

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 02: Communications & Electronics Equip / BSA 9: Aviation Electronic Equipment	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	27.890	37.278	47.890	67.410	0.000	67.410	83.145	87.128	106.934	110.075	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	27.890	37.278	47.890	67.410	0.000	67.410	83.145	87.128	106.934	110.075	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>27.890</b>	<b>37.278</b>	<b>47.890</b>	<b>67.410</b>	<b>0.000</b>	<b>67.410</b>	<b>83.145</b>	<b>87.128</b>	<b>106.934</b>	<b>110.075</b>	<b>Continuing</b>	<b>Continuing</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	1.642	0.546	1.767	-	1.767	4.723	5.222	9.870	9.156	Continuing	Continuing
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

In FY 2016 and prior years, efforts for Shipboard Air Traffic Control (SATC) and Automatic Carrier Landing System (ACLS) were previously funded under BLIs OPN 2831 and OPN 2832, respectively.

**DESCRIPTION:**

Shipboard Air Traffic Control (SATC):

SATC systems are responsible for safe and expeditious control of air traffic within 50 Nautical Miles of a ship. SATC systems include the air traffic surveillance radar (ASR), AN/SPN43 and the air traffic control processing and display system, AN/TPX-42A(V), which has three major configurations: AN/TPX-42A(V)14/15/16. v14 and v16 configurations comprise of Carrier Air Traffic Control Center - Direct Altitude and Identity Readout (CATCC-DAIR), Amphibious Air Traffic Control Center - Direct Altitude and Identity Readout (AATCC-DAIR); both (V)14 and (V)16 DAIR systems use AN/SPN-43 and Identification Friend or Foe (IFF) inputs to track and control aircraft. The third configuration, AN/TPX-42A(V)15 interfaces with next generation multipurpose radars and IFF to perform the same mission. Obsolescence problems are being addressed through various upgrades in a phased approach. The major upgrades include a series of AN/TPX-42A(V) modification kits requiring various combinations of OL-541 processor re-host, track processor upgrade, OD-220 console, audio/video recorder, flat panel display, embedded trainer, and other components to bring the AN/TPX-42A(V)14 system to AN/TPX-42A(V)16 configuration and eventually, through execution of the Air Traffic Control Multifunction Console Engineering Change Proposal (ECP), to the AN/SYY-1 configuration. The nomenclature AN/SYY-1 more accurately reflects the system attributes as a (S) water (Surface Ship), (Y) data processing, (Y) surveillance and control system. The ASR capability provided by the AN/SPN-43 radar system is required for NIMITZ Class CVNs and LHA/LHD class ships until the capability is replaced by the AN/SPN-50 Shipboard Air Traffic Radar. Obsolescence problems are being addressed through various upgrades in a phased approach until replaced.

Shipboard Air Traffic Radar (SATR) (SPN-50)

The "National Defense Strategy of the United States of America" calls for military forces to assure allies and friends, dissuade potential adversaries, deter aggression and counter coercion, and defeat adversaries in order to accomplish our national objectives. The Shipboard Air Traffic Radar (SATR) AN/SPN-50(V)1 (hereinafter referred to as AN/SPN-50(V)1) supports these objectives and will be the primary Air Traffic Control (ATC) surveillance radar onboard Nimitz Class Aircraft Carrier (CVN) and Amphibious (LHA and LHD (LH)) type ships. The launch and recovery of aircraft, to include, ATC is a primary function of aircraft carriers and amphibious landing platforms. The surveillance function provides weather and radar data to air traffic controllers supporting aviation operations of all Navy, Marine Corps, joint and allied aviation assets within the assigned airspace. This data is utilized by air traffic controllers to provide a variety of ATC services such as ATC radar approach and departure services, which includes aircraft separation, airspace monitoring, navigational assistance, emergency vectoring, traffic calls, and vectoring and sequencing to the final approach point. Reliable and accurate ATC surveillance radar enhances overall mission and training effectiveness, and safety for aircrews and aircraft alike. The SPN-50 CDD was signed March 2015 and Milestone B was held September 2015 where the Milestone Decision Authority (MDA) designated the SPN-50 Program as an ACAT 4(T). Milestone C is planned for 3rd Quarter 2020 and IOC is planned for 4thQuarter 2022. The AN/SPN-50(V) inventory objective is 25 systems (6 LRIPs, and 19 FRP).

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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 02: Communications & Electronics Equip / BSA 9: Aviation Electronic Equipment		<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC 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		

Automatic Carrier Landing System (ACLS):  
 ACLS program comprises three legacy systems (AN/SPN-46, AN/SPN-41, and AN/SPN-35C) that provide the primary and secondary precision electronic guidance for landing suitably equipped aircraft under all weather conditions on CVNs, LHA/LHD class ships, and selected Naval Air Stations. Many of the components in the system have been in service for more than twenty years. This program funds maintainability, reliability, modernization and supportability improvements to existing equipment components that can no longer be maintained, procured or supported, as well as items providing upgraded operational capability. Life Cycle Extension (LCE) sustainment efforts for ACLS systems will be completed to address obsolescence and supportability issues, leverage Commercial Off-The-Shelf (COTS) technology, address cyber-security updates and requirements, and support external system interface requirements. The LCE efforts by system are planned to be conducted in blocks, to address the most critical obsolescence, supportability, and emergent requirements first and to group remaining improvements into logical block upgrade packages that minimize multiple, duplicative repair efforts and reduce costs while delivering hardware in a time phased approach to meet ship maintenance availability schedules. This program includes a shore-based variant, installed at key airfields, that provides identical control signal indications (for pilot familiarization) as those provided by the afloat based systems on board CVN and L-Class vessels.

AN/SPN-46 Automatic Carrier Landing System (ACLS) is a Precision Approach Landing System (PALS) on board CVN class ships that provides aircraft position information to the Final Control Workstation in Carrier Air Traffic Control Center (CATCC), and provides the pilot with the capability of selecting a fully automatic, instrument landing, or talk down approach. This system is certified to provide the carrier with an all-weather flight operational capability. Initial Operational Capability (IOC) of the AN/SPN-46 was in 1985, and the system has exceeded its design life. There are significant obsolescence issues. AN/SPN-46 Block IV upgrade is designed to correct known obsolescence issues in the antenna pedestal, 50KW Ka band modulator/transmitter, and various Circuit Card Assemblies (CCAs). If this effort is not accomplished, replacement parts will not be available to support the system, thereby, negatively affecting Operational Availability (Ao) and safety of flight on the aircraft carrier.

