous Undersea Vehicles (LBS-AUV) are broken out between AUV units and AUV Shipsets. Shipsets consist of the operation van, maintenance van, and launch & recovery system. AUV (Submarine) Razorback (AUV(S) Razorback) launched variants include AUV(S) vehicles, AUV(S) Dry-deck Shelter (DDS) Submarine Support Systems, Torpedo-tube Launch (TTL) Submarine Support Systems and TTL Safecaps. AUV(S) Razorback DDS Submarine Support Systems consist of operational and maintenance equipment including launch, mooring and submarine modification kits for DDS operations. AUV(S) Razorback TTL Submarine Support Systems consist of operational and maintenance equipment including launch, mooring and submarine modification kits for TTL operations. The AUV(S) Razorback TTL Safecap consists of operational and maintenance equipment required to safely ship, stow, and deploy an AUV with lithium batteries from a submarine torpedo tube. Littoral Battlespace Sensors - Gliders (LBS-G) FY19 quantities represent replacement units. LBS-UUV Upgrades/Backfits represent AUV and Glider system improvements via back-fits and forward-fits.

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<b>Exhibit P-40a, Budget Item Justification For Aggregated Items:</b> PB 2019 Navy		<b>Date:</b> February 2018
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3	<b>P-1 Line Item Number / Title:</b> 4226 / Meteorological Equipment	<b>Aggregated Items Title:</b> Meteorological Equipment
(4) Funding increase in SP777 FMP from FY18 to FY19 is a result of the first install for LBS-AUV(S)Razorback, along with government-led installations and oversight for Satellite Receivers (which were previously performed solely by the prime contractor Raytheon).		
(5) A single Dry Dock Shelter (DDS), AUV(S) Razorback install consists of two AUV(S) vehicles and a DDS submarine support system. A single Torpedo Tube Launch (TTL) install consists of a TTL submarine support system and an equal amount of TTL Safecaps and AUV(S) vehicles. The submarine support system and AUV(S) Razorback installs are based on mission requirements.		
(6) Programs included in this Cost Element include: TESS/NITES (Mobile Tactical System and Hardware Components, METMF(R) NEXGEN/Subsystems, METOC Satellite Data Exploitation Readiness (FNMO Upgrades and NAVOCEANO Upgrades), Hazardous Weather Detection & Display Capability (HWDDC)SPS-48E/G Variant, Littoral Battlespace Sensors - Autonomous Undersea Vehicles (LBS-AUV), Littoral Battlespace Sensors - (LBS-AUV) Shipset and Satellite Receiver Upgrades (Space) (FNMO Upgrades and NAVOCEANO Upgrades).		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3			P-1 Line Item Number / Title: 4226 / Meteorological Equipment					Aggregated Items: Meteorological 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 (\$K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
<b>1) SP051 Satellite Receiver Upgrades (Space)</b>												
1.1) AN/FMQ-17 GOES-R Antenna/Pedestal		2018 <sup>(7)</sup>	Raytheon / Indianapolis	SS / CPFF	SPAWAR	Feb 2018	Jun 2018	1	789.000	Y		Sep 2017
1.1) AN/FMQ-17 GOES-R Antenna/Pedestal		2019	Raytheon / Indianapolis	SS / CPFF	SPAWAR	Feb 2019	Jun 2019	1	724.000	Y		Sep 2018
1.2) AN/FMQ-17 Himawari Receiver Processor		2018 <sup>(8)</sup>	Raytheon / Indianapolis	SS / CPFF	SPAWAR	Feb 2018	Jun 2018	1	196.000	Y		Sep 2016
1.3) AN/FMQ-17 Satellite Receiver Upgrade Kit		2017	Raytheon / Indianapolis	SS / CPFF	SPAWAR	Feb 2017	Jun 2017	1	449.000	Y		Sep 2016
1.4) AN/SMQ-11 Satellite Receiver Upgrade Kit		2017	Raytheon / Indianapolis.	SS / CPFF	SPAWAR	Feb 2017	Jun 2017	1	551.000	Y		Sep 2016
1.4) AN/SMQ-11 Satellite Receiver Upgrade Kit		2018	Raytheon / Indianapolis.	SS / CPFF	SPAWAR	Feb 2018	Jun 2018	1	524.000	Y		Sep 2017
1.4) AN/SMQ-11 Satellite Receiver Upgrade Kit		2019	Raytheon / Indianapolis.	SS / CPFF	SPAWAR	Feb 2019	Jun 2019	1	544.000	Y		Sep 2018
1.5) AN/FMQ-17 Antenna Positioner Upgrade Kit		2017	Raytheon / Indianapolis	SS / CPFF	SPAWAR	Feb 2017	Jun 2017	1	251.000	Y		Sep 2016
1.6) AN/SMQ-11 Antenna Pedestal Upgrade Kit		2017	Raytheon / Indianapolis	SS / CPFF	SPAWAR	Feb 2017	Jun 2017	1	1,077.000	Y		Sep 2016
1.6) AN/SMQ-11 Antenna Pedestal Upgrade Kit		2018	Raytheon / Indianapolis	SS / CPFF	SPAWAR	Feb 2018	Jun 2018	1	939.000	Y		Sep 2017
1.6) AN/SMQ-11 Antenna Pedestal Upgrade Kit		2019	Raytheon / Indianapolis	SS / CPFF	SPAWAR	Feb 2019	Jun 2019	1	958.000	Y		Sep 2018
<b>2) SP550 METOC SASC Upgrades</b>												
2.1) ASOS Upgrades <sup>(1)</sup>		2017	National Weather Service (NWS) / MD	MIPR	NWS	Dec 2016	Apr 2017	48	48.771	Y		
2.1) ASOS Upgrades <sup>(1)</sup>		2018	National Weather Service (NWS) / MD	MIPR	NWS	Dec 2017	Apr 2018	33	77.606	Y		
2.1) ASOS Upgrades <sup>(1)</sup>		2019	National Weather Service (NWS) / MD	MIPR	NWS	Dec 2018	Apr 2019	34	75.176	Y		
2.2) SWR Upgrades <sup>(2)</sup>		2017	Enterprise Electronics Corp. / AL	C / FP	SSC LANT	Dec 2016	May 2017	15	58.533	Y		Nov 2010
2.2) SWR Upgrades <sup>(2)</sup>		2018	Enterprise Electronics Corp. / AL	C / FP	SSC LANT	Dec 2017	May 2018	12	118.500	Y		Nov 2010
2.2) SWR Upgrades <sup>(2)</sup>		2019	Enterprise Electronics Corp. / AL	C / FP	SSC LANT	Dec 2018	May 2019	12	119.333	Y		Feb 2018
<b>3) SP600 Littoral Battlespace Sensors - Unmanned Undersea Vehicles (LBS-UUV)</b>												
3.1) Littoral Battlespace Sensors - Gliders (LBS-G)		2017	Teledyne Brown Eng / AL	C / CPIF	SPAWAR	Mar 2017	Feb 2018	20	187.398	Y		Apr 2008
3.1) Littoral Battlespace Sensors - Gliders (LBS-G)		2018	Teledyne Brown Eng / AL	C / CPIF	SPAWAR	Mar 2018	Feb 2019	18	193.717	Y		Apr 2008
3.1) Littoral Battlespace Sensors - Gliders (LBS-G)		2019	Teledyne Brown Eng / AL	C / TBD	SPAWAR	Mar 2019	Feb 2020	16	199.524	Y		Apr 2008

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3			P-1 Line Item Number / Title: 4226 / Meteorological Equipment					Aggregated Items: Meteorological 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 (\$K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
3.2) AUV(S) Razorback		2017	Hydroid, Inc. <sup>(9)</sup> / MA.	C / FFP	SPAWAR	Dec 2016	Jul 2019	6	2,060.000	Y		
3.2) AUV(S) Razorback		2018	Hydroid, Incorp / MA.	C / FFP	SPAWAR	Mar 2018	Apr 2020	2	2,098.000	Y		
3.2) AUV(S) Razorback		2019	Hydroid, Inc. <sup>(9)</sup> / MA.	C / FFP	SPAWAR	Dec 2018	Jan 2021	2	2,140.000	Y		
3.3) AUV(S) Razorback DDS Sub Spt Sys		2017	FY17 NUWC NPT / NEWPORT, RI	C / CPFF	SPAWAR	Dec 2016	Jul 2019	2	2,911.000	N	Jan 2017	
3.3) AUV(S) Razorback DDS Sub Spt Sys		2018	FY18 NUWC NPT / NEWPORT, RI	C / TBD	SPAWAR	Mar 2018	Apr 2020	1	3,090.600	N	Jan 2018	
3.3) AUV(S) Razorback DDS Sub Spt Sys		2019	FY19 TBD / TBD	C / TBD	SPAWAR	Jan 2019	Feb 2021	1	3,152.412	N	Jan 2019	

**Footnotes:**

<sup>(7)</sup> FY18 vendor equipment includes AN/FMQ-17 GOES-R Hardware to support new sensor and view capability.

<sup>(8)</sup> FY18 vendor equipment includes AN/FMQ-17 Himawari Hardware to support new sensor and view capability.

<sup>(9)</sup> LBS-AUV(S) Razorback Production Lead Time for FY17 procurement includes 18 months for Non Recurring Engineering (NRE) and Production and 13 months for Off-Gas testing, Off-gas test report (Submarine safety requirement) and Temporary Alteration (TEMPALT) approval. Procurements for FY18 and beyond will not include NRE (6 months).

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<b>Exhibit P-40, Budget Line Item Justification: PB 2019 Navy</b>										<b>Date:</b> February 2018							
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment						<b>P-1 Line Item Number / Title:</b> 4242 / DCRS/DPL											
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A			<b>Program Elements for Code B Items:</b> N/A						<b>Other Related Program Elements:</b> N/A								
<b>Line Item MDAP/MAIS Code:</b> N/A																	
<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>					
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-					
Gross/Weapon System Cost (\$ in Millions)	97.788	0.632	0.660	0.656	0.000	0.656	0.668	0.686	0.698	0.685	Continuing	Continuing					
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-					
Net Procurement (P-1) (\$ in Millions)	97.788	0.632	0.660	0.656	0.000	0.656	0.668	0.686	0.698	0.685	Continuing	Continuing					
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-					
<b>Total Obligation Authority (\$ in Millions)</b>	<b>97.788</b>	<b>0.632</b>	<b>0.660</b>	<b>0.656</b>	<b>0.000</b>	<b>0.656</b>	<b>0.668</b>	<b>0.686</b>	<b>0.698</b>	<b>0.685</b>	<b>Continuing</b>	<b>Continuing</b>					
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																	
Initial Spares (\$ in Millions)	-	0.155	0.090	0.055	-	0.055	0.057	0.064	-	0.001	Continuing	Continuing					
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-					
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-					
<b>Description:</b> Digital Camera Receiving Station (DCRS) supports visual information requirements outlined in the Fleet Visual Information Concept of Operations dated July 2, 2015.																	
The DCRS is a combat system located in the Carrier Intelligence Center that processes classified Bomb Hit Assessment and target imagery. DCRS supports near real-time imagery transfer, as well as post-mission playback, analysis, and distribution of imagery obtained from aircraft and other sources (e.g. Distributed Common Ground System- Navy (DCGS-N), Theater Battle Management Core System (TBMCS), Global Command and Control System-Maritime (GCCS-M) in support of mission planning, mission execution and mission analysis. DCRS is a rack system with multiple PC workstations for video editing and playback, media receptacles for aircraft data transfer devices, and communications equipment to support Fast Tactical Imagery. Equipment and software are updated through field change/tech refresh installations scheduled at least every three years for each aircraft carrier.																	

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<b>Exhibit P-40, Budget Line Item Justification: PB 2019 Navy</b>							<b>Date:</b> February 2018		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment				<b>P-1 Line Item Number / Title:</b> 4242 / DCRS/DPL					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A		<b>Program Elements for Code B Items:</b> N/A				<b>Other Related Program Elements:</b> N/A			
<b>Line Item MDAP/MAIS Code:</b> N/A									
<b>Exhibits Schedule</b>				<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
<b>Exhibit Type</b>	<b>Title*</b>	<b>Subexhibits</b>	<b>ID CD</b>	<b>MDAP/MAIS Code</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>
P-40a	DCRS/AMMPS				- / 97.788	- / 0.632	- / 0.660	- / 0.656	- / -
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 97.788</b>	<b>- / 0.632</b>	<b>- / 0.660</b>	<b>- / 0.656</b>	<b>- / 0.000</b>
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. 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 funds the baseline program for DCRS. DCRS supports near real-time imagery transfer, as well as post-mission playback analysis, and distribution of imagery obtained from aircraft and other sources (e.g. Distributed Common Ground System- Navy (DCGS-N), Theater Battle Management Core System (TBMCS), Global Command and Control System-Maritime (GCCS-M) in support of mission planning, mission execution and mission analysis.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy														Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3					P-1 Line Item Number / Title: 4242 / DCRS/DPL									Aggregated Items Title: DCRS/AMMPS						
Item Number / Title [DODIC]	ID CD	MDAP/ MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 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)
<b>1) DCRS/DPL</b>																				
1.1) SX020 Afloat Multi-Media Production System Workcenter	A		140,848.10	79	11.127	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.2) SX021 Digital SLR Color Camera	A		16,347.31	167	2.730	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.3) SX100 Digital Camera Receiving Station <sup>(1)</sup>	A		163,640.00	75	12.273	153,666.67	3	0.461	163,666.67	3	0.491	162,333.33	3	0.487	-	-	-	162,333.33	3	0.487
1.4) AMMPS Other Costs	A		-	-	32.144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.5) DCRS Other Costs <sup>(2)</sup>	A		-	-	39.514	-	-	0.171	-	-	0.169	-	-	0.169	-	-	-	-	0.169	
<b>Subtotal: 1) DCRS/DPL</b>			-	-	<b>97.788</b>	-	-	<b>0.632</b>	-	-	<b>0.660</b>	-	-	<b>0.656</b>	-	-	-	-	<b>0.656</b>	
<b>Total</b>			-	-	<b>97.788</b>	-	-	<b>0.632</b>	-	-	<b>0.660</b>	-	-	<b>0.656</b>	-	-	-	-	<b>0.656</b>	

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

**Footnotes:**

(1) Minor fluctuations in unit cost across the funding profile are due to the variable COTS costs driven by market availability.