AN/SPN-41 Transmitting set provides all weather instrument approach guidance from the ship to the aircraft equipped with AN/ARA-63 Receiver Group. It is a secondary precision electronic landing system and safety of flight back up to provide azimuth and elevation alignment information to suitably equipped aircraft aboard CVN and LHA/LHD class ships. Initial Operational Capability (IOC) of the AN/SPN-41 was in 1970 and the system has exceeded its design life. AN/SPN-41 LCE upgrades include the Transmitter, Coder, Electronics Drawer, and Radome hardware to ensure continued operational availability of and extended the service life of the AN/SPN-41, and is the Joint Precision Approach and Landing System (JPALS) back-up system.

AN/SPN-35C is the Precision Approach Radar aboard LHA/LHD class ships and is used for Mode III aircraft recovery which ensures the safe approach and landing of AV-8B and various helicopters during adverse weather and night conditions. Initial Operational Capability (IOC) of the AN/SPN-35C was in 2004. The AN/SPN-35C Block I upgrade includes replacement of common failure items, obsolete components, and analog system components, including the Radar Processor Controller (RPC), the Main Input/Output Processor (MIOP), and replace obsolete Control-Indicator Displays to ensure continued operational availability of and extended the service life of the AN/SPN-35C.

Procurement, installations and associated support costs with these efforts prior to FY2017 were funded under BLI 2832.

Installing Agent: Shipyards and Alteration Installation Teams.

When installation to be made: Selected Restricted Availability (SRA) / Restricted Availability (RAV).

Ships or facilities to receive the equipment: CVNs, LHA/LHD class ships, Software Support Activity (NAWCAD, St Inigoes, MD) and various selected shore and training sites.

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**P-1 Line Item Number / Title:**  
2830 / Afloat ATC Equipment

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

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	1 / SATC Modernization Kit Summary (MP054, MP055, MP056, MP057, MP058, MP059) (Modernization)				- / 6.964	- / 8.657	- / 8.593	- / 8.509	- / 0.000	- / 8.509
P-3a	2 / ACLS MOD KITS SUMMARY PN408 (Modernization)				- / 7.028	- / 13.516	- / 15.745	- / 14.580	- / 0.000	- / 14.580
P-3a	3 / AN/SPN-46 (V)3 Radar Set Group PN413 (Reliability)				- / 6.219	- / 5.292	- / 3.384	- / 0.791	- / 0.000	- / 0.791
P-3a	4 / AN/SPN-41 Transmitter MOD (LCE) PN416 (Modernization)				- / 1.101	- / 0.499	- / 0.019	- / 0.000	- / 0.000	- / 0.000
P-3a	5 / AN/SPN-41 Coder Monitor (LCE) PN417 (Modernization)				- / 1.023	- / 0.981	- / 0.614	- / 0.000	- / 0.000	- / 0.000
P-3a	6 / AN/SPN-41 Electronic Drawer Assembly (LCE) PN418 (Modernization)				- / 2.534	- / 1.392	- / 1.581	- / 0.800	- / 0.000	- / 0.800
P-3a	7 / AN/SPN-41 Radome Hardware Upgrade (LCE) PN419 (Modernization)				- / 1.692	- / 0.121	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-3a	8 / AN/SPN-46 Block IV (PN420) (TBD)				- / 1.329	- / 6.820	- / 16.479	- / 18.448	- / 0.000	- / 18.448
P-3a	9 / AN/SPN-35 Block I (PN421) (TBD)				- / 0.000	- / 0.000	- / 1.475	- / 5.942	- / 0.000	- / 5.942
P-3a	10 / AN/SPN-50(V)1 (TBD)				- / 0.000	- / 0.000	- / 0.000	- / 18.340	- / 0.000	- / 18.340
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 27.890</b>	<b>- / 37.278</b>	<b>- / 47.890</b>	<b>- / 67.410</b>	<b>- / 0.000</b>	<b>- / 67.410</b>

Exhibits Schedule					FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	1 / SATC Modernization Kit Summary (MP054, MP055, MP056, MP057, MP058, MP059) (Modernization)				- / 8.528	- / 8.685	- / 8.876	- / 8.058	Continuing	Continuing
P-3a	2 / ACLS MOD KITS SUMMARY PN408 (Modernization)				- / 15.992	- / 16.877	- / 22.627	- / 20.658	Continuing	Continuing
P-3a	3 / AN/SPN-46 (V)3 Radar Set Group PN413 (Reliability)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 15.686
P-3a	4 / AN/SPN-41 Transmitter MOD (LCE) PN416 (Modernization)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 1.619
P-3a	5 / AN/SPN-41 Coder Monitor (LCE) PN417 (Modernization)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 2.618
P-3a	6 / AN/SPN-41 Electronic Drawer Assembly (LCE) PN418 (Modernization)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 6.307
P-3a	7 / AN/SPN-41 Radome Hardware Upgrade (LCE) PN419 (Modernization)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 1.813
P-3a	8 / AN/SPN-46 Block IV (PN420) (TBD)				- / 18.550	- / 17.796	- / 12.828	- / 12.969	Continuing	Continuing
P-3a	9 / AN/SPN-35 Block I (PN421) (TBD)				- / 8.475	- / 8.362	- / 8.474	- / 12.180	Continuing	Continuing
P-3a	10 / AN/SPN-50(V)1 (TBD)				- / 31.600	- / 35.408	- / 54.129	- / 56.210	- / 123.425	- / 319.112
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 83.145</b>	<b>- / 87.128</b>	<b>- / 106.934</b>	<b>- / 110.075</b>	<b>Continuing</b>	<b>Continuing</b>