(2) Other costs include installing the DCRS unit, Integrated Logistic Support, and Systems/Software Engineering Support.

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<b>Exhibit P-40, Budget Line Item Justification: PB 2019 Navy</b>								<b>Date:</b> February 2018				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment				<b>P-1 Line Item Number / Title:</b> 4248 / Legacy Airborne MCM								
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A					Other Related Program Elements: 0604373N				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	449.467	27.542	20.605	11.299	0.000	11.299	19.250	6.732	4.536	4.629	-	544.060
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	449.467	27.542	20.605	11.299	0.000	11.299	19.250	6.732	4.536	4.629	-	544.060
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>449.467</b>	<b>27.542</b>	<b>20.605</b>	<b>11.299</b>	<b>0.000</b>	<b>11.299</b>	<b>19.250</b>	<b>6.732</b>	<b>4.536</b>	<b>4.629</b>	-	<b>544.060</b>
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	0.486	0.733	0.359	-	0.359	-	-	-	-	-	1.578
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Description:</b>												
Airborne Mine Countermeasures (AMCM) Equipment is currently deployed on MH-53E helicopters to counter the threat of sea mines. The MH-60S helicopter will be adapted for the AMCM mission in support of the development of an Organic Fleet AMCM program. The equipment is divided into three categories -- minesweeping, minehunting and mine neutralization. (1) Minesweeping is performed by mechanical or influence sweeps. In mechanical sweeping, the mine mooring is severed by the sweep gear allowing the mine to float to the surface where it is destroyed. In influence sweeping, a magnetic or acoustic field which simulates the magnetic/acoustic signature of a ship is introduced into the water. This field causes the mine mechanism to actuate. (2) In minehunting, mine-like objects are located and classified (usually by means of high resolution sonar). (3) Then neutralize mines using explosive devices. AMCM squadrons currently have mechanical, magnetic, and acoustic sweeping capabilities, and mine surveillance and marking capabilities. Their mission is to locate, classify, identify and neutralize moored, surface and bottom mines.												
Current world mining threats have resulted in increased operational demand of systems to perform AMCM missions. Fleet requires increased AMCM capability to address warfighting gaps and the reliability, maintainability, and availability of critical systems to perform world-wide operations. Program provides systems to address a global threat and serve to deter placement of mines to allow ships to transit freely. Lack of AMCM capability will result in loss of the Fleet's ability to conduct freedom of maneuver, increasing risk to ships while operating in mine threat areas.												
Modifications: Funds will support the modification and product improvements of Airborne Mine Countermeasures (AMCM) systems to accommodate replacement of subsystems/components because of safety, maintainability, reliability and obsolescence issues. Engineering Change Proposals (ECPs) generated from obsolescence issues and parts failures are necessary to sustain the operational availability and reliability of the Fleet's neutralization through end of service life. Additionally, as the systems have aged operational and intermediate level maintenance actions on the systems have failed to return assets to RFI condition. Depot level overhauls of the neutralization systems and components are required to ensure the systems are sustainable through the end of their service life. Engineering Change Proposals are analyzed, prioritized and screened to accommodate replacement of subsystems/components. Specifically, an upgrade of the SeaFox trainer from V0 to V1 will be executed, providing interoperability of the SeaFox simulator on the AN/ASQ-232A SeaFox Air Mine Neutralization system and will provide video simulations on the control panels monitors, include different bottom types, add bottom and buried targets to the system's software simulations, and inject additional failure modes into the simulated missions. Funds will also support upgrades of hardware to maintain their system's operational availability as more demanding OS and SW requirements are levied on aging hardware. As cybersecurity becomes a more urgent issue within the Navy there are necessary upgrades to the systems utilizing windows based operating systems in order to remain in compliance under the new risk management framework of the Navy.												
AN/AQS-24 sonar: Funds support an in-service mine detection system that detects, classifies, localizes, and identifies sea mines. The sonar sensor is deployed from the MH-53E helicopter and is used against moored and bottom mines. AN/AQS-24B provides High Speed Synthetic Aperture Sonar (SAS). AN/AQS-24C provides Volume Search Capability.												

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2019 Navy		<b>Date:</b> February 2018
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment		<b>P-1 Line Item Number / Title:</b> 4248 / Legacy Airborne MCM
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604373N
<b>Line Item MDAP/MAIS Code:</b> N/A		
The MK-105 MOD 4 magnetic minesweeping system: Funds supported a hydrofoil platform that carries a turbo-generator power pack and is towed by the MH-53E helicopter, allowing for safe, high speed sweeping of coarse magnetic influence mines at twice the output of current capability.		
AN/ASQ-235 Airborne Mine Neutralization System (AMNS): Funds support a mine neutralization system that provides a remotely controlled expendable neutralizer vehicle deployed from the MH-60S and MH-53E helicopter platform to reacquire, identify, and neutralize moored or proud bottom sea mines. Note: AMNS procured for the Littoral Combat Ship (LCS) Mine Countermeasure (MCM) mission package (MP) are funded under BLI 1601.		
AN/AES-1 Airborne Laser Mine Detection System (ALMDS): Funds support a mine detection system that provides a light detection and ranging (LIDAR) system for rapid detection, classification, and localization of near surface sea mines. It is deployed on the MH-60S helicopter as part of the Organic Airborne Mine Countermeasures (OAMCM) suite of systems. Note: ALMDS procured for the LCS MCM MP are funded under BLI 1601.		
Organic Airborne Mine Countermeasure (OAMCM) Support Equipment: Funds supported organic post mission analysis (OPMA) software to all OAMCM and AN/AQS-24A systems as well as the Surface Navy Integrated Undersea Tactical Technology (SNIUTT) system to develop AN/SQQ-32 and AN/AQS-24 sensor training modules.		
This procurement line supports the AMNS and ALMDS program of record, delivering AMNS and ALMDS systems to Navy helicopter wings to provide initial proficiency training to Navy aircrews. AMNS and ALMDS systems are also procured under BLI 1601 LCS MCM Mission Modules.		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy							Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment				P-1 Line Item Number / Title: 4248 / Legacy Airborne MCM						
ID Code (A=Service Ready, B=Not Service Ready): A		Program Elements for Code B Items: N/A			Other Related Program Elements: 0604373N					
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule				Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total 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 / MODIFICATIONS				- / 78.477	- / 3.288	- / 4.622	- / 4.455	- / 0.000	- / 4.455
P-5	2 / AN/AQS-24 Sonar	P-5a, P-21			- / 63.795	- / 18.819	- / 7.391	- / 4.829	- / 0.000	- / 4.829
P-5	3 / MK-105				- / 20.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-5	4 / AMNS				- / 63.382	- / 5.435	- / 7.284	- / 1.408	- / 0.000	- / 1.408
P-5	5 / ALMDS [ALMDS]				- / 108.719	- / 0.000	- / 1.308	- / 0.607	- / 0.000	- / 0.607
P-5	7 / OAMCM [OAMCM]				- / 115.094	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 449.467</b>	<b>- / 27.542</b>	<b>- / 20.605</b>	<b>- / 11.299</b>	<b>- / 0.000</b>	<b>- / 11.299</b>

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

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

**Justification:**

The FY 2019 funding request was reduced by \$11.1 million to account for the availability of prior year execution balances.

Baseline FY 2019 funding supports the procurement of ten (10)laser line scan kits for the AN/AQS-24 system, and the procurement of two (2) AN/AQS-24C trainers. FY 2019 funding also supports the AMCM baseline programs, required hardware and software upgrades for the Airborne Mine Neutralization System (AMNS) and the Airborne Laser Mine Detection System (ALMDS), as well as support equipment, including shipping containers for ALMDS. Funding is also included for modifications, product improvements and engineering change proposals of the AMNS, ALMDS, SeaFox and AN/AQS-24 systems. These capabilities will be deployed around the world to meet the current operational mine warfare mission demand.

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3			P-1 Line Item Number / Title: 4248 / Legacy Airborne MCM												Item Number / Title [DODIC]: 1 / MODIFICATIONS			
ID Code (A=Service Ready, B=Not Service Ready) :												MDAP/MAIS Code:						
<b>Resource Summary</b>				<b>Prior Years</b>		<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>				
Procurement Quantity ( <i>Units in Each</i> )				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				78.477		3.288		4.622		4.455		0.000		4.455				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				78.477		3.288		4.622		4.455		0.000		4.455				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
<b>Total Obligation Authority (\$ in Millions)</b>				<b>78.477</b>		<b>3.288</b>		<b>4.622</b>		<b>4.455</b>		<b>0.000</b>		<b>4.455</b>				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in 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 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 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 - S0020 MODIFICATIONS Cost																		
Recurring Cost																		
1.1.1) S0020 - MODIFICATION	-	-	78.477	-	-	3.288	-	-	4.622	-	-	4.455	-	-	0.000	-	-	4.455
<i>Subtotal: Recurring Cost</i>	-	-	<i>78.477</i>	-	-	<i>3.288</i>	-	-	<i>4.622</i>	-	-	<i>4.455</i>	-	-	<i>0.000</i>	-	-	<i>4.455</i>
<i>Subtotal: Hardware - S0020 MODIFICATIONS Cost</i>	-	-	<i>78.477</i>	-	-	<i>3.288</i>	-	-	<i>4.622</i>	-	-	<i>4.455</i>	-	-	<i>0.000</i>	-	-	<i>4.455</i>
Gross/Weapon System Cost	-	-	78.477	-	-	3.288	-	-	4.622	-	-	4.455	-	-	0.000	-	-	4.455

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3			P-1 Line Item Number / Title: 4248 / Legacy Airborne MCM										Item Number / Title [DODIC]: 2 / AN/AQS-24 Sonar					
ID Code (A=Service Ready, B=Not Service Ready) :													MDAP/MAIS Code:					
<b>Resource Summary</b>				<b>Prior Years</b>			<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>			
Procurement Quantity ( <i>Units in Each</i> )				-			-		-		-		-		-			
Gross/Weapon System Cost (\$ in Millions)				63.795			18.819		7.391		4.829		0.000		4.829			
Less PY Advance Procurement (\$ in Millions)				-			-		-		-		-		-			
Net Procurement (P-1) (\$ in Millions)				63.795			18.819		7.391		4.829		0.000		4.829			
Plus CY Advance Procurement (\$ in Millions)				-			-		-		-		-		-			
<b>Total Obligation Authority (\$ in Millions)</b>				<b>63.795</b>			<b>18.819</b>		<b>7.391</b>		<b>4.829</b>		<b>0.000</b>		<b>4.829</b>			
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-			-		-		-		-		-			
Gross/Weapon System Unit Cost (\$ in 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 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 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 - S0024 AN/AQS-24 Sonar Cost																		
Recurring Cost																		
1.1.1) AN/AQS-24B - upgrade kit	2,126K	27	57.400	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.2) AN/AQS-24C - Upgrade kit <sup>(†)</sup>	-	-	0.000	2,352K	8	18.819	2,518K	2	5.035	-	-	0.000	-	-	0.000	-	-	0.000
1.1.3) Training Equipment <sup>(1)</sup>	5,920K	1	5.920	-	-	0.000	-	-	1.871	664,500.00	2	1.329	-	-	0.000	664,500.00	2	1.329
1.1.4) ILS/Tech Pubs	-	-	0.475	-	-	0.000	-	-	0.485	-	-	0.000	-	-	0.000	-	-	0.000
1.1.5) Q-24 Laser Line Scan Upgrade <sup>(†)(2)</sup>	-	-	0.000	-	-	0.000	-	-	0.000	350,000.00	10	3.500	-	-	0.000	350,000.00	10	3.500
<i>Subtotal: Recurring Cost</i>	-	-	<b>63.795</b>	-	-	<b>18.819</b>	-	-	<b>7.391</b>	-	-	<b>4.829</b>	-	-	<b>0.000</b>	-	-	<b>4.829</b>
<i>Subtotal: Hardware - S0024 AN/AQS-24 Sonar Cost</i>	-	-	<b>63.795</b>	-	-	<b>18.819</b>	-	-	<b>7.391</b>	-	-	<b>4.829</b>	-	-	<b>0.000</b>	-	-	<b>4.829</b>
<b>Gross/Weapon System Cost</b>	-	-	<b>63.795</b>	-	-	<b>18.819</b>	-	-	<b>7.391</b>	-	-	<b>4.829</b>	-	-	<b>0.000</b>	-	-	<b>4.829</b>

(†) indicates the presence of a P-5a

**Footnotes:**

(1) FY 2019 funding will support procurement of two (2) AQS-24C trainers.

(2) FY 2019 funding will support the procurement of ten (10) kits to update Q-24B laser components.