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

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

**Justification:**

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N: Other Procurement, Navy / BA 02: Communications & Electronics Equip / BSA 9: Aviation Electronic Equipment		<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC 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		
FY 2020 funds baseline programs to provide Automatic Carrier Landing System (ACLS) and Shipboard Air Traffic Control (SATC) systems.		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 1 / SATC Modernization Kit Summary (MP054, MP055, MP056, MP057, MP058, MP059)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	6.964	8.657	8.593	8.509	0.000	8.509	8.528	8.685	8.876	8.058	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	6.964	8.657	8.593	8.509	0.000	8.509	8.528	8.685	8.876	8.058	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>6.964</b>	<b>8.657</b>	<b>8.593</b>	<b>8.509</b>	<b>0.000</b>	<b>8.509</b>	<b>8.528</b>	<b>8.685</b>	<b>8.876</b>	<b>8.058</b>	<b>Continuing</b>	<b>Continuing</b>

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

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

**Description:**

This equipment and installation costs on this P-3a are for individual modification programs. This exhibit summarizes procurement and installation for Cost Codes MP054, MP055, MP056, MP057, MP058, and MP059. Line item Engineering Changes to Correct Deficiencies captures unanticipated emergent engineering changes.

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<b>Exhibit P-3a, Individual Modification: PB 2020 Navy</b>										<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9					<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment					<b>Modification Number / Title:</b> 1 / SATC Modernization Kit Summary (MP054, MP055, MP056, MP057, MP058, MP059)				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>							
<b>Models of Systems Affected:</b> CVNs, LHA/LHD class ships					<b>Modification Type:</b> Modernization					<b>Related RDT&amp;E PEs:</b>				
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total		
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)		
<b>Procurement</b>														
<i>Modification Item 1 of 1:</i> SATC Modernization Kit Summary (MP054, MP055, MP056, MP057, MP058, MP059)														
B Kits														
Recurring														
1.1.4) (MP054)TPX-42 UPG, FC4 (Recorders) - NonOrganic <sup>(1)</sup>	12 / 0.306	2 / 0.104	6 / 0.318	5 / 0.117	- / -	5 / 0.117	- / -	- / -	- / -	- / -	- / -	25 / 0.845		
1.1.5) (MP055) TPX-42 UPG, FC5 - NonOrganic <sup>(2)</sup>	6 / 1.470	2 / 1.078	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	8 / 2.548		
1.1.6) (MP056) TPX-42 Embedded Trainer - NonOrganic <sup>(3)</sup>	11 / 0.536	3 / 1.557	1 / 0.527	2 / 1.069	- / -	2 / 1.069	- / -	- / -	- / -	- / -	- / -	17 / 3.689		
1.1.7) (MP057) TPX-42 Embedded Trainer Final Control - NonOrganic <sup>(4)</sup>	- / -	- / -	7 / 0.310	6 / 0.268	- / -	6 / 0.268	5 / 0.278	7 / 0.398	- / -	- / -	- / -	25 / 1.254		
1.1.8) (MP058) TPX-42 Multi-Function Console - NonOrganic <sup>(5)</sup>	- / -	1 / 1.555	3 / 3.783	3 / 3.840	- / -	3 / 3.840	2 / 2.598	4 / 5.274	3 / 4.015	2 / 2.717	7 / 9.652	25 / 33.434		
1.1.9) (MP059) TPX-42 ECP Upgrades - NonOrganic <sup>(6)</sup>	6 / 1.140	1 / 1.525	- / -	1 / 0.042	- / -	1 / 0.042	1 / 0.060	- / -	- / -	6 / 1.431	Continuing	Continuing		
<i>Subtotal: Recurring</i>	- / 3.452	- / 5.819	- / 4.938	- / 5.336	- / -	- / 5.336	- / 2.936	- / 5.672	- / 4.015	- / 4.148	Continuing	Continuing		
<i>Subtotal: SATC Modernization Kit Summary (MP054, MP055, MP056, MP057, MP058, MP059)</i>	35 / 3.452	9 / 5.819	17 / 4.938	17 / 5.336	- / -	17 / 5.336	8 / 2.936	11 / 5.672	3 / 4.015	8 / 4.148	Continuing	Continuing		
<i>Subtotal: Procurement, All Modification Items</i>	- / 3.452	- / 5.819	- / 4.938	- / 5.336	- / -	- / 5.336	- / 2.936	- / 5.672	- / 4.015	- / 4.148	Continuing	Continuing		
<b>Support (All Modification Items)</b>														
2.1) Engineering Changes to Correct Deficiencies	- / 0.352	- / 0.657	- / 0.625	- / 0.417	- / -	- / 0.417	- / 0.609	- / 0.398	- / 0.521	- / 0.535	Continuing	Continuing		
2.2) Integrated Logistics Support	- / 0.281	- / 0.285	- / 0.289	- / 0.294	- / -	- / 0.294	- / 0.298	- / 0.303	- / 0.307	- / 0.312	Continuing	Continuing		
2.3) Production Engineering	- / 0.270	- / 0.274	- / 0.278	- / 0.282	- / -	- / 0.282	- / 0.287	- / 0.291	- / 0.295	- / 0.300	Continuing	Continuing		
2.4) Quality Assurance	- / 0.050	- / 0.051	- / 0.052	- / 0.052	- / -	- / 0.052	- / 0.053	- / 0.054	- / 0.055	- / 0.055	Continuing	Continuing		
<i>Subtotal: Support</i>	- / 0.953	- / 1.267	- / 1.244	- / 1.045	- / -	- / 1.045	- / 1.247	- / 1.046	- / 1.178	- / 1.202	Continuing	Continuing		
<b>Installation</b>														
<i>Modification Item 1 of 1:</i> SATC Modernization Kit Summary (MP054, MP055, MP056, MP057, MP058, MP059)	- / 2.559	- / 1.571	- / 2.411	- / 2.128	- / 0.000	- / 2.128	- / 4.345	- / 1.967	- / 3.683	- / 2.708	Continuing	Continuing		

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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 1 / SATC Modernization Kit Summary (MP054, MP055, MP056, MP057, MP058, MP059)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Models of Systems Affected:</b> CVNs, LHA/LHD class ships	<b>Modification Type:</b> Modernization	<b>Related RDT&amp;E PEs:</b>
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Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
<i>Subtotal: Installation</i>	- / 2.559	- / 1.571	- / 2.411	- / 2.128	- / -	- / 2.128	- / 4.345	- / 1.967	- / 3.683	- / 2.708	Continuing	Continuing
<b>Total</b>												
<b>Total Cost (Procurement + Support + Installation)</b>	<b>6.964</b>	<b>8.657</b>	<b>8.593</b>	<b>8.509</b>	<b>0.000</b>	<b>8.509</b>	<b>8.528</b>	<b>8.685</b>	<b>8.876</b>	<b>8.058</b>	Continuing	Continuing

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 1 / SATC Modernization Kit Summary (MP054, MP055, MP056, MP057, MP058, MP059)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 1 of 1:** SATC Modernization Kit Summary (MP054, MP055, MP056, MP057, MP058, MP059)

**Manufacturer Information**

Manufacturer Name: NAWCAD	Manufacturer Location: Patuxent River, MD
Administrative Leadtime (in Months): 7	Production Leadtime (in Months): 6

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates	Apr 2018	Apr 2019	Apr 2020	Apr 2021	Apr 2022	Apr 2023	Apr 2024
Delivery Dates	Oct 2018	Oct 2019	Oct 2020	Oct 2021	Oct 2022	Oct 2023	Oct 2024

**Installation Information**

**Method of Implementation:** [none specified]:: Installation Name: (MP054)TPX-42 UPG, FC4 (Recorders)

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	6 / 0.300	6 / 0.317	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	12 / 0.617
FY 2018	- / -	- / -	2 / 0.115	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	2 / 0.115
FY 2019	- / -	- / -	- / -	6 / 0.675	0 / 0.000	6 / 0.675	- / -	- / -	- / -	- / -	0 / 0.000	6 / 0.675
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	5 / 0.574	- / -	- / -	- / -	0 / 0.000	5 / 0.574
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	6 / 0.300	6 / 0.317	2 / 0.115	6 / 0.675	0 / 0.000	6 / 0.675	5 / 0.574	- / -	- / -	- / -	0 / 0.000	25 / 1.981

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	6	-	2	2	2	-	1	1	-	2	2	2	-	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25
Out	6	-	2	2	2	-	1	1	-	2	2	2	-	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25



**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Navy</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 1 / SATC Modernization Kit Summary (MP054, MP055, MP056, MP057, MP058, MP059)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 1 of 1:** SATC Modernization Kit Summary (MP054, MP055, MP056, MP057, MP058, MP059)

**Installation Information**

**Method of Implementation:** AIT:: Installation Name: (MP055) TPX-42 UPG, FC5

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	3 / 0.274	3 / 0.289	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	6 / 0.563
FY 2018	- / -	- / -	2 / 0.196	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	2 / 0.196
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
<b>Total</b>	<b>3 / 0.274</b>	<b>3 / 0.289</b>	<b>2 / 0.196</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>0 / 0.000</b>	<b>8 / 0.759</b>

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	3	1	1	1	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
Out	3	1	1	1	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8

**Method of Implementation:** [none specified]:: Installation Name: (MP056) TPX-42 Embedded Trainer

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	5 / 0.845	6 / 0.965	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	11 / 1.810
FY 2018	- / -	- / -	3 / 1.300	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	3 / 1.300
FY 2019	- / -	- / -	- / -	1 / 0.442	0 / 0.000	1 / 0.442	- / -	- / -	- / -	- / -	0 / 0.000	1 / 0.442
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	2 / 0.897	- / -	- / -	- / -	0 / 0.000	2 / 0.897
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Navy</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 1 / SATC Modernization Kit Summary (MP054, MP055, MP056, MP057, MP058, MP059)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 1 of 1:** SATC Modernization Kit Summary (MP054, MP055, MP056, MP057, MP058, MP059)

**Installation Information**

**Method of Implementation:** [none specified]:: Installation Name: (MP056) TPX-42 Embedded Trainer

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
<b>Total</b>	5 / 0.845	6 / 0.965	3 / 1.300	1 / 0.442	0 / 0.000	1 / 0.442	2 / 0.897	- / -	- / -	- / -	0 / 0.000	17 / 4.449

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	5	-	2	2	2	-	1	1	1	-	-	1	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
Out	5	-	2	2	2	-	1	1	1	-	-	1	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17

**Method of Implementation:** [none specified]:: Installation Name: (MP057) TPX-42 Embedded Trainer Final Control

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2018	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	7 / 0.378	0 / 0.000	7 / 0.378	- / -	- / -	- / -	- / -	0 / 0.000	7 / 0.378
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	6 / 0.329	- / -	- / -	- / -	0 / 0.000	6 / 0.329
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 0.712	- / -	- / -	0 / 0.000	5 / 0.712
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	7 / 1.135	- / -	0 / 0.000	7 / 1.135
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
<b>Total</b>	- / -	- / -	- / -	7 / 0.378	0 / 0.000	7 / 0.378	6 / 0.329	5 / 0.712	7 / 1.135	- / -	0 / 0.000	25 / 2.554

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 1 / SATC Modernization Kit Summary (MP054, MP055, MP056, MP057, MP058, MP059)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 1 of 1:** SATC Modernization Kit Summary (MP054, MP055, MP056, MP057, MP058, MP059)

**Installation Information**

**Method of Implementation:** [none specified]:: Installation Name: (MP057) TPX-42 Embedded Trainer Final Control

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	2	3	2	-	2	2	2	-	-	1	2	2	-	2	2	3	-	-	-	-	-	25
Out	-	-	-	-	-	-	-	-	-	2	3	2	-	2	2	2	-	-	1	2	2	-	2	2	3	-	-	-	-	-	25

**Method of Implementation:** ALT:: Installation Name: (MP058) TPX-42 Multi-Function Console

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2018	- / -	- / -	1 / 0.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	1 / 0.500
FY 2019	- / -	- / -	- / -	1 / 0.609	0 / 0.000	1 / 0.609	2 / 1.236	- / -	- / -	- / -	0 / 0.000	3 / 1.845
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	2 / 1.236	1 / 0.627	- / -	- / -	0 / 0.000	3 / 1.863
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.628	1 / 0.637	- / -	0 / 0.000	2 / 1.265
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3 / 1.911	1 / 0.646	0 / 0.000	4 / 2.557
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3 / 1.939	0 / 0.000	3 / 1.939
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 1.604	2 / 1.604
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	7 / 5.075	7 / 5.075
Total	- / -	- / -	1 / 0.500	1 / 0.609	0 / 0.000	1 / 0.609	4 / 2.472	2 / 1.255	4 / 2.548	4 / 2.585	9 / 6.679	25 / 16.648