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3			P-1 Line Item Number / Title: 4248 / Legacy Airborne MCM					Item Number / Title [DODIC]: 2 / AN/AQS-24 Sonar				
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) AN/AQS-24C - Upgrade kit <sup>(†)</sup>		2017	Northrop Grumman (Annapolis, MD) / Annapolis	C / FFP	NAVSEA	Mar 2018	Sep 2019	8	2,352K	Y		
1.1.2) AN/AQS-24C - Upgrade kit <sup>(†)</sup>		2018	Northrop Grumman (Annapolis, MD) / Annapolis	SS / FFP	NAVSEA	May 2018	Nov 2019	2	2,518K	Y		
1.1.5) Q-24 Laser Line Scan Upgrade		2019	NORTHROP GRUMMAN, ANNAPOLIS / Annapolis, MD	C / CPFF	** NO PCO **	Nov 2018	Aug 2019	10	350,000.00	Y		

(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2019 Navy																					Date: February 2018																							
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3										P-1 Line Item Number / Title: 4248 / Legacy Airborne MCM											Item Number / Title [DODIC]: 2 / AN/AQS-24 Sonar																							
Cost Elements (Units in Each)							Fiscal Year 2018												Fiscal Year 2019																									
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	FY	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L A N C E													
1.1.2) AN/AQS-24C - Upgrade kit																																												
1	2017	NAVY	8	0	8																																			2	6			
1	2018	NAVY	2	0	2																																			2				

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Exhibit P-21, Production Schedule: PB 2019 Navy																					Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3										P-1 Line Item Number / Title: 4248 / Legacy Airborne MCM										Item Number / Title [DODIC]: 2 / AN/AQS-24 Sonar																						
Cost Elements (Units in Each)						Fiscal Year 2020												Fiscal Year 2021																								
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L A N C E												
1.1.2) AN/AQS-24C - Upgrade kit																																										
1	2017	NAVY	8	2	6	2	2	2																														0				
1	2018	NAVY	2	0	2	-	1	-	-	-	1																										0					

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<b>Exhibit P-21, Production Schedule: PB 2019 Navy</b>								<b>Date:</b> February 2018				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4248 / Legacy Airborne MCM					<b>Item Number / Title [DODIC]:</b> 2 / AN/AQS-24 Sonar				
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	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 (Annapolis, MD) - Annapolis	3	5	18	0	0	12	12	0	0	18	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-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3			P-1 Line Item Number / Title: 4248 / Legacy Airborne MCM												Item Number / Title [DODIC]: 3 / MK-105			
ID Code (A=Service Ready, B=Not Service Ready) :												MDAP/MAIS Code:						
<b>Resource Summary</b>				<b>Prior Years</b>		<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>				
Procurement Quantity ( <i>Units in Each</i> )				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				20.000		0.000		0.000		0.000		0.000		0.000				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				20.000		0.000		0.000		0.000		0.000		0.000				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
<b>Total Obligation Authority (\$ in Millions)</b>				<b>20.000</b>		<b>0.000</b>		<b>0.000</b>		<b>0.000</b>		<b>0.000</b>		<b>0.000</b>				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in 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 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 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 - S0061 - MK-105 MOD 4 Cost																		
Recurring Cost																		
1.1.1) MK-105 MOD 4	16,600K	1	16.600	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.2) Production Line Set-Up	-	-	3.400	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
<i>Subtotal: Recurring Cost</i>	-	-	<i>20.000</i>	-	-	<i>0.000</i>	-	-	<i>0.000</i>	-	-	<i>0.000</i>	-	-	<i>0.000</i>	-	-	<i>0.000</i>
<i>Subtotal: Hardware - S0061 - MK-105 MOD 4 Cost</i>	-	-	<i>20.000</i>	-	-	<i>0.000</i>	-	-	<i>0.000</i>	-	-	<i>0.000</i>	-	-	<i>0.000</i>	-	-	<i>0.000</i>
<b>Gross/Weapon System Cost</b>	-	-	<b>20.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy													<b>Date:</b> February 2018								
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3				<b>P-1 Line Item Number / Title:</b> 4248 / Legacy Airborne MCM									<b>Item Number / Title [DODIC]:</b> 4 / AMNS								
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :													<b>MDAP/MAIS Code:</b>								
<b>Resource Summary</b>				<b>Prior Years</b>		<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>							
Procurement Quantity ( <i>Units in Each</i> )				-		-		-		-		-		-							
Gross/Weapon System Cost (\$ in Millions)				63.382		5.435		7.284		1.408		0.000		1.408							
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-							
Net Procurement (P-1) (\$ in Millions)				63.382		5.435		7.284		1.408		0.000		1.408							
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-							
<b>Total Obligation Authority</b> (\$ in Millions)				63.382		5.435		7.284		1.408		0.000		1.408							
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																					
Initial Spares (\$ in Millions)				-		-		-		-		-		-							
Gross/Weapon System Unit Cost (\$ in Dollars)				-		-		-		-		-		-							
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																					
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2017</b>			<b>FY 2018</b>			<b>FY 2019 Base</b>			<b>FY 2019 OCO</b>			<b>FY 2019 Total</b>					
	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 - S0065 - AMNS Cost																					
Recurring Cost																					
1.1.1) AMNS	2,116K	17	35.965	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000			
1.1.2) AMNS (MH-53E)	-	-	3.860	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000			
1.1.3) PRODUCTION ENGINEERING	-	-	2.587	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000			
1.1.4) TRAINING EQUIPMENT	-	-	4.967	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000			
1.1.5) ILS/PUBS/TECH DATA	-	-	2.089	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000			
1.1.6) SUPPORT EQUIPMENT	-	-	7.114	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000			
1.1.7) ECP (HW/SW) and Upgrades	-	-	6.800	-	-	5.435	-	-	7.284	-	-	1.408	-	-	0.000	-	-	1.408			
<i>Subtotal: Recurring Cost</i>	-	-	<b>63.382</b>	-	-	<b>5.435</b>	-	-	<b>7.284</b>	-	-	<b>1.408</b>	-	-	<b>0.000</b>	-	-	<b>1.408</b>			
<i>Subtotal: Hardware - S0065 - AMNS Cost</i>	-	-	<b>63.382</b>	-	-	<b>5.435</b>	-	-	<b>7.284</b>	-	-	<b>1.408</b>	-	-	<b>0.000</b>	-	-	<b>1.408</b>			
<b>Gross/Weapon System Cost</b>	-	-	<b>63.382</b>	-	-	<b>5.435</b>	-	-	<b>7.284</b>	-	-	<b>1.408</b>	-	-	<b>0.000</b>	-	-	<b>1.408</b>			

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy													<b>Date:</b> February 2018					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4248 / Legacy Airborne MCM										<b>Item Number / Title [DODIC]:</b> 5 / ALMDS [ALMDS]					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :													<b>MDAP/MAIS Code:</b>					
<b>Resource Summary</b>				<b>Prior Years</b>		<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>				
Procurement Quantity ( <i>Units in Each</i> )				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				108.719		0.000		1.308		0.607		0.000		0.607				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				108.719		0.000		1.308		0.607		0.000		0.607				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
<b>Total Obligation Authority</b> (\$ in Millions)				108.719		0.000		1.308		0.607		0.000		0.607				
(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.																		
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2017</b>			<b>FY 2018</b>			<b>FY 2019 Base</b>			<b>FY 2019 OCO</b>			<b>FY 2019 Total</b>		
	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 - S0075 - ALMDS Cost																		
Recurring Cost																		
1.1.1) ALMDS	7,354K	12	88.247	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.2) PRODUCTION ENGINEERING	-	-	8.776	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.3) PRODUCTION ECP (HW/SW)	-	-	7.535	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.4) TRAINING EQUIPMENT	-	-	0.976	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.5) ILS/PUBS/TECH DATA	-	-	2.429	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.6) SUPPORT EQUIPMENT	-	-	0.756	-	-	0.000	-	-	1.308	-	-	0.607	-	-	0.000	-	-	0.607
<i>Subtotal: Recurring Cost</i>	-	-	<b>108.719</b>	-	-	<b>0.000</b>	-	-	<b>1.308</b>	-	-	<b>0.607</b>	-	-	<b>0.000</b>	-	-	<b>0.607</b>
<i>Subtotal: Hardware - S0075 - ALMDS Cost</i>	-	-	<b>108.719</b>	-	-	<b>0.000</b>	-	-	<b>1.308</b>	-	-	<b>0.607</b>	-	-	<b>0.000</b>	-	-	<b>0.607</b>
<b>Gross/Weapon System Cost</b>	-	-	<b>108.719</b>	-	-	<b>0.000</b>	-	-	<b>1.308</b>	-	-	<b>0.607</b>	-	-	<b>0.000</b>	-	-	<b>0.607</b>

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3			P-1 Line Item Number / Title: 4248 / Legacy Airborne MCM												Item Number / Title [DODIC]: 7 / OAMCM [OAMCM]			
ID Code (A=Service Ready, B=Not Service Ready) :												MDAP/MAIS Code:						
<b>Resource Summary</b>				<b>Prior Years</b>		<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>				
Procurement Quantity ( <i>Units in Each</i> )				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				115.094		0.000		0.000		0.000		0.000		0.000				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				115.094		0.000		0.000		0.000		0.000		0.000				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
<b>Total Obligation Authority (\$ in Millions)</b>				<b>115.094</b>		<b>0.000</b>		<b>0.000</b>		<b>0.000</b>		<b>0.000</b>		<b>0.000</b>				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in 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 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 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 - S0090 - OAMCM Support Equipment Cost																		
Recurring Cost																		
1.1.1) OPMA	-	-	1.668	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.2) SNIUTT	-	-	1.380	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.3) ORCA	3,098K	2	6.195	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.4) Tow Cables	125,000.00	20	2.500	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
<i>Subtotal: Recurring Cost</i>	-	-	<b>11.743</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>
<i>Subtotal: Hardware - S0090 - OAMCM Support Equipment Cost</i>	-	-	<b>11.743</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>
Hardware - Prior Years Cost																		
Recurring Cost																		
2.1.1) Prior Years Cumulative Funding	-	-	103.351	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
<i>Subtotal: Recurring Cost</i>	-	-	<b>103.351</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>
<i>Subtotal: Hardware - Prior Years Cost</i>	-	-	<b>103.351</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>
Gross/Weapon System Cost	-	-	<b>115.094</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment					P-1 Line Item Number / Title: 4250 / Common Control System							
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	0.000	0.000	0.000	0.594	0.000	0.594	0.792	1.188	1.484	11.788	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	0.000	0.000	0.000	0.594	0.000	0.594	0.792	1.188	1.484	11.788	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.594</b>	<b>0.000</b>	<b>0.594</b>	<b>0.792</b>	<b>1.188</b>	<b>1.484</b>	<b>11.788</b>	<b>Continuing</b>	<b>Continuing</b>
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Description:</b> OPN funding is required to procure and modify Common Control System (CCS) software.												
This line item provides funding to CCS Software Production, Software/Production Engineering Support and Integrated Logistics Support. The primary mission of CCS is to provide common control across the Navy's Unmanned Systems (UxSs) portfolio to add scalable and adaptable warfighting capability, implement robust cyber security attributes, leverage existing government owned products, eliminate redundant software development efforts, consolidate product support, encourage innovation, improve cost control and enable rapid integration of unmanned system (UxS) capabilities across Aviation, Surface, Sub-Surface, and Ground domains.												
CCS will be a ship/shore/airborne/expeditionary based common control system that provides Vehicle Management (VM) and Mission Management/Mission Planning (MM/MP) capabilities for Naval Group 1 through 5 Unmanned Air Vehicles (UAVs) as well as other domain UxSs. VM is the software that allows the operator to control the UxS. MM/MP is the software that allows the operator to create mission plans and control the UxS's sensors. CCS software is based on the OSD Unmanned Control Segment (UCS) architecture which is a service oriented open architecture that is modular and scalable to meet evolving Service requirements and is also supportive of safety/airworthiness certification and cybersecurity certification and accreditation.												
This program delivers CCS capability that enables the flexibility for Ground Control Systems (GCS) that could be ship, shore, airborne, or expeditionary based to operate multiple and dissimilar Naval UxSs. CCS includes a common framework, user interface, and common components that are integrated and tested with legacy platform components. CCS is constructed with an open and modular business model with robust cybersecurity implementation and provided as Government Furnished Equipment (GFE) to UxS contractors as required.												
Budget Line Item (BLI) 4250 Common Control System is a New Start in FY19.												

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<b>Exhibit P-40, Budget Line Item Justification: PB 2019 Navy</b>							<b>Date:</b> February 2018	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment				<b>P-1 Line Item Number / Title:</b> 4250 / Common Control System				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A				<b>Program Elements for Code B Items:</b> N/A				
<b>Line Item MDAP/MAIS Code:</b> N/A								
<b>Exhibits Schedule</b>				<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	
<b>Exhibit Type</b>	<b>Title*</b>	<b>Subexhibits</b>	<b>ID CD</b>	<b>MDAP/MAIS Code</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>
P-40a	Common Control System				- / 0.000	- / -	- / -	- / 0.594
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 0.000</b>	<b>- / 0.000</b>	<b>- / 0.000</b>	<b>- / 0.594</b>
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. 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.								
<b>Justification:</b> CCS deliveries to MQ-8 commence in 2019 to support planned MQ-8 control station updates. CCS deliveries to MQ-25 in 2020 to support planned MQ-25 control station installations.  Software Production - Funding is required to initiate the production, procurement and delivery of CCS software to MQ-8 Fire Scout in FY19. CCS is comprised of government off-the shelf (GOTS) and commercial off-the-shelf (COTS) software which will initially be hosted on legacy platform hardware. CCS funding will procure all necessary items for software production and installation (discs, hard drives, network drawings, installation manuals, and software licenses required at installation).  Software/Production Engineering Support - The CCS program produces software releases via an incremental development process. These releases contain changes required to retain commonality and compatibility with supported platforms, correct deficiencies, and incrementally-field new capabilities. CCS software releases are independent of platform hardware buys. Software/Production and Engineering Support includes production support services, engineering support services, acceptance tests, certifications, site activation, cybersecurity compliance and quality assurance efforts.  Integrated Logistics Support - The CCS program will conduct on-site logistics evaluations to verify installation configurations and installation media compliant with the specified configuration. This includes the production, update and delivery of technical documentation (Technical Directives and associated compliance).								

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy													Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3					P-1 Line Item Number / Title: 4250 / Common Control System								Aggregated Items Title: Common Control System				
Item Number / Title [DODIC]	ID CD	MDAP/ MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO		
			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)
<b>1) Common Control System</b>																	
1) Software Production	A		-	-	-	-	-	-	-	-	-	-	-	0.146	-	-	-
2) Software/ Production Engineering Support (1)	A		-	-	-	-	-	-	-	-	-	-	-	0.351	-	-	-
3) Integrated Logistics Support	A		-	-	-	-	-	-	-	-	-	-	-	0.097	-	-	-
<b>Subtotal: 1) Common Control System</b>			-	-	<b>0.000</b>	-	-	-	-	-	-	-	-	<b>0.146</b>	-	-	<b>0.146</b>
<b>Total</b>			-	-	<b>0.000</b>	-	-	-	-	-	-	-	-	<b>0.594</b>	-	-	<b>0.594</b>

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

**Footnotes:**

(1) Software/Production and Engineering Support includes production support services, engineering support services, acceptance tests, certifications, site activation, cybersecurity compliance and quality assurance efforts. Software/Production and Engineering Support increases in proportion to delivered CCS units in the Fleet.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity:					P-1 Line Item Number / Title:											
1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment					4268 / Aviation Support Equipment											
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: N/A					Other Related Program Elements: N/A								
Line Item MDAP/MAIS Code: N/A																
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total				
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-				
Gross/Weapon System Cost (\$ in Millions)	97.384	29.528	63.277	39.374	0.000	39.374	50.957	54.934	70.046	71.314	Continuing	Continuing				
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-				
Net Procurement (P-1) (\$ in Millions)	97.384	29.528	63.277	39.374	0.000	39.374	50.957	54.934	70.046	71.314	Continuing	Continuing				
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-				
<b>Total Obligation Authority (\$ in Millions)</b>	<b>97.384</b>	<b>29.528</b>	<b>63.277</b>	<b>39.374</b>	<b>0.000</b>	<b>39.374</b>	<b>50.957</b>	<b>54.934</b>	<b>70.046</b>	<b>71.314</b>	<b>Continuing</b>	<b>Continuing</b>				
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																
Initial Spares (\$ in Millions)	-	0.760	-	-	-	-	0.405	0.099	0.555	0.567	Continuing	Continuing				
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-				
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-				
<b>Description:</b>																
Decision Knowledge Programming for Logistics Analysis and Technical Evaluation (DECKPLATE) (S7039): DECKPLATE is the next generation of Naval Aviation Logistics Data Analysis (NALDA) and will interface with Navy Enterprise Resource Planning (ERP) as the Naval Aviation Business Warehouse. It provides the technological improvements and process streamlining required to enable a cost wise transition from the NALDA program to the capabilities required in Joint Vision 2020 and the Naval Transformation Road Map. DECKPLATE is a Commercial Off the Shelf (COTS) intensive system under which numerous stovepipe legacy systems will migrate to create an integrated data environment through the use of Data Warehouse tools and concepts in support of Naval aviation logistics needs. This is being accomplished by upgrading current Naval Aviation logistics reporting mechanisms through the procurement and installation of a fully-licensed, warranted, secure, standardized, COTS, user-friendly, web-based relational database environment. Funding is required to procure the necessary hardware, networking, systems, applications software, infrastructure, and associated engineering and installation support.																
Naval Aviation Logistics Command Management Information System/NAVAIR Fleet System Array (NALCOMIS/NFSA) (S7041): Funding supports procurement of HW/SW for technical refresh for both shipboard and afloat units. As Optimized Organizational Maintenance Activity (OOMA) and Optimized Intermediate Maintenance Activity (OIMA) approach full implementation, NALCOMIS (also identified as Naval Air Systems Command Fleet Systems Array (NFSA)) is responsible for implementation of Mid Tier Servers at 75+ sites both shipboard and shore based. These Mid Tier Servers replicate data from the Organizational and Intermediate level maintenance activities to the NALDA Upline processing center to provide near-real time data to decision makers at all levels. The Mid Tier also allows data to be pushed from Headquarters activities to the fleet to support maintenance activities.																
Joint Technical Data Integration (JTDI) (S7042): Funding supports procurement of JTDI for installation on all Carrier (CV) and Amphibious Assault (L) class ships and up to 104 Navy/Marine Corps aviation activities. JTDI is a digital technical data access, delivery and local O&I level library management toolset and telemaintenance collaboration process enabler. It improves accuracy and timeliness of technical manual and other technical data delivery and minimizes the Fleet's library management burden. JTDI reduces maintenance manhours with savings Return on Investment (ROI) of 2.5:1 and savings/avoidance ROI of 9.5:1. It facilitates the transition of the Joint Distance Support and Response (JDSR) Advanced Concept Technology Demonstration (ACTD) for telemaintenance and provides for process efficiencies to support ongoing Aviation Fleet Technical Representative reductions.																
The Marine Aviation Logistics Enterprise Information Technology (MAL-EIT) (S7046): The MAL-EIT program is one of four programs contained within the Marine Aviation Logistics Support Program (MALSP) modernization program known as MALSP Mod. Legacy MALSP is nearly 25 years old and grossly inadequate in IT capability to meet the informational, planning, and C2 needs of a dynamic, geographically distributed nodal Aviation Logistics (AVLOG) system. MAL-EIT is an Abbreviated Acquisition Program (AAP) that will develop and deliver the required IT capability necessary to eliminate the IT related gaps existing in the legacy MALSP. MAL-EIT is a family of IT solutions to be developed and delivered in three increments; the first of which is the Expeditionary Pack-Up Kit (EPUK). EPUK provides Expeditionary Supply Operations such as Business Administration, Inventory and Customer Service Operations.																

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<b>Exhibit P-40, Budget Line Item Justification: PB 2019 Navy</b>		<b>Date:</b> February 2018
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment		<b>P-1 Line Item Number / Title:</b> 4268 / Aviation Support Equipment
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
Funding is required to procure the hardware, software, hand-held peripherals, satellite communication units, and associated engineering and hardware support necessary to facilitate the planning and execution of geographically distributed, expeditionary AVLOG chains in support of deployed USMC Air Combat Element (ACE) operations.		
Automated Data Capture System (ADCS) (S7047): ADCS is a user friendly, interactive mobile computing system currently in use at depot-level Fleet Readiness Centers to document and analyze aircraft discrepancies discovered during scheduled maintenance events. Inspectors use menu driven checklists plus digital aircraft and engine drawings during inspection and evaluation to create immediate discrepancy records and produce real time reports that fulfill customer and specification requirements. Requested funding will provide hardware and software for a lead-the-Fleet effort that will enable the organizational maintenance level to utilize ADCS to better document vital corrosion and wiring related discrepancy information. Once captured, this information will be analyzed by organizational level maintenance department personnel and depot level engineers to develop targeted mitigation strategies aimed at reducing or removing corrosion in identified areas. The results of the analysis made possible by using ADCS will greatly improve our understanding of where and how corrosion is affecting our aircraft, resulting in the formulation of statistically targeted area identification and sound attack strategies.		
Condition Based Maintenance Plus (CBM+) (S7048): The CBM+ solution is an initiative which provides Naval Aviation Enterprise with common enabling capabilities which deliver timely data-driven decisional information to optimize aircraft availability and materiel readiness by incorporating health and usage leading indicators into the failure mode mitigation process, enabling the Warfighter to more efficiently meet mission requirements through automated analysis and decision making processes. The CBM+ Initiative increases readiness by streamlining maintenance processes, provide the sustainment base with timely, actionable logistics data not previously available, and enable engineers and acquisition professionals to support system improvements based on CBM+ acquired data results. CBM+ provides the enabling solutions needed to extend the life of current and new acquisition aircraft, realizing savings from reductions in field (organizational and intermediate) maintenance actions, reduced functional check flight hours, mishap mitigation, and reduced parts usage.		
[P5 / CSEL - SY060]: COMBAT SURVIVOR EVADER LOCATOR - SY060 (Baseline) CSEL has been designated as an ACAT III Joint Service Program with the USAF as lead service. The CSEL Radio system provides U.S. combat forces with secure, encrypted, low probability of exploitation, two-way, over the horizon, near real time databurst communications with integral precise geopositioning; and non-secure, unencrypted line-of-sight voice and beacon capability to support survival, evasion, and personnel recovery operations. The user segment of the CSEL system is composed of a battery operated Hand Held Radio (HHR) (AN/PRQ-7), a Radio Set Adapter (J-6431/PRQ-7), a Global Positioning System (GPS) antenna and coupler, and a laptop Central Processing Unit with software for loading the HHR CSEL Planning Computer. Fielding of CSEL radios will provide 100% coverage of radios to Aviation personnel that currently lack military GPS enabled radios today.		
[P5 / LEP- SY080]: LASER EYE PROTECTION (LEP) - SY080 (Baseline) The LEP program is a family of eye protection solutions that will provide Fixed Wing Ejection, Fixed Wing Non-Ejection and Rotary Wing/Tilt Rotor pilots and aircrew with multiple wavelength fixed threat and hazard protection during day and night unaided and Night Vision Goggle aided missions. LEP will consist of a suite of products to include spectacles, goggles, and visors. The LEP (visor, spectacle or goggle format) is being developed for compatibility with all required USN/USMC Aviation Life Support Equipment as well as cockpit displays, night vision, and fire control systems.		
[P5 / JHMCS Night Vision - SY215]: JOINT HELMET MOUNTED CUEING SYSTEM NIGHT VISION (JHMCS) - SY215 (Baseline) This system provides aircraft equipped with the JHMCS the ability to cue and display weapons and sensors at night using a Night Vision Cueing and Display device that integrates the JHMCS cueing and display symbology. The system is compatible with the current JHMCS helmet and will use the power and data provided by the JHMCS Universal Connector on the helmet. The system includes a high resolution image intensifier assembly and a camera to record the pilot's visual scene and display. The system is fully adjustable by the operator and is detachable from the helmet.		
[P5 / FDC - SY505]: FLIGHT DECK CRANIAL AND HEARING PROTECTION - SY505 (Baseline) The Flight Deck Cranial program has been divided into three increments by the Milestone Decision Authority. Increment 1 is the Flight Deck Double Hearing Protection (DHP) program and is providing improved hearing protection for aircrew, maintainers, and flight deck personnel, which can be integrated into current legacy helmet and cranial assemblies. Communications versions interface with existing flight deck communications system and F/A-18 Inter-aircraft Communication System. Increment 1 Milestone C (MS C) was successfully completed on 27 April 2011. Increment 2 is the Triple Hearing Protection (THP) program and will provide hearing protection and speech intelligibility for aircrew, maintainers and flight deck personnel in the most extreme noise environments. Communications versions will interface with the shipboard Sound-Powered Phone, existing flight deck communications systems and multiple aircraft communications systems. Increment 3 will provide lightweight head protection devices/helmets with advancements in head impact protection, and Night Vision Device, Chemical Biological and Radiological protective equipment, and eye protection compatibility. These products will greatly improve the level of head and hearing protection available to aircrew, maintainers, and flight deck personnel.		

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<b>Exhibit P-40, Budget Line Item Justification: PB 2019 Navy</b>		<b>Date:</b> February 2018
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment	<b>P-1 Line Item Number / Title:</b> 4268 / Aviation Support Equipment	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
[P5 / EKB - SY450]: ELECTRONIC KNEE BOARD (EKB) - SY450 (Baseline) The EKB is an aircrew mounted tablet device system. Currently, printed Gridded Reference Graphics (GRG) charts are used to provide aircrew with required information to complete their missions. Evolving flight operations show the need for aircrew to be re-tasked to any part of a large area of operations resulting in the need to carry many more GRG charts in the aircraft. Physical space constraints in the cockpit for printed GRG's and insufficient aircraft memory to store electronic GRG files are adversely affecting the Fleets' ability to perform their mission. The EKB provides a digital means to store and display all required GRG information, which will increase mission flexibility, situational awareness, and overall mission effectiveness. In addition, the EKB will also store and display other information that is currently printed, to include, but not limited to, NATOPS procedures, flight information publications and related mission planning products.		
[P5 / EVA - SY217]: ENHANCED VISUAL ACUITY (EVA) - SY217 (Baseline) EVA provides an advanced night vision/Head Up Display (HUD) capability to address critical capability gaps in low and no light illumination levels (night vision) and higher visibility in a degraded visual environment. The digital architecture of the system provides the ability to field capabilities incrementally. Increment 1 will include capabilities to address the low and no light illumination issues. The increment 1 capability will also provide a sharper image at all light levels by reducing scintillation and will reduce halo/blooming when operating in urban environments. Increment 2 will build on the Increment 1 performance by adding capability to address the need for higher visibility in degraded visual environments, digital interoperability and future sensor integration.		
[P5 / ASIP - SY126]: AIRCREW SYSTEMS IMPROVEMENT PROGRAM (ASIP)- SY126 (Baseline) The Aircrew Systems Improvement Program (ASIP) targets initiatives to improve the performance, safety, reliability and mission endurance of Aviation Aircrew and Maintainer Life Support Systems in support of fleet readiness and mission objectives. The ASIP will correct operational discrepancies or major obsolescence issues in ALSS discovered during testing and evaluations, sustainment activities, engineering analysis, standard depot level evaluations, and during fleet operations. The ASIP provides the resources to correct such issues via Engineering Change Proposals (ECPs), minor Non-Recurring Engineering (NRE) efforts that can be rapidly qualified, leading to production efforts or simple qualification and production of Commercial Off-the-Shelf (COTS), Non-Developmental Items (NDI) or Personnel Gear qualified through other Services. Modifications include, but are not limited to, Escape and Crashworthy Systems such as ejection seat, Survival kit items, Survival Signaling Devices, Personnel Seats, and aircraft emergency escape parachutes; Aviation Life Support Systems such as hearing protection, laser eye protection, cranial communication systems, anti-exposure suits and safety boots; Night Vision Systems such as helmet-mounted displays and Night Vision Goggles and Image Intensifier Tubes; Chemical Biological Defense items such as CBR decontamination, CBR Detection and CBR Clothing and skin protection, masks, filters and hoods; Hypoxia Mitigation efforts to include Oxygen systems and devices such as Oxygen masks and filters and Oxygen generation systems; Mission Endurance efforts such as reduction of bulk, moisture wicking materials, improved support devices and cushioning, hydration technology and bodily waste collection and storage.		
[P5 - 2 / S6001 Portable Electronic Maintenance Aids (PEMAs)]: Portable Electronic Maintenance Aids (PEMAs) are Aviation Support Equipment end items used by fleet technicians to assist in performing maintenance and diagnostics of aircraft. Funding is required to procure the necessary hardware, software applications, initial stand up, and production support. PEMAs are a portable display device used in the Automated Logistics Environment (ALE) to read digital maintenance publications and Integrated Electronic Technical Manuals (IETMs). PEMAs with IETMs applications interpret aircraft Binary Digit (BIT) Data to diagnose the aircraft systems and direct maintenance actions.		
[P3A / ALIS - Program Support]: Autonomic Logistics Information System (ALIS) Ship Integration - CVN, LHD, LHA: ALIS controls all aspects of F-35 mission planning, maintenance, logistics, and supply functions. Funding for ALIS Ship Integration efforts (Programmatic Support, Engineering Support Services, Material, and Installation efforts) will enable shipboard (CVN, LHD, LHA) modification, classified/unclassified network integration, the installation of ALIS-related shipboard equipment, ALIS security accreditation, and verification of ALIS operation and functionality to include the integration of ALIS with shipboard Command, Control, Communications and Computers & Intelligence (C4I) Networks and the Prognostic Health Management (PHM) downlink. At the completion of each installation, the respective ship's ALIS will enable the F-35 system to provide, at the appropriate security levels via Navy Local Area Networks (LANs)/Wide Area Networks (WANs), the ability to transfer time-sensitive data for logistics support, mission planning, mission execution, and mission debriefing.		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment				P-1 Line Item Number / Title: 4268 / Aviation Support Equipment						
ID Code (A=Service Ready, B=Not Service Ready): B		Program Elements for Code B Items: N/A			Other Related Program Elements: N/A					
<b>Line Item MDAP/MAIS Code:</b> N/A										
Exhibits Schedule			Prior Years		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total 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	Other Aviation Support Equipment	P-5a			- / 11.373	- / 5.787	- / 7.043	- / 7.688	- / -	- / 7.688
P-5	1 / Aviation Life Support	P-5a, P-21			- / 58.188	- / 15.028	- / 39.867	- / 16.070	- / 0.000	- / 16.070
P-5	2 / Portable Electronic Maintenance Aids	P-5a, P-21			- / 18.414	- / 6.651	- / 12.909	- / 11.885	- / 0.000	- / 11.885
P-3a	1 / ALIS SHIP INSTALLATION (Add Capability)				- / 9.409	- / 2.062	- / 3.458	- / 3.731	- / 0.000	- / 3.731
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 97.384</b>	<b>- / 29.528</b>	<b>- / 63.277</b>	<b>- / 39.374</b>	<b>- / 0.000</b>	<b>- / 39.374</b>
Exhibits Schedule			FY 2020		FY 2021	FY 2022	FY 2023	To Complete	Total	
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	
P-40a	Other Aviation Support Equipment	P-5a			- / -	- / -	- / -	- / -	- / -	- / -
P-5	1 / Aviation Life Support	P-5a, P-21			- / -	- / -	- / -	- / -	- / -	- / -
P-5	2 / Portable Electronic Maintenance Aids	P-5a, P-21			- / -	- / -	- / -	- / -	- / -	- / -
P-3a	1 / ALIS SHIP INSTALLATION (Add Capability)				- / 3.280	- / 3.853	- / 3.916	- / 3.998	- / 0.000	- / 33.707
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 50.957</b>	<b>- / 54.934</b>	<b>- / 70.046</b>	<b>- / 71.314</b>	<b>Continuing</b>	<b>Continuing</b>