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	1	-	-	1	-	-	2	2	-	-	1	1	-	-	1	1	1	1	1	1	1	1	9	25
Out	-	-	-	-	-	-	-	1	-	-	1	-	-	2	2	-	-	1	1	-	-	1	1	1	1	1	1	1	1	9	25

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Navy</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 1 / SATC Modernization Kit Summary (MP054, MP055, MP056, MP057, MP058, MP059)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 1 of 1:** SATC Modernization Kit Summary (MP054, MP055, MP056, MP057, MP058, MP059)

**Installation Information**

**Method of Implementation:** AIT:: Installation Name: (MP059) TPX-42 ECP Upgrades

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	6 / 1.140	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	6 / 1.140
FY 2018	- / -	- / -	1 / 0.300	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	1 / 0.300
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	1 / 0.024	0 / 0.000	1 / 0.024	- / -	- / -	- / -	- / -	0 / 0.000	1 / 0.024
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.073	- / -	- / -	- / -	0 / 0.000	1 / 0.073
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.123	Continuing	Continuing
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	- / -
Total	6 / 1.140	- / -	1 / 0.300	1 / 0.024	0 / 0.000	1 / 0.024	1 / 0.073	- / -	- / -	1 / 0.123	Continuing	Continuing

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot		
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
In	6	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	5	15
Out	6	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	5	15

**Footnotes:**

(1) MP054 TPX-42 UPG, FC4: Inventory Objective is 25. 4 procurements and 4 installations were funded prior to FY17 and are reflected in BLI 2831.

(2) MP055 TPX-42 UPG, FC5 Inventory objective is 8. 14 procurements and 14 installations were funded prior to FY17 and are reflected in BLI 2831.

(3) MP056 TPX-42 Embedded Trainer: Inventory Objective is 17. 8 procurements and 8 installations were funded prior to FY17 and are reflected in BLI 2831.

(4) MP057 TPX-42 Embedded Trainer Final Control: Inventory Objective is 25.

(5) MP058 TPX-42 Multi-Function Console: Inventory Objective is 25. The Multi-Function Console (MFC) provides a common human interface for all ATC workstations that includes complete upgrades of software and hardware to support new radar sensors that will reduce operational costs and improve reliability. This item is currently in development and is reflected in the RDT&E Budget (PE 0604504N Air Control/Project Unit 0993). FY2018 will be the first procurement and the government will own the software. Many of the other items in this P-3a are Engineering Change Proposals to resolve obsolescence issues. One system consists of OD/220 controller consoles, OL/541 racks and MT7326 power distribution racks. The OL/541 and MT7326 are common between CVNs and LHD/LHAs, OD/220s however vary between the type of ship, there are 5 OD/220s on CVNs and 8 OD/220s on LHA/Ds. The increased install cost from FY19 to FY20 is due to FY19 going to the schoolhouse and therefore costing less.

(6) MP059 TPX-42 ECP Upgrades: 4 procurements and 4 installations were funded prior to FY17 and are reflected in BLI 2831. Each ECP will have unique unit cost and install cost associated with it.

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 2 / ACLS MOD KITS SUMMARY PN408

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

<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	7.028	13.516	15.745	14.580	0.000	14.580	15.992	16.877	22.627	20.658	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	7.028	13.516	15.745	14.580	0.000	14.580	15.992	16.877	22.627	20.658	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>7.028</b>	<b>13.516</b>	<b>15.745</b>	<b>14.580</b>	<b>0.000</b>	<b>14.580</b>	<b>15.992</b>	<b>16.877</b>	<b>22.627</b>	<b>20.658</b>	<b>Continuing</b>	<b>Continuing</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

The equipment and installation costs on this P-3a are for individual modification programs for AN/SPN-35/41/46 and FRN-49 systems. Funding has also been provided for upgrades addressing broadened cyber-security requirements to remain compliant with software cyber-security directives and Information Assurance mandates. Line item "Engineering Changes to Correct Deficiencies" captures anticipated emergent engineering changes. PMA213 configuration control board approves inventory objectives. Contract and Delivery dates are various.