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

The FY2019 Budget Request includes funding for the following:

Other Aviation Support Equipment - the procurement of hardware and associated support costs for JTDI (S7042), MAL-EIT/EPUK (S7046), and CBM+ (S7048).

Other Aviation Support Equipment - Naval Aviation Logistics Command Management Information System/Naval Air Systems Command Fleet System Array (NALCOMIS/NFSA)(S7041) consists of the purchase of multiple components, which includes servers, peripheral hardware and software rack mounted into one server suite. Funds are required to manage obsolescence and comply with CYBER WARFARE/XP Migration and fleet data replication and analysis processes used to monitor safety and readiness of the Fleet as well as the ability to comply with mandatory Information Security (IA) mandates, which would lead to IT system shutdown without adherence.

Naval Aviation Logistics Data Analysis Decision Programming for Logistics Analysis and Technical Evaluation (DECKPLATE)(S7039)consists of the purchase of multiple components, which includes servers, peripheral hardware and software rack mounted into one server suite. Funds are required to manage obsolescence and comply with CYBER WARFARE/XP Migration and fleet data replication and analysis processes used to monitor safety and readiness of the Fleet as well as the ability to comply with mandatory Information Security (IA) mandates, which would lead to IT system shutdown without adherence.

Aviation Life Support - the procurement of hardware and associated support costs for 30 JHMCS Night Vision Cueing and Display devices and 97 Combat Survivor Evader Locator programming computers along with 33 Modified O2 Servicing Carts under the Aircrew Systems Improvement Program (ASIP).

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2019 Navy		<b>Date:</b> February 2018
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment		<b>P-1 Line Item Number / Title:</b> 4268 / Aviation Support Equipment
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
Portable Electronic Maintenance Aids (PEMA) - the procurement of hardware and associated support costs for 2,529 PEMA units in FY2019; this will correct the PEMA replenishment deficit enabling the squadrons to maintain Ready Based Aircraft (RBA) and supports the USN Vision 2020.		
Autonomic Logistics Info Systems (ALIS) - supports Design Support Activities (DSA) to include material purchases for the installation of two (2) ALIS in FY2019.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3								P-1 Line Item Number / Title: 4268 / Aviation Support Equipment								Aggregated Items Title: Other Aviation Support Equipment <sup>(1)</sup>				
Item Number / Title [DODIC]	ID CD	MDAP/ MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 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)
<b>1) Naval Aviation Logistics Data Analysis Decision Knowledge Programming for Logistics Analys</b>																				
1.1) S7039 - Aviation Data Warehouse Environment <sup>(2)(t)</sup>	A		3,035K	1	3.035	-	-	1.315	1,485K	1	1.485	1,658K	1	1.658	-	-	-	1,658K	1	1.658
<i>Subtotal: 1) Naval Aviation Logistics Data Analysis Decision Knowledge Programming for Logistics Analys</i>																				
			-	-	3.035	-	-	1.315	-	-	1.485	-	-	1.658	-	-	-	-	1.658	
<b>2) Naval Aviation Logistics Command Management Information System/Naval Air Systems Command F</b>																				
2.1) S7041 - NFSR HW/SW <sup>(3)(t)</sup>	A		3,066K	1	3.066	-	-	2.002	2,215K	1	2.215	2,434K	1	2.434	-	-	-	2,434K	1	2.434
<i>Subtotal: 2) Naval Aviation Logistics Command Management Information System/Naval Air Systems Command F</i>																				
			-	-	3.066	-	-	2.002	-	-	2.215	-	-	2.434	-	-	-	-	2.434	
<b>3) Joint Technical Data Integration (JTDI)</b>																				
3.1) S7042 - JTDI HW/SW <sup>(4)(t)</sup>	A		1,354K	1	1.354	-	-	0.563	1,956K	1	1.956	2,161K	1	2.161	-	-	-	2,161K	1	2.161
<i>Subtotal: 3) Joint Technical Data Integration (JTDI)</i>																				
			-	-	1.354	-	-	0.563	-	-	1.956	-	-	2.161	-	-	-	-	2.161	
<b>4) Marine Aviation Logistics Enterprise Information Technology (MAL-EIT)/Expeditionary Pack U</b>																				
4.1) S7046 - EPUK HW/SW <sup>(5)(t)</sup>	B		567,000.00	1	0.567	-	-	0.620	179,449.00	1	0.179	199,000.00	1	0.199	-	-	-	199,000.00	1	0.199
<i>Subtotal: 4) Marine Aviation Logistics Enterprise Information Technology (MAL-EIT)/Expeditionary Pack U</i>																				
			-	-	0.567	-	-	0.620	-	-	0.179	-	-	0.199	-	-	-	-	0.199	
<b>5) Automated Data Capture System (ADCS)</b>																				
5.1) S7047 - ADCS HW/SW	B		207,000.00	1	0.207	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Subtotal: 5) Automated Data Capture System (ADCS)</i>																				
			-	-	0.207	-	-	-	-	-	-	-	-	-	-	-	-	-		
<b>6) Condition Based Maintenance Plus (CBM+)</b>																				
6.1) S7048 - CBM+ HW/SW <sup>(6)(t)</sup>	A		168,000.00	1	0.168	-	-	0.154	156,455.00	1	0.156	173,450.00	1	0.173	-	-	-	173,450.00	1	0.173
<i>Subtotal: 6) Condition Based Maintenance Plus (CBM+)</i>																				
			-	-	0.168	-	-	0.154	-	-	0.156	-	-	0.173	-	-	-	-	0.173	
<b>7) Production Engineering Support (AIR6.8)</b>																				
7.1) S7833 - Marine Aviation Logistics Enterprise Information Technology	A		-	-	0.020	-	-	0.053	-	-	0.021	-	-	0.020	-	-	-	-	0.020	

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy														Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3						P-1 Line Item Number / Title: 4268 / Aviation Support Equipment								Aggregated Items Title: Other Aviation Support Equipment <sup>(1)</sup>						
Item Number / Title [DODIC]	ID CD	MDAP/ MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 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)
7.2) S7833 - Aviation Data Warehouse Environment	A		-	-	1.026	-	-	0.389	-	-	0.385	-	-	0.391	-	-	-	-	-	0.391
7.3) S7833 - Naval Air Systems Command Fleet System Arrays	A		-	-	1.054	-	-	0.426	-	-	0.425	-	-	0.430	-	-	-	-	-	0.430
7.4) S7833 - Joint Technical Data Integration	A		-	-	0.698	-	-	0.221	-	-	0.178	-	-	0.179	-	-	-	-	-	0.179
7.5) S7833 - Automated Data Capture System	A		-	-	0.124	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.6) S7833 - Condition Based Maintenance Plus	A		-	-	0.054	-	-	0.044	-	-	0.043	-	-	0.043	-	-	-	-	-	0.043
<b>Subtotal: 7) Production Engineering Support (AIR6.8)</b>			-	-	<b>2.976</b>	-	-	<b>1.133</b>	-	-	<b>1.052</b>	-	-	<b>1.063</b>	-	-	-	-	-	<b>1.063</b>
<b>Total</b>			-	-	<b>11.373</b>	-	-	<b>5.787</b>	-	-	<b>7.043</b>	-	-	<b>7.688</b>	-	-	-	-	-	<b>7.688</b>

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) Program provides for the acquisition, upgrade, and production support of aviation life support systems required for the personal safety and protection of aircrew against the hazards encountered in the aircraft operating environment and for safe recovery of downed aircrew. Note: Elements of Cost that are not currently funded in the FYDP are no longer included in the "Prior Year" column.
- (2) Naval Aviation Logistics Data Analysis Decision Knowledge Programming for Logistics Analysis and Technical Evaluation (DECKPLATE)(S7039) - The unit cost reflects the total of all suites being procured in each fiscal year.
- (3) Naval Aviation Logistics Command Management Information System/Naval Air Systems Command Fleet System Array (NALCOMIS/NFSA) (S7041): The unit cost reflects the total of all suites being procured in each fiscal year.
- (4) Increases in FY19 are to address significant increase in tech refresh requirements. JTDS Tech Refresh is the initial procurement of hardware, software and the implementation of the CBM+ Standard Data Repository (SDR) incorporating Information Assurance and Cybersecurity updates supporting the F/A-18 and E/A-18 Physiological Episode Root Cause Corrective Action Group investigation efforts. Standard Data Repository (SDR) & CBM+ capabilities will drive NAE Total Ownership Cost down if fully funded. The ability to realize the full benefits of investment in smart aircraft systems and associated prognostics and health management technologies and the ability to deliver CBM+ data to improve decision making related to the design, acquisition, engineering, and maintenance of Ready Basic Aircraft (RBA) will be lost without the implementation of the SDR.
- (5) Marine Aviation Logistics Enterprise Information Technology (MAL-EIT)/Expeditionary Pack Up Kits (EPUK) (S7046).
- (6) S7048 Condition Based Maintenance - Funding for Condition Based Maintenance (CBM+) was previously executed under DECKPLATE.

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3			P-1 Line Item Number / Title: 4268 / Aviation Support Equipment						Aggregated Items: Other Aviation Support Equipment <sup>(1)</sup>			
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
<b>1) Naval Aviation Logistics Data Analysis Decision Knowledge Programming for Logistics Analysis</b>												
1.1) S7039 - Aviation Data Warehouse Environment <sup>(2)</sup>		2018	Teradata Government Systems / Germantown MD	C / CPFF	NAVAIR	Dec 2017	Dec 2018	1	1,485K	Y		Nov 2017
1.1) S7039 - Aviation Data Warehouse Environment <sup>(2)</sup>		2019	Teradata Government Systems / Germantown MD	C / CPFF	NAVAIR	Dec 2018	Dec 2019	1	1,658K	Y		Nov 2018
<b>2) Naval Aviation Logistics Command Management Information System/Naval Air Systems Command F</b>												
2.1) S7041 - NFSA HW/SW <sup>(3)</sup>		2018	VARIOUS / VARIOUS	C / FFP	NAVAIR	May 2018	Sep 2018	1	2,215K	Y		Jan 2018
2.1) S7041 - NFSA HW/SW <sup>(3)</sup>		2019	VARIOUS / VARIOUS	C / FFP	NAVAIR	May 2019	Sep 2019	1	2,434K	Y		Jan 2019
<b>3) Joint Technical Data Integration (JTDI)</b>												
3.1) S7042 - JTDI HW/SW <sup>(4)</sup>		2018	Wyle / Huntsville, AL	C / CPFF	DTIC	Jul 2018	Oct 2018	1	1,956K	Y		May 2018
3.1) S7042 - JTDI HW/SW <sup>(4)</sup>		2019	Wyle / Huntsville, AL	C / CPFF	DTIC	Jul 2019	Oct 2019	1	2,161K	Y		May 2019
<b>4) Marine Aviation Logistics Enterprise Information Technology (MAL-EIT)/Expeditionary Pack U</b>												
4.1) S7046 - EPUK HW/SW <sup>(5)</sup>		2018	VARIOUS / VARIOUS	C / FFP	NAVAIR	May 2018	Aug 2018	1	179,449.00	Y		Apr 2018
4.1) S7046 - EPUK HW/SW <sup>(5)</sup>		2019	VARIOUS / VARIOUS	C / FFP	NAVAIR	May 2019	Aug 2019	1	199,000.00	Y		Apr 2019
<b>6) Condition Based Maintenance Plus (CBM+)</b>												
6.1) S7048 - CBM+ HW/SW <sup>(6)</sup>		2018	VARIOIUS / VARIOUS	Various	NAVAIR	Feb 2018	Apr 2018	1	156,455.00	Y		Nov 2017
6.1) S7048 - CBM+ HW/SW <sup>(6)</sup>		2019	VARIOIUS / VARIOUS	Various	NAVAIR	Feb 2019	Apr 2019	1	173,450.00	Y		Nov 2018

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3			P-1 Line Item Number / Title: 4268 / Aviation Support Equipment										Item Number / Title [DODIC]: 1 / Aviation Life Support						
ID Code (A=Service Ready, B=Not Service Ready) :													MDAP/MAIS Code:						
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total					
Procurement Quantity ( <i>Units in Each</i> )				-		-		-		-		-		-					
Gross/Weapon System Cost (\$ in Millions)				58.188		15.028		39.867		16.070		0.000		16.070					
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-					
Net Procurement (P-1) (\$ in Millions)				58.188		15.028		39.867		16.070		0.000		16.070					
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-					
Total Obligation Authority (\$ in Millions)				58.188		15.028		39.867		16.070		0.000		16.070					
(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 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 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 - Survival Electronics Cost																			
Recurring Cost																			
1.1.1) CSEL - SY060	8,244.90	49	0.404	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	
<i>Subtotal: Recurring Cost</i>	-	-	<b>0.404</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	
<i>Subtotal: Hardware - Survival Electronics Cost</i>	-	-	<b>0.404</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	
Hardware - Helmets, Hearing and Display Cost																			
Non Recurring Cost																			
2.1.1) JHMCS Night Vision NRE- SY215	-	-	1.050	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	
2.1.2) FDC NRE - SY505	-	-	0.000	-	-	4.400	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	
<i>Subtotal: Non Recurring Cost</i>	-	-	<b>1.050</b>	-	-	<b>4.400</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	
<i>Subtotal: Hardware - Helmets, Hearing and Display Cost</i>	-	-	<b>1.050</b>	-	-	<b>4.400</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	
Hardware - Helmets, Hearing and Display Cost																			
Recurring Cost																			
3.1.2) JHMCS Night Vision - SY215 <sup>(†)</sup> (7)	179,280.70	171	30.657	-	-	0.000	147,458.60	229	33.768	303,996.00	30	9.120	-	-	0.000	303,996.00	30	9.120	
3.1.3) JHMCS Night Vision Pec Spt Equip - SY215 <sup>(†)</sup>	31,155.56	90	2.804	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	
3.1.5) EKB - SY450	1,127.48	2,675	3.016	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy													<b>Date:</b> February 2018													
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3				<b>P-1 Line Item Number / Title:</b> 4268 / Aviation Support Equipment									<b>Item Number / Title [DODIC]:</b> 1 / Aviation Life Support													
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :													<b>MDAP/MAIS Code:</b>													
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																										
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2017</b>			<b>FY 2018</b>			<b>FY 2019 Base</b>			<b>FY 2019 OCO</b>			<b>FY 2019 Total</b>										
	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)								
<i>Subtotal: Recurring Cost</i>	-	-	36.477	-	-	0.000	-	-	33.768	-	-	9.120	-	-	0.000	-	-	9.120								
<i>Subtotal: Hardware - Helmets, Hearing and Display Cost</i>	-	-	36.477	-	-	0.000	-	-	33.768	-	-	9.120	-	-	0.000	-	-	9.120								
<b>Hardware - Life Support Systems Cost</b>																										
Recurring Cost																										
4.1.1) ASIP - SY126 <sup>(†)</sup> (8)	-	-	0.000	-	-	0.000	5,718.75	32	0.183	19,846.15	130	2.580	-	-	0.000	19,846.15	130	2.580								
<i>Subtotal: Recurring Cost</i>	-	-	0.000	-	-	0.000	-	-	0.183	-	-	2.580	-	-	0.000	-	-	2.580								
<i>Subtotal: Hardware - Life Support Systems Cost</i>	-	-	0.000	-	-	0.000	-	-	0.183	-	-	2.580	-	-	0.000	-	-	2.580								
<b>Support - Production Support Cost</b>																										
5.1) Survival Electronics - SY830	-	-	0.258	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000								
5.2) Helmets, Hearing and Displays - SY830 <sup>(9)</sup>	-	-	19.999	-	-	10.628	-	-	5.816	-	-	3.899	-	-	0.000	-	-	3.899								
5.3) Life Support Systems - SY830 <sup>(10)</sup>	-	-	0.000	-	-	0.000	-	-	0.100	-	-	0.471	-	-	0.000	-	-	0.471								
<i>Subtotal: Support - Production Support Cost</i>	-	-	20.257	-	-	10.628	-	-	5.916	-	-	4.370	-	-	0.000	-	-	4.370								
<b>Gross/Weapon System Cost</b>	-	-	<b>58.188</b>	-	-	<b>15.028</b>	-	-	<b>39.867</b>	-	-	<b>16.070</b>	-	-	<b>0.000</b>	-	-	<b>16.070</b>								

(†) indicates the presence of a P-5a

**Footnotes:**

(7) SY215 JHMCS: Quantity and unit prices in FY18 and out adjusted to reflect revised negotiated contract pricing and Life Cycle Cost Estimate. Night Vision Units are contracted via a Sole Source contract with the vendor. Unit costs and quantities vary due to quantity based step-ladder pricing which results in Economy of Scale unit cost savings for higher quantities procured and increased unit costs for lower quantities procured. Total inventory reduced to 670 units to reflect actual needed quantity.

(8) SY126 ASIP: FY18 funding to be used to procure 32 Combat Survival Evader Locator Programming Computers. Cost and quantity increase in FY19 due to procurements added in for Modified O2 Servicing Carts. Quantities and unit costs vary each year due to mix of ASIP items being procured yearly.

(9) Cost decrease from FY18 to FY19 due to related hardware line JHMCS Night Vision quantity being decreased in FY19.

(10) Cost increase from FY18 to FY19 due to related ASIP hardware increase in FY19 from Physiological Episodes purchases.

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<b>Exhibit P-5a, Procurement History and Planning: PB 2019 Navy</b>								<b>Date:</b> February 2018			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4268 / Aviation Support Equipment					<b>Item Number / Title [DODIC]:</b> 1 / Aviation Life Support			

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
3.1.2) JHMCS Night Vision - SY215 <sup>(†)</sup>		2015	Rockwell Collins - ESA Vision Systems / Dallas Ft. Worth, Texas	SS / FFP	NAVAIR	Mar 2016	May 2017	100	166,880.00	Y		Dec 2014
3.1.2) JHMCS Night Vision - SY215 <sup>(†)</sup>		2016 <sup>(11)</sup>	Rockwell Collins - ESA Vision Systems / Dallas Ft. Worth, Texas	SS / FFP	NAVAIR	Mar 2016	May 2017	71	196,740.00	Y		Dec 2014
3.1.2) JHMCS Night Vision - SY215 <sup>(†)</sup>		2018 <sup>(12)</sup>	Rockwell Collins - ESA Vision Systems(2) / Dallas Ft. Worth, Texas	SS / FFP	NAVAIR	Mar 2018	Mar 2019	72	147,458.60	Y		Oct 2016
3.1.2) JHMCS Night Vision - SY215 <sup>(†)</sup>	✓	2018 <sup>(13)</sup>	Rockwell Collins - ESA Vision Systems(2) / Dallas Ft. Worth, Texas	SS / FFP	NAVAIR	Mar 2018	Mar 2019	157	147,458.60	Y		Oct 2016
3.1.2) JHMCS Night Vision - SY215 <sup>(†)</sup>		2019	Rockwell Collins - ESA Vision Systems(2) / Dallas Ft. Worth, Texas	SS / FFP	NAVAIR	Mar 2019	Mar 2020	30	303,996.00	Y		Oct 2016
3.1.3) JHMCS Night Vision Pec Spt Equip - SY215		2015	Rockwell Collins - ESA Vision Systems / Dallas Ft. Worth, Texas	SS / FFP	NAVAIR	Mar 2016	Jul 2016	30	32,533.33	Y		Dec 2014
3.1.3) JHMCS Night Vision Pec Spt Equip - SY215		2016 <sup>(14)</sup>	Rockwell Collins - ESA Vision Systems / Dallas Ft. Worth, Texas	SS / FFP	NAVAIR	Mar 2017	Jul 2017	60	30,466.67	Y		Dec 2014
4.1.1) ASIP - SY126		2018 <sup>(15)</sup>	VARIOUS / VARIOUS	Various	VARIOUS	Dec 2017	Feb 2018	32	5,718.75	Y		
4.1.1) ASIP - SY126		2019 <sup>(16)</sup>	VARIOUS / VARIOUS	Various	VARIOUS	Dec 2018	Feb 2019	130	19,846.15	Y		

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

**Footnotes:**

(11) Award dates for FRP 1 quantity 20 awarded in March 2016 and FRP 2 quantity 51 awarded in March 2017.

(12) Production lead time decreased back to 12 months from 17 months due to Image intensifier Tube Power Supply no longer being an issue.

(13) FY18 Overseas Contingency Operations (OCO) procurement of hardware for 157 JHMCS Night Vision units in support of Operation Inherent Resolve (OIR). Production lead time decreased back to 12 months from 17 months due to Image intensifier Tube Power Supply no longer being an issue.

(14) Prior year production support funding cost savings was utilized to procure 30 additional units.

(15) Contract vehicles and Vendors vary depending on mix of ASIP items being procured.

(16) Contract vehicles and Vendors vary depending on mix of ASIP items being procured.

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Exhibit P-21, Production Schedule: PB 2019 Navy																					Date: February 2018																
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3										P-1 Line Item Number / Title: 4268 / Aviation Support Equipment										Item Number / Title [DODIC]: 1 / Aviation Life Support																	
Cost Elements (Units in Each)							Fiscal Year 2016												Fiscal Year 2017																		
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L A N C E							
3.1.2) JHMCS Night Vision - SY215 <sup>(7)</sup>																																					
1	2015	NAVY	100	0	100																														56		
1	2016	NAVY	71 <sup>(17)</sup>	0	71																														64		
2	2018	NAVY	72	0	72																															72	
✓ 2	2018	NAVY	157	0	157																															157	
2	2019	NAVY	30	0	30																																30
O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P														

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3										P-1 Line Item Number / Title: 4268 / Aviation Support Equipment										Item Number / Title [DODIC]: 1 / Aviation Life Support																			
Cost Elements (Units in Each)							Fiscal Year 2018												Fiscal Year 2019																				
O C R O #	M F R Y	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																
3.1.2) JHMCS Night Vision - SY215 <sup>(7)</sup>																																							
1	2015	NAVY	100	44	56	8	8	8	8	8	8																									0			
1	2016	NAVY	71 <sup>(17)</sup>	7	64	2	2	2	2	2	2	5	5	5	5	4	4	4	4	4	3												0						
2	2018	NAVY	72	0	72							A -	-	-	-	-	-	-	-	-	-	6	6	6	6	6	6	6	6	6	6	30							
✓ 2	2018	NAVY	157	0	157							A -	-	-	-	-	-	-	-	-	-	14	14	13	13	13	13	13	13	13	13	64							
2	2019	NAVY	30	0	30																A -	-	-	-	-	-	-	-	-	-	-	30							
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P									

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## **Exhibit P-21, Production Schedule: PB 2019 Navy**

Date: February 2018

**Appropriation / Budget Activity / Budget Sub Activity:**  
1810N / 03 / 3

**P-1 Line Item Number / Title:**  
4268 / Aviation Support Equipment

**Item Number / Title [DODIC]:**  
1 / Aviation Life Support

Cost Elements (Units in Each)							Fiscal Year 2020												Fiscal Year 2021												Balance
O C O #	M F R #	FY	Service	Proc Qty	Accept Prior to 1 Oct 2019	Bal Due as of 1 Oct	Calendar Year 2020												Calendar Year 2021												Balance
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
3.1.2) JHMCS Night Vision - SY215 <sup>(7)</sup>																															
1	2015	NAVY	100	100	0																										0
1	2016	NAVY	71 <sup>(17)</sup>	71	0																										0
2	2018	NAVY	72	42	30	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0	
✓ 2	2018	NAVY	157	93	64	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	0	
2	2019	NAVY	30	0	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	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 2019 Navy										Date: February 2018							
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3				P-1 Line Item Number / Title: 4268 / Aviation Support Equipment						Item Number / Title [DODIC]: 1 / Aviation Life Support							
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)												
		MSR For 2019	1-8-5 For 2019	MAX For 2019	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	Rockwell Collins - ESA Vision Systems - Dallas Ft. Worth, Texas	3	120	240	0	0	0	0	0	6	14	20					
2	Rockwell Collins - ESA Vision Systems(2) - Dallas Ft. Worth, Texas	3	120	240	0	0	0	0	0	6	12	18					

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

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

**Footnotes:**

(17) FY17 Deliveries are from FRP1 and FY18 Deliveries are from FRP 2 contract awards.