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<b>Exhibit P-3a, Individual Modification: PB 2020 Navy</b>										<b>Date: March 2019</b>				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9					<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment					<b>Modification Number / Title:</b> 2 / ACLS MOD KITS SUMMARY PN408				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>							
<b>Models of Systems Affected:</b> CVNs, LHA/LHD class ship, and selected shore sites					<b>Modification Type:</b> Modernization					<b>Related RDT&amp;E PEs:</b>				
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total		
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)		
<b>Procurement</b>														
<b>Modification Item 1 of 1: ACLS MOD KITS SUMMARY PN408</b>														
B Kits														
Non-Recurring														
1.1.1) AN/SPN-46 TS-4176 - NonOrganic	8 / 0.800	1 / 0.200	3 / 0.600	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 1.600		
1.1.3) AN/SPN-46 COTS Refresh - NonOrganic <sup>(7)</sup>	2 / 0.510	18 / 4.108	10 / 2.370	10 / 2.417	- / -	10 / 2.417	6 / 1.470	6 / 1.500	6 / 1.530	7 / 1.555	- / -	65 / 15.460		
1.1.4) AN/SPN-46 Obsolescence - NonOrganic	4 / 0.876	10 / 2.743	10 / 2.964	5 / 1.543	- / -	5 / 1.543	12 / 4.397	12 / 4.246	- / -	- / -	- / -	53 / 16.769		
1.1.14) AN/SPN-35 Receiver Transmitter Mod - NonOrganic	4 / 0.056	1 / 0.028	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 0.084		
1.1.16) AN/SPN-46 Unit 16 Power Supply - NonOrganic	- / -	- / -	3 / 0.552	3 / 0.561	- / -	3 / 0.561	4 / 0.764	3 / 0.582	3 / 0.585	- / -	- / -	16 / 3.044		
1.1.17) AN/SPN-46 Block V - NonOrganic	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 2.500	6 / 7.539	3 / 3.843	5 / 6.406	16 / 20.288		
1.1.18) AN/SPN-35 Block II - NonOrganic	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 9.197	15 / 91.226	16 / 100.423		
1.1.19) AN/FRN-49 Instrument Carrier Landing Systems (ICLS) - NonOrganic	1 / 1.640	1 / 1.670	2 / 3.368	2 / 3.469	- / -	2 / 3.469	- / -	- / -	- / -	- / -	- / -	6 / 10.147		
<b>Subtotal: Non-Recurring</b>	<b>- / 3.882</b>	<b>- / 8.749</b>	<b>- / 9.854</b>	<b>- / 7.990</b>	<b>- / -</b>	<b>- / 7.990</b>	<b>- / 6.631</b>	<b>- / 8.828</b>	<b>- / 9.654</b>	<b>- / 14.595</b>	<b>- / 97.632</b>	<b>- / 167.815</b>		
<b>Subtotal: ACLS MOD KITS SUMMARY PN408</b>	<b>19 / 3.882</b>	<b>31 / 8.749</b>	<b>28 / 9.854</b>	<b>20 / 7.990</b>	<b>- / -</b>	<b>20 / 7.990</b>	<b>22 / 6.631</b>	<b>23 / 8.828</b>	<b>15 / 9.654</b>	<b>11 / 14.595</b>	<b>20 / 97.632</b>	<b>189 / 167.815</b>		
<b>Subtotal: Procurement, All Modification Items</b>	<b>- / 3.882</b>	<b>- / 8.749</b>	<b>- / 9.854</b>	<b>- / 7.990</b>	<b>- / -</b>	<b>- / 7.990</b>	<b>- / 6.631</b>	<b>- / 8.828</b>	<b>- / 9.654</b>	<b>- / 14.595</b>	<b>- / 97.632</b>	<b>- / 167.815</b>		
<b>Support (All Modification Items)</b>														
2.1) Engineering Changes to Correct Deficiencies ECO SPN-46 <sup>(8)</sup>	- / 0.400	- / 0.469	- / 1.069	- / -	- / -	- / -	- / 2.971	- / 1.198	- / 1.166	- / 1.189	Continuing	Continuing		
2.2) Engineering Changes to Correct Deficiencies ECO SPN-35/41	- / 0.589	- / 0.736	- / -	- / -	- / -	- / -	- / 0.594	- / 1.039	- / 2.971	- / -	Continuing	Continuing		
2.3) Integrated Logistics Support <sup>(9)</sup>	- / 0.457	- / 0.780	- / 0.568	- / 0.459	- / -	- / 0.459	- / 0.473	- / 0.482	- / 1.413	- / 0.958	Continuing	Continuing		
2.4) Production Engineering <sup>(10)</sup>	- / 0.607	- / 1.840	- / 1.878	- / 2.131	- / -	- / 2.131	- / 2.060	- / 1.948	- / 5.300	- / 1.951	Continuing	Continuing		
2.5) Quality Assurance	- / 0.102	- / -	- / 0.106	- / 0.178	- / -	- / 0.178	- / 0.109	- / 0.111	- / 0.111	- / -	Continuing	Continuing		
2.6) Acceptance, Test and Evaluation	- / 0.030	- / -	- / -	- / 0.030	- / -	- / 0.030	- / 0.029	- / -	- / -	- / -	- / -	- / 0.089		
<b>Subtotal: Support</b>	<b>- / 2.185</b>	<b>- / 3.825</b>	<b>- / 3.621</b>	<b>- / 2.798</b>	<b>- / -</b>	<b>- / 2.798</b>	<b>- / 6.236</b>	<b>- / 4.778</b>	<b>- / 10.961</b>	<b>- / 4.098</b>	<b>Continuing</b>	<b>Continuing</b>		
<b>Installation</b>														
<b>Modification Item 1 of 1: ACLS MOD KITS SUMMARY PN408</b>	<b>- / 0.961</b>	<b>- / 0.942</b>	<b>- / 2.270</b>	<b>- / 3.792</b>	<b>- / 0.000</b>	<b>- / 3.792</b>	<b>- / 3.125</b>	<b>- / 3.271</b>	<b>- / 2.012</b>	<b>- / 1.965</b>	<b>- / 13.284</b>	<b>- / 31.622</b>		
<b>Subtotal: Installation</b>	<b>- / 0.961</b>	<b>- / 0.942</b>	<b>- / 2.270</b>	<b>- / 3.792</b>	<b>- / -</b>	<b>- / 3.792</b>	<b>- / 3.125</b>	<b>- / 3.271</b>	<b>- / 2.012</b>	<b>- / 1.965</b>	<b>- / 13.284</b>	<b>- / 31.622</b>		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy										<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9				<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment						<b>Modification Number / Title:</b> 2 / ACLS MOD KITS SUMMARY PN408		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>					
<b>Models of Systems Affected:</b> CVNs, LHA/LHD class ship, and selected shore sites				<b>Modification Type:</b> Modernization				<b>Related RDT&amp;E PEs:</b>				
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>
<b>Total</b>												
<b>Total Cost (Procurement + Support + Installation)</b>	7.028	13.516	15.745	14.580	0.000	14.580	15.992	16.877	22.627	20.658	Continuing	Continuing

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<b>Exhibit P-3a, Individual Modification: PB 2020 Navy</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 2 / ACLS MOD KITS SUMMARY PN408

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 1 of 1:** ACLS MOD KITS SUMMARY PN408

**Manufacturer Information**

Manufacturer Name: NAWCAD	Manufacturer Location: Patuxent River, MD
Administrative Leadtime (in Months): 3	Production Leadtime (in Months): 12

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates	Dec 2017	Dec 2018	Dec 2019	Dec 2020	Dec 2021	Dec 2022	Dec 2023
Delivery Dates	Dec 2018	Dec 2019	Dec 2020	Dec 2021	Dec 2022	Dec 2023	Dec 2024