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy												<b>Date:</b> February 2018						
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4268 / Aviation Support Equipment												<b>Item Number / Title [DODIC]:</b> 2 / Portable Electronic Maintenance Aids			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :												<b>MDAP/MAIS Code:</b>						
<b>Resource Summary</b>				<b>Prior Years</b>		<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>				
Procurement Quantity ( <i>Units in Each</i> )				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				18.414		6.651		12.909		11.885		0.000		11.885				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				18.414		6.651		12.909		11.885		0.000		11.885				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
<b>Total Obligation Authority</b> (\$ in Millions)				18.414		6.651		12.909		11.885		0.000		11.885				
(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.																		
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2017</b>			<b>FY 2018</b>			<b>FY 2019 Base</b>			<b>FY 2019 OCO</b>			<b>FY 2019 Total</b>		
	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 - Hardware PEMA Cost																		
Recurring Cost																		
1.1.1) S6001 Portable Electronic Maintenance Aids (PEMAs) <sup>(†) (18)</sup>	3,546.80	3,782	13.414	3,835.96	1,285	4.929	3,500.00	3,201	11.204	3,572.16	2,529	9.034	-	-	0.000	3,572.16	2,529	9.034
1.1.2) S6002 CH/MH-53 PEMAs	3,416.20	531	1.814	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
<i>Subtotal: Recurring Cost</i>	-	-	<b>15.228</b>	-	-	<b>4.929</b>	-	-	<b>11.204</b>	-	-	<b>9.034</b>	-	-	<b>0.000</b>	-	-	<b>9.034</b>
<i>Subtotal: Hardware - Hardware PEMA Cost</i>	-	-	<b>15.228</b>	-	-	<b>4.929</b>	-	-	<b>11.204</b>	-	-	<b>9.034</b>	-	-	<b>0.000</b>	-	-	<b>9.034</b>
Support - Production Cost																		
2.1) S6820 Portable Electronic Maintenance Aids (PEMAs) Support (19)	-	-	3.051	-	-	1.722	-	-	1.705	-	-	2.851	-	-	0.000	-	-	2.851
2.2) S6830 CH/MH-53 PEMAs Support	-	-	0.135	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
<i>Subtotal: Support - Production Cost</i>	-	-	<b>3.186</b>	-	-	<b>1.722</b>	-	-	<b>1.705</b>	-	-	<b>2.851</b>	-	-	<b>0.000</b>	-	-	<b>2.851</b>
<b>Gross/Weapon System Cost</b>	-	-	<b>18.414</b>	-	-	<b>6.651</b>	-	-	<b>12.909</b>	-	-	<b>11.885</b>	-	-	<b>0.000</b>	-	-	<b>11.885</b>
<b>Remarks:</b>																		
[Hardware] Quantities of PEMAs are derived from actual current inventory, as reported by the fleet in the mandated asset tracking system Support Equipment Management System (SEMS). This program is a replenishment of these fielded systems on a one for one basis as required.																		

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy		<b>Date:</b> February 2018
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3	<b>P-1 Line Item Number / Title:</b> 4268 / Aviation Support Equipment	<b>Item Number / Title [DODIC]:</b> 2 / Portable Electronic Maintenance Aids
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>

(†) indicates the presence of a P-5a

**Footnotes:**

- (18) POM 19 PEMA Replenishment funded FY19-FY22; it will correct the PEMA replenishment deficit enabling the squadrons to maintain Ready Based Aircraft (RBA) and supports the USN Vision 2020. PEMAs are initially fielded by weapon system programs and replenishment requirements need to be funded.
- (19) Increase in production support growth driven by new type model series requirements becoming part of the program of record.

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3			P-1 Line Item Number / Title: 4268 / Aviation Support Equipment					Item Number / Title [DODIC]: 2 / Portable Electronic Maintenance Aids				
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) S6001 Portable Electronic Maintenance Aids (PEMAs) <sup>(†)</sup>		2017	Panasonic of North America / Secaucus, NJ	C / IDIQ	NAWCAD LKE	Dec 2016	Feb 2017	1,285	3,835.96	Y		Dec 2016
1.1.1) S6001 Portable Electronic Maintenance Aids (PEMAs) <sup>(†)</sup>		2018	Panasonic of North America / Secaucus, NJ	C / IDIQ	NAWCAD LKE	Dec 2017	Feb 2018	1,460	3,500.00	Y		Dec 2017
1.1.1) S6001 Portable Electronic Maintenance Aids (PEMAs) <sup>(†)</sup>	✓	2018	Panasonic of North America / Secaucus, NJ	C / IDIQ	NAWCADLKE	Dec 2017	Feb 2018	1,741	3,500.00	Y		Dec 2017
1.1.1) S6001 Portable Electronic Maintenance Aids (PEMAs) <sup>(†)</sup>		2019	Panasonic of North America / Secaucus, NJ	C / IDIQ	NAWCAD LKE	Dec 2018	Feb 2019	2,529	3,572.16	Y		Dec 2018

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

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3										P-1 Line Item Number / Title: 4268 / Aviation Support Equipment										Item Number / Title [DODIC]: 2 / Portable Electronic Maintenance Aids																			
Cost Elements (Units in Each)							Fiscal Year 2017												Fiscal Year 2018																				
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	FY	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L A N C E								
1.1.1) S6001 Portable Electronic Maintenance Aids (PEMAs) <sup>(18)</sup>																																							
Prior Years Deliveries: 3782																																							
1	2017	NAVY	1,285	0	1,285		A -	-	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	108										0	
1	2018	NAVY	1,460	0	1,460																																488		
✓	1	2018	NAVY	1,741	0	1,741																															580		
	1	2019	NAVY	2,529	0	2,529																															2,529		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	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 2019 Navy																				Date: February 2018																				
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3										P-1 Line Item Number / Title: 4268 / Aviation Support Equipment										Item Number / Title [DODIC]: 2 / Portable Electronic Maintenance Aids																				
Cost Elements (Units in Each)							Fiscal Year 2019												Fiscal Year 2020																					
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	FY	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L A N C E									
1.1.1) S6001 Portable Electronic Maintenance Aids (PEMAs) <sup>(18)</sup>																																								
Prior Years Deliveries: 3782																																								
1	2017	NAVY	1,285	1,285	0																																		0	
1	2018	NAVY	1,460	972	488	122	122	122	122																												0			
✓ 1	2018	NAVY	1,741	1,161	580	145	145	145	145																												0			
1	2019	NAVY	2,529	0	2,529	A -	-	210	210	210	211	211	211	211	211	211	211	211	211	211	211	211	211	211	211	211	211	211	211	211	211	211	211	211	211	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	B A L A N C E									

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<b>Exhibit P-21, Production Schedule: PB 2019 Navy</b>								<b>Date:</b> February 2018				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4268 / Aviation Support Equipment					<b>Item Number / Title [DODIC]:</b> 2 / Portable Electronic Maintenance Aids				
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	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	Panasonic of North America - Secaucus, NJ	500	2,000	5,000	0	0	0	0	0	3	2	5

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

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

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy								<b>Date:</b> February 2018				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4268 / Aviation Support Equipment					<b>Modification Number / Title:</b> 1 / ALIS SHIP INSTALLATION				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :								<b>MDAP/MAIS Code:</b>				
<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	9.409	2.062	3.458	3.731	0.000	3.731	3.280	3.853	3.916	3.998	0.000	33.707
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	9.409	2.062	3.458	3.731	0.000	3.731	3.280	3.853	3.916	3.998	0.000	33.707
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>9.409</b>	<b>2.062</b>	<b>3.458</b>	<b>3.731</b>	<b>0.000</b>	<b>3.731</b>	<b>3.280</b>	<b>3.853</b>	<b>3.916</b>	<b>3.998</b>	<b>0.000</b>	<b>33.707</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

[ALIS - Program Support] Autonomic Logistics Information System (ALIS) Ship Integration - CVN, LHD, LHA: ALIS controls all aspects of F-35 mission planning, maintenance, logistics, and supply functions. Funding for ALIS Ship Integration efforts (Programmatic Support, Engineering Support Services, Material, and Installation efforts) will enable shipboard (CVN, LHD, LHA) modification, classified/unclassified network integration, the installation of ALIS-related shipboard equipment, ALIS security accreditation, and verification of ALIS operation and functionality to include the integration of ALIS with shipboard Command, Control, Communications and Computers & Intelligence (C4I) Networks and the Prognostic Health Management (PHM) downlink. At the completion of each installation, the respective ship's ALIS will enable the F-35 system to provide, at the appropriate security levels via Navy Local Area Networks (LANs)/Wide Area Networks (WANs), the ability to transfer time-sensitive data for logistics support, mission planning, mission execution, and mission debriefing.

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy										<b>Date:</b> February 2018			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4268 / Aviation Support Equipment						<b>Modification Number / Title:</b> 1 / ALIS SHIP INSTALLATION				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :										<b>MDAP/MAIS Code:</b>			
<b>Models of Systems Affected:</b> CVN, LHD, & LHA			<b>Modification Type:</b> Add Capability				<b>Related RDT&amp;E PEs:</b>						
<b>Financial Plan</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
<b>Procurement</b>													
<b>Modification Item 1 of 1:</b> ALIS SHIP INSTALLATION													
B Kits													
Recurring													
1.1.1) Installation Material - NonOrganic <sup>(20)</sup>		6 / 0.240	- / -	2 / 0.080	2 / 0.080	- / -	2 / 0.080	2 / 0.080	2 / 0.080	2 / 0.080	- / -	18 / 0.720	
Subtotal: Recurring		- / 0.240	- / -	- / 0.080	- / 0.080	- / -	- / 0.080	- / 0.080	- / 0.080	- / 0.080	- / 0.000	- / 0.720	
Subtotal: ALIS SHIP INSTALLATION		6 / 0.240	- / -	2 / 0.080	2 / 0.080	- / -	2 / 0.080	2 / 0.080	2 / 0.080	2 / 0.080	- / -	18 / 0.720	
Subtotal: Procurement, All Modification Items		- / 0.240	- / -	- / 0.080	- / 0.080	- / -	- / 0.080	- / 0.080	- / 0.080	- / 0.080	- / 0.000	- / 0.720	
<b>Support (All Modification Items)</b>													
2.1) ALIS - Program Support <sup>(21)</sup>		- / 1.695	- / 0.788	- / 0.709	- / 0.813	- / 0.000	- / 0.813	- / 0.511	- / 0.817	- / 0.847	- / 0.877	- / -	- / 17.057
2.2) ALIS - Production Engineering Support <sup>(22)</sup>		- / 1.573	- / 1.274	- / 0.645	- / 0.664	- / 0.000	- / 0.664	- / 0.415	- / 0.658	- / 0.687	- / 0.720	- / -	- / 16.636
Subtotal: Support		- / 3.268	- / 2.062	- / 1.354	- / 1.477	- / -	- / 1.477	- / 0.926	- / 1.475	- / 1.534	- / 1.597	- / 0.000	- / 13.693
<b>Installation</b>													
<b>Modification Item 1 of 1:</b> ALIS SHIP INSTALLATION		- / 5.901	- / 0.000	- / 2.024	- / 2.174	- / 0.000	- / 2.174	- / 2.274	- / 2.298	- / 2.302	- / 2.321	- / 0.000	- / 19.294
Subtotal: Installation		- / 5.901	- / -	- / 2.024	- / 2.174	- / -	- / 2.174	- / 2.274	- / 2.298	- / 2.302	- / 2.321	- / 0.000	- / 19.294
<b>Total</b>													
<b>Total Cost (Procurement + Support + Installation)</b>		9.409	2.062	3.458	3.731	0.000	3.731	3.280	3.853	3.916	3.998	0.000	33.707

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<b>Exhibit P-3a, Individual Modification:</b> PB 2019 Navy															<b>Date:</b> February 2018															
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3				<b>P-1 Line Item Number / Title:</b> 4268 / Aviation Support Equipment										<b>Modification Number / Title:</b> 1 / ALIS SHIP INSTALLATION																
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :															<b>MDAP/MAIS Code:</b>															
<b>Modification Item 1 of 1:</b> ALIS SHIP INSTALLATION																														
<b>Manufacturer Information</b>																														
Manufacturer Name: NAWC AD 4.5.10								Manufacturer Location: St. Inigoes, NAS Patuxent River MD																						
Administrative Leadtime ( <i>in Months</i> ): 2								Production Leadtime ( <i>in Months</i> ): 4																						
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023																							
Contract Dates	Dec 2016	Dec 2017	Dec 2018	Dec 2019	Dec 2020																									
Delivery Dates	Apr 2017	Apr 2018	Apr 2019	Apr 2020	Apr 2021																									
<b>Installation Information</b>																														
Method of Implementation: [none specified]: Installation Name: Installation Material																														
<b>Installation Cost</b>			Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total																
			Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)												
Prior Years			6 / 5.901	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	6 / 5.901																
FY 2017			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -														
FY 2018			- / -	- / -	2 / 2.024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	2 / 2.024																
FY 2019			- / -	- / -	- / -	2 / 2.174	0 / 0.000	2 / 2.174	- / -	- / -	- / -	- / -	0 / 0.000	2 / 2.174																
FY 2020			- / -	- / -	- / -	- / -	- / -	- / -	2 / 2.274	- / -	- / -	- / -	0 / 0.000	2 / 2.274																
FY 2021			- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 2.298	- / -	- / -	0 / 0.000	2 / 2.298																
FY 2022			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 2.302	- / -	0 / 0.000	2 / 2.302																
FY 2023			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 2.321	0 / 0.000	2 / 2.321																
To Complete			- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -														
Total			6 / 5.901	- / -	2 / 2.024	2 / 2.174	0 / 0.000	2 / 2.174	2 / 2.274	2 / 2.298	2 / 2.302	2 / 2.321	0 / 0.000	18 / 19.294																
<b>Installation Schedule</b>																														
PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
In	6	-	-	-	-	-	-	2	-	-	-	2	-	-	-	2	-	-	-	2	-	-	-	2	-	-	18			
Out	5	1	-	-	-	-	-	2	-	-	-	2	-	-	-	2	-	-	-	2	-	-	-	2	-	-	18			

**Footnotes:**

(20) FY 2019 requested funding supports Design Support Activities (DSA) to include material purchases for the installation of two (2) ALIS in FY2019.

(21) FY 2019 requested funding supports Design Support Activities (DSA) to include Alteration Installation Team support for the installation of two (2) ALIS in FY 2019.