**Installation Information**

**Method of Implementation:** AIT (Alteration Installation Team):: Installation Name: ACLS Mod Kits

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	6 / 0.961	12 / 0.942	- / -	1 / 0.570	0 / 0.000	1 / 0.570	- / -	- / -	- / -	- / -	0 / 0.000	19 / 2.473
FY 2018	- / -	- / -	30 / 2.270	1 / 0.570	0 / 0.000	1 / 0.570	- / -	- / -	- / -	- / -	0 / 0.000	31 / 2.840
FY 2019	- / -	- / -	- / -	26 / 2.652	0 / 0.000	26 / 2.652	2 / 1.708	- / -	- / -	- / -	0 / 0.000	28 / 4.360
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	18 / 1.417	2 / 1.210	- / -	- / -	0 / 0.000	20 / 2.627
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	22 / 2.061	- / -	- / -	0 / 0.000	22 / 2.061
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	23 / 2.012	- / -	0 / 0.000	23 / 2.012
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	9 / 1.965	6 / 1.753	15 / 3.718
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 2.636	10 / 2.636
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 2.303	5 / 2.303
Total	6 / 0.961	12 / 0.942	30 / 2.270	28 / 3.792	0 / 0.000	28 / 3.792	20 / 3.125	24 / 3.271	23 / 2.012	9 / 1.965	21 / 6.692	173 / 25.030

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	6	-	6	6	-	-	13	14	3	1	16	10	1	1	8	7	4	1	12	11	-	1	10	11	1	-	-	5	4	21	173
Out	6	-	6	6	-	-	13	14	3	1	16	10	1	1	8	7	4	1	12	11	-	1	10	11	1	-	-	5	4	21	173

**Method of Implementation:** [none specified]:: Installation Name: AN/SPN-35 Block II

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -



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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 2 / ACLS MOD KITS SUMMARY PN408
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>

**Modification Item 1 of 1:** ACLS MOD KITS SUMMARY PN408

**Installation Information**

**Method of Implementation:** [none specified]:: Installation Name: AN/SPN-35 Block II

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
FY 2018	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.426	1 / 0.426
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	15 / 6.166	15 / 6.166
Total	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	16 / 6.592	16 / 6.592

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	16
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	16

**Footnotes:**

- (7) The variance in kit costs from year to year is due to the makeup of the different equipment being installed each year, the different hull types receiving modifications, and the different Design Services Allocation (DSA) and install costs from different locations depending on where modifications are performed.
- (8) Increased funding in FY21 is required to correct anticipated deficiencies leading up to the Block V Upgrade beginning in FY22. Several SPN-46 subassemblies are rapidly becoming unsustainable and this will mitigate risk until the next upgrade is introduced.
- (9) ILS increase in FY23 accounts for SPN-46 Block V support.
- (10) Several SPN-46 subassemblies are rapidly becoming unsustainable due primarily to component obsolescence. Increased production engineering will be required in support of future, approved ECP efforts to mitigate these issues and keep the SPN-46 viable to support Warfighter ACLS operations. PE increase in FY23 accounts for SPN-46 Block V support.

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 3 / AN/SPN-46 (V)3 Radar Set Group PN413

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	6.219	5.292	3.384	0.791	0.000	0.791	0.000	0.000	0.000	0.000	0.000	15.686
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	6.219	5.292	3.384	0.791	0.000	0.791	0.000	0.000	0.000	0.000	0.000	15.686
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>6.219</b>	<b>5.292</b>	<b>3.384</b>	<b>0.791</b>	<b>0.000</b>	<b>0.791</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>15.686</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

The equipment and installation costs are for individual modifications as part of the AN/SPN-46 Life Cycle Extension program. The current AN/SPN-46 receiver houses both Ka and X-band components that are densely packaged and RF components that are obsolete technology and are no longer manufactured. The Radar Set Group re-packages the RF components using more modern and smaller components making the unit able to be supported and maintained. The inventory objective for this item is 13, of which 11 are OPN-funded and 2 SCN-funded.

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<b>Exhibit P-3a, Individual Modification: PB 2020 Navy</b>										<b>Date:</b> March 2019			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9					<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment					<b>Modification Number / Title:</b> 3 / AN/SPN-46 (V)3 Radar Set Group PN413			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> CVNs and selected shore sites				<b>Modification Type:</b> Reliability				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
<b>Procurement</b>													
<i>Modification Item 1 of 1:</i> AN/SPN-46 (V)3 Radar Set Group PN413													
B Kits													
Recurring													
2.1.1) AN/SPN-46 (V)3 Radar Set Group PN413 - NonOrganic <sup>(11)</sup>	5 / 2.641	2 / 2.695	1 / 1.372	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	8 / 6.708	
<i>Subtotal: Recurring</i>	- / 2.641	- / 2.695	- / 1.372	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 6.708	
<i>Subtotal: AN/SPN-46 (V)3 Radar Set Group PN413</i>	5 / 2.641	2 / 2.695	1 / 1.372	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	8 / 6.708	
<i>Subtotal: Procurement, All Modification Items</i>	- / 2.641	- / 2.695	- / 1.372	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 6.708	
<b>Support (All Modification Items)</b>													
3.1) Integrated Logistic Support	- / 0.063	- / 0.005	- / 0.048	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.116	
3.2) Production Engineering	- / 1.502	- / 0.027	- / 0.385	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.914	
3.3) Acceptance Test & Evaluation	- / 0.214	- / 0.300	- / 0.025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.539	
<i>Subtotal: Support</i>	- / 1.779	- / 0.332	- / 0.458	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 2.569	
<b>Installation</b>													
<i>Modification Item 1 of 1:</i> AN/SPN-46 (V)3 Radar Set Group PN413	- / 1.799	- / 2.265	- / 1.554	- / 0.791	- / 0.000	- / 0.791	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 6.409	
<i>Subtotal: Installation</i>	- / 1.799	- / 2.265	- / 1.554	- / 0.791	- / -	- / 0.791	- / -	- / -	- / -	- / -	- / 0.000	- / 6.409	
<b>Total</b>													
<b>Total Cost (Procurement + Support + Installation)</b>	<b>6.219</b>	<b>5.292</b>	<b>3.384</b>	<b>0.791</b>	<b>0.000</b>	<b>0.791</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>15.686</b>	