(22) FY 2019 requested funding supports Design Support Activities (DSA) to include Ship Installation Drawings and Ship check in support of installation of two (2) ALIS in FY 2019. FY17 includes actual support costs associated with the affordable integration of the Autonomic Logistics Information System (ALIS) with new construction and in-service Aircraft Carriers (CVNs) and Amphibious Assault (L-class) ships.

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<b>Exhibit P-40, Budget Line Item Justification: PB 2019 Navy</b>										<b>Date:</b> February 2018			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment										<b>P-1 Line Item Number / Title:</b> 4269 / UMCS-Unman Carrier Aviation(UCA)Mission Cntrl Stn			
<b>ID Code (A=Service Ready, B=Not Service Ready): A</b>										<b>Program Elements for Code B Items: N/A</b>			
<b>Line Item MDAP/MAIS Code: N/A</b>													
<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>To Complete</b>	<b>Total</b>	
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-	
Gross/Weapon System Cost (\$ in Millions)	0.000	0.000	0.000	35.405	0.000	35.405	44.708	58.159	67.817	111.462	Continuing	Continuing	
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-	
Net Procurement (P-1) (\$ in Millions)	0.000	0.000	0.000	35.405	0.000	35.405	44.708	58.159	67.817	111.462	Continuing	Continuing	
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Total Obligation Authority (\$ in Millions)</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>35.405</b>	<b>0.000</b>	<b>35.405</b>	<b>44.708</b>	<b>58.159</b>	<b>67.817</b>	<b>111.462</b>	<b>Continuing</b>	<b>Continuing</b>	
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>													
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-	
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-	
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Description:</b>													
The Unmanned Carrier Aviation (UCA) Mission Control System (UMCS) program consists of the MQ-25 control station, designated as the MD-5 control station, and modifications to Command, Control, Communications, Computers, and Intelligence (C4I) systems and the carrier vessel, nuclear (CVN) infrastructure required for MQ-25 vehicle and mission control.													
The MD-5 control station is the control station for the MQ-25 system of systems. The MD-5 control station is comprised of multiple hardware elements: the Common Display System (CDS), the Common Processing System (CPS), the Network Processing Group (NPG), and the Integrated Communications System (ICS). Each MD-5 control station consists of six CDS, two CPS, one NPG, and one ICS. The CDS is the interface between the Air Vehicle Operator (AVO) and the MD-5 control station software used to control the MQ-25 air vehicle and its associated mission systems.													
Included in the UMCS program, is integration with existing C4I systems required for MD-5 control station and MQ-25 operations. C4I systems to be integrated with the MQ-25 program include the Consolidated Afloat Networks and Enterprise Services (CANES), the Network Tactical Common Data Link (NTCDL), and the Mobile User Objective System (MUOS).													
FY19 includes funding to support the standup of MD-5 control station production. This effort includes production planning (methodology), non-recurring engineering (NRE) for one MD-5 control station, quality plan and procedures, and the movement of the production line into a dedicated, government owned facility for systems storage, integration and checkout in order to provide sufficient capacity for future production demands.													
Hardware and software modifications to the CVN are required for the MQ-25 weapons system and are included in the UMCS program. The hardware modifications include configuration of Unmanned Aviation Warfare Center (UAWC) which houses the MD-5 control station components, a Video Management System (VMS), an Unmanned Aircraft System (UAS) Mission Commander (UMC) station and procurement and installation of ARC-210 radio systems required for MQ-25 command and control. Software modifications required for MQ-25 include changes to the Joint Precision Approach Landing System (JPALS) and the Aircraft Launch and Recovery Equipment (ALRE) systems.													

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<b>Exhibit P-40, Budget Line Item Justification: PB 2019 Navy</b>							<b>Date:</b> February 2018			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 03: Aviation Support Equipment / BSA 3: Aircraft Support Equipment				<b>P-1 Line Item Number / Title:</b> 4269 / UMCS-Unman Carrier Aviation(UCA)Mission Cntrl Stn						
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A				<b>Program Elements for Code B Items:</b> N/A						
<b>Line Item MDAP/MAIS Code:</b> N/A										
<b>Exhibits Schedule</b>				<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	
<b>Exhibit Type</b>	<b>Title*</b>	<b>Subexhibits</b>	<b>ID CD</b>	<b>MDAP/MAIS Code</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	<b>Quantity / Total Cost (Each) / (\$ M)</b>	
P-5	1 / UMCS-Unman Carrier Aviation(UCA)Mission Cntrl Stn	P-5a			- / 0.000	- / 0.000	- / 0.000	- / 35.405	- / 0.000	- / 35.405
P-40	<b>Total Gross/Weapon System Cost</b>				- / 0.000	- / 0.000	- / 0.000	- / 35.405	- / 0.000	- / 35.405

\*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.

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

**Justification:**

FY19 funds the procurement of:

- \* Six Common Display System (CDS) for one operational MD-5 control station.
- \* Two Common Processing System (CPS) for one operational MD-5 control station.
- \* One Network Processing Group (NPG) for one operational MD-5 control station.
- \* One Integrated Communications System (ICS) for one operational MD-5 control station.
- \* Ship Change Documents (SCDs) supporting preparations required for the installation of hardware on the carrier vessel, nuclear (CVN).
- \* Software used for vehicle and mission control of the MQ-25 air vehicle.
- \* Efforts to include production verification, system integration, and technical data updates for the MD-5 control station.
- \* The stand-up of the MD-5 control station production line.
- \* Production planning (methodology, schedules, etc.).
- \* Non-recurring engineering (NRE) for one MD-5 control station.
- \* Quality plan and procedures.
- \* The movement of the production line into a dedicated, government owned facility for systems storage, integration and checkout in order to provide sufficient capacity for future production demands.

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy														<b>Date:</b> February 2018								
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3			<b>P-1 Line Item Number / Title:</b> 4269 / UMCS-Unman Carrier Aviation(UCA)Mission Cntrl Stn														<b>Item Number / Title [DODIC]:</b> 1 / UMCS-Unman Carrier Aviation(UCA)Mission Cntrl Stn					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :														<b>MDAP/MAIS Code:</b>								
<b>Resource Summary</b>				<b>Prior Years</b>			<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>							
Procurement Quantity ( <i>Units in Each</i> )							-		-		-		-		-							
Gross/Weapon System Cost (\$ in Millions)							0.000		0.000		0.000		35.405		0.000		35.405					
Less PY Advance Procurement (\$ in Millions)							-		-		-		-		-		-					
Net Procurement (P-1) (\$ in Millions)							0.000		0.000		0.000		35.405		0.000		35.405					
Plus CY Advance Procurement (\$ in Millions)							-		-		-		-		-		-					
<b>Total Obligation Authority</b> (\$ in Millions)							<b>0.000</b>		<b>0.000</b>		<b>0.000</b>		<b>35.405</b>		<b>0.000</b>		<b>35.405</b>					
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																						
Initial Spares (\$ in Millions)							-		-		-		-		-		-					
Gross/Weapon System Unit Cost (\$ in Dollars)							-		-		-		-		-		-					
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																						
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2017</b>			<b>FY 2018</b>			<b>FY 2019 Base</b>			<b>FY 2019 OCO</b>			<b>FY 2019 Total</b>						
	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> ( <i>Each</i> )	<b>Total Cost</b> (\$ M)				
Hardware - Hardware Cost																						
Recurring Cost																						
1.1.1) Common Display System (CDS) <sup>(†) (1)</sup>	-	-	-	-	-	-	-	-	-	139,195.12	6	0.835	-	-	-	139,195.12	6	0.835				
1.1.2) Common Processing System (CPS) <sup>(†) (2)</sup>	-	-	-	-	-	-	-	-	-	832,320.00	2	1.665	-	-	-	832,320.00	2	1.665				
1.1.3) Network Processing Group (NPG) <sup>(†) (3)</sup>	-	-	-	-	-	-	-	-	-	414,704.48	1	0.415	-	-	-	414,704.48	1	0.415				
1.1.4) Integrated Communication System (ICS) <sup>(†) (4)</sup>	-	-	-	-	-	-	-	-	-	826,581.15	1	0.827	-	-	-	826,581.15	1	0.827				
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	3.742	-	-	-	-	-	3.742				
Non Recurring Cost																						
1.2.1) Ship Change Document (SCD) <sup>(5)</sup>	-	-	-	-	-	-	-	-	-	-	-	3.484	-	-	-	-	-	3.484				
1.2.3) Mission System	-	-	-	-	-	-	-	-	-	-	-	2.596	-	-	-	-	-	2.596				
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	6.080	-	-	-	-	-	6.080				
<i>Subtotal: Hardware - Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	9.822	-	-	-	-	-	9.822				

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy														<b>Date:</b> February 2018					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3				<b>P-1 Line Item Number / Title:</b> 4269 / UMCS-Unman Carrier Aviation(UCA)Mission Cntrl Stn														<b>Item Number / Title [DODIC]:</b> 1 / UMCS-Unman Carrier Aviation(UCA)Mission Cntrl Stn	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :														<b>MDAP/MAIS Code:</b>					
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																			
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2017</b>			<b>FY 2018</b>			<b>FY 2019 Base</b>			<b>FY 2019 OCO</b>			<b>FY 2019 Total</b>			
	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	
Software - Software Cost																			
Recurring Cost																			
2.1.1) Unmanned Carrier Aviation (UCA) Mission Control System (UMCS) Software <sup>(6)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	6.193	-	-	-	-	6.193	
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	6.193	-	-	-	-	6.193	
<i>Subtotal: Software - Software Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	6.193	-	-	-	-	6.193	
Support - Support Cost																			
3.1) Production Engineering Support (PES) <sup>(7)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	17.564	-	-	-	-	17.564	
3.2) Integrated Logistics Support (ILS)	-	-	-	-	-	-	-	-	-	-	-	-	1.826	-	-	-	-	1.826	
<i>Subtotal: Support - Support Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	19.390	-	-	-	-	19.390	
<b>Gross/Weapon System Cost</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	<b>0.000</b>	-	-	-	<b>35.405</b>	-	-	<b>0.000</b>	-	<b>35.405</b>	
(†) indicates the presence of a P-5a																			
<b>Footnotes:</b>																			
(1) Funds the procurement of Common Display Systems (CDS) supporting operational Unmanned Carrier Aviation (UCA) Mission Control System (UMCS) installations.																			
(2) Funds the procurement of Common Processing System (CPS) supporting operational MD-5 control station installations.																			
(3) Funds the procurement of Network Processing Group (NPG) supporting operational MD-5 control station installations. The FY19 Network Processing Group (NPG) effort is a competitive 2QFY19 award. Therefore, the performing activity and location are currently TBD to support a competitive contracting strategy. This contract consists of a base year (FY18 RDT&E) and future option years (OPN) that will affect the current budget year. Once awarded, the performing activity and location will be updated to reflect the selected contractor.																			
(4) Funds the procurement of Integrated Communication Systems (ICS) supporting operational MD-5 control station installations. The FY19 ICS effort is a sole source 2QFY19 award. Therefore, the performing activity and location are currently TBD to support a sole source strategy. This contract consists of a base year (FY18 RDT&E) and future option years (OPN) that will affect the current budget year. Once awarded, the performing activity and location will be updated to reflect the selected contractor.																			
(5) Ship Change Document (SCD) supports preparations required for the installation of hardware on the ship.																			
(6) Required to procure and integrate software for vehicle and mission control of the MQ-25 air vehicle.																			

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<b>Exhibit P-5, Cost Analysis:</b> PB 2019 Navy		<b>Date:</b> February 2018
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 03 / 3	<b>P-1 Line Item Number / Title:</b> 4269 / UMCS-Unman Carrier Aviation(UCA)Mission Cntrl Stn	<b>Item Number / Title [DODIC]:</b> 1 / UMCS-Unman Carrier Aviation(UCA)Mission Cntrl Stn
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>
(7) As a Government Lead System Integrator (LSI), UMCS is a government team that will organically standup the MD-5 control station production line. Funding for this will include production planning (methodology), non-recurring engineering (NRE) for one MD-5 control station, quality plan and procedures, and the movement of the production line into a dedicated, government owned facility for systems storage, integration and checkout in order to provide sufficient capacity for future production demands.		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								<b>Date:</b> February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 03 / 3			P-1 Line Item Number / Title: 4269 / UMCS-Unman Carrier Aviation(UCA)Mission Cntrl Stn					Item Number / Title [DODIC]: 1 / UMCS-Unman Carrier Aviation(UCA)Mission Cntrl Stn				
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) Common Display System (CDS)		2019	Lockheed Martin Corporation - RMS / Manassas, VA	C / FPIF	NAVSEA	Mar 2019	Mar 2021	6	139,195.12	Y		Oct 2017
1.1.2) Common Processing System (CPS)		2019	DRS Laurel Technologies / Johnstown, PA	C / FFP	NAVSEA	Mar 2019	Mar 2021	2	832,320.00	Y		Oct 2017
1.1.3) Network Processing Group (NPG)		2019 <sup>(8)</sup>	TBD / TBD	C / TBD	TBD	Mar 2019	Mar 2021	1	414,704.48	Y		Oct 2017
1.1.4) Integrated Communication System (ICS)		2019 <sup>(9)</sup>	TBD / TBD	C / TBD	TBD	Mar 2019	Mar 2021	1	826,581.15	Y		Oct 2017

**Footnotes:**

<sup>(8)</sup> The FY19 Network Processing Group (NPG) effort is a competitive 2QFY19 awards therefore the performing activity and location are currently TBD to support a competitive contracting strategy. This contract consists of a base year (FY18) and future option years that will affect the current budget year. Once awarded, the performing activity and location will be updated to reflect the selected contractor.

<sup>(9)</sup> The FY19 Integrated Communication System (ICS) effort is a competitive 2QFY19 awards therefore the performing activity and location are currently TBD to support a competitive contracting strategy. This contract consists of a base year (FY18) and future option years that will affect the current budget year. Once awarded, the performing activity and location will be updated to reflect the selected contractor.