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<b>Exhibit P-3a, Individual Modification: PB 2020 Navy</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 3 / AN/SPN-46 (V)3 Radar Set Group PN413

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 1 of 1:** AN/SPN-46 (V)3 Radar Set Group PN413

**Manufacturer Information**

Manufacturer Name: NAWCAD	Manufacturer Location: Patuxent River, MD
Administrative Leadtime (in Months): 3	Production Leadtime (in Months): 12

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates	Dec 2017	Dec 2018					
Delivery Dates	Dec 2018	Dec 2019					

**Installation Information**

**Method of Implementation:** Alteration Installation Team (AIT):: Installation Name: AN/SPN-46 (V)3 Radar Set Group PN413

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	3 / 1.799	2 / 2.265	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	5 / 4.064
FY 2018	- / -	- / -	2 / 1.554	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	2 / 1.554
FY 2019	- / -	- / -	- / -	1 / 0.791	0 / 0.000	1 / 0.791	- / -	- / -	- / -	- / -	0 / 0.000	1 / 0.791
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	3 / 1.799	2 / 2.265	2 / 1.554	1 / 0.791	0 / 0.000	1 / 0.791	- / -	- / -	- / -	- / -	0 / 0.000	8 / 6.409

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					
In	3	-	1	1	-	-	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
Out	3	-	1	1	-	-	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8

**Footnotes:**  
<sup>(11)</sup> Inventory objective is 13, of which 11 are OPN-funded and 2 SCN-funded. Note - The auxiliary hardware required varies slightly depending on what past modifications have already been incorporated into the old chassis being upgraded to the new RSG. 6 of the 11 OPN funded were procured prior to FY2017 under BLI 2832 and 3 of those 6 were installed prior to FY2017 under BLI 2832.

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 4 / AN/SPN-41 Transmitter MOD (LCE) PN416

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

<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1.101	0.499	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.619
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1.101	0.499	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.619
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>1.101</b>	<b>0.499</b>	<b>0.019</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>1.619</b>

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

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

**Description:**

AN/SPN-41 Transmitter MOD (LCE) PN416. The equipment and installation costs are for individual modification programs though it must be installed in conjunction with ECP SPN41-030 and SPN41-034 in order to be fully functional as part of the AN/SPN-41 Life Cycle Extension (LCE) program. The existing transmitter is an older technology two-channel Silicon Controlled Rectifier (SCR) line type modulator that is experiencing maintainability and obsolescence issues. The transmitter is the number one maintenance cost driver and system performance degrader. This change will improve logistic supportability and system maintainability. Line Repairable Units (LRUs) Circuit Card Assemblies (CCAs) and Built-In Test (BIT) capabilities will be incorporated in the transmitter thus reducing cost for shipboard repairs and maintenance.

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<b>Exhibit P-3a, Individual Modification: PB 2020 Navy</b>											<b>Date:</b> March 2019	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9				<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment				<b>Modification Number / Title:</b> 4 / AN/SPN-41 Transmitter MOD (LCE) PN416				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :						<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> CVNs, LHA/LHD class ships, and selected shore sites				<b>Modification Type:</b> Modernization				<b>Related RDT&amp;E PEs:</b>				
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
<b>Procurement</b>												
<i>Modification Item 1 of 1:</i> AN/SPN-41 Transmitter MOD (LCE) PN416												
B Kits												
Recurring												
2.1.1) AN/SPN-41 Transmitter Replacement (LCE) - NonOrganic <sup>(12)</sup>	5 / 0.903	1 / 0.255	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	6 / 1.158
<i>Subtotal: Recurring</i>	- / 0.903	- / 0.255	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 1.158
<i>Subtotal: AN/SPN-41 Transmitter MOD (LCE) PN416</i>	5 / 0.903	1 / 0.255	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	6 / 1.158
<i>Subtotal: Procurement, All Modification Items</i>	- / 0.903	- / 0.255	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 1.158
<b>Support (All Modification Items)</b>												
3.1) Integrated Logistics	- / 0.031	- / 0.030	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.061
3.2) Production Engineering	- / 0.142	- / 0.138	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.280
<i>Subtotal: Support</i>	- / 0.173	- / 0.168	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.341
<b>Installation</b>												
<i>Modification Item 1 of 1:</i> AN/SPN-41 Transmitter MOD (LCE) PN416	- / 0.025	- / 0.076	- / 0.019	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.120
<i>Subtotal: Installation</i>	- / 0.025	- / 0.076	- / 0.019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.120
<b>Total</b>												
<b>Total Cost (Procurement + Support + Installation)</b>	<b>1.101</b>	<b>0.499</b>	<b>0.019</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>1.619</b>

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 4 / AN/SPN-41 Transmitter MOD (LCE) PN416

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 1 of 1:** AN/SPN-41 Transmitter MOD (LCE) PN416

**Manufacturer Information**

Manufacturer Name: NAWCAD	Manufacturer Location: Webster Field, St. Inigoes, MD
Administrative Leadtime (in Months): 3	Production Leadtime (in Months): 12

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates	Dec 2017						
Delivery Dates	Dec 2018						

**Installation Information**

**Method of Implementation:** Alteration Installation Team:: Installation Name: AN/SPN-41 Transmitter Replacement (LCE)

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	1 / 0.025	4 / 0.076	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	5 / 0.101
FY 2018	- / -	- / -	1 / 0.019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	1 / 0.019
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	1 / 0.025	4 / 0.076	1 / 0.019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	6 / 0.120

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	1	4	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
Out	1	-	4	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6

**Footnotes:**  
<sup>(12)</sup> AN/SPN-41 Transmitter MOD (LCE) inventory objective is 19. 14 procurements and 13 installations were funded through FY2016 on BLI 2832.

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 5 / AN/SPN-41 Coder Monitor (LCE) PN417

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1.023	0.981	0.614	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.618
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1.023	0.981	0.614	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.618
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>1.023</b>	<b>0.981</b>	<b>0.614</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>2.618</b>

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

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

**Description:**

AN/SPN-41 Coder Monitor (LCE) PN417. The equipment and installation costs are for individual modification programs though it must be installed in conjunction with ECP SPN41-030 and SPN41-031 in order to be fully functional as part of the AN/SPN-41/41A Life Cycle Extension program. This change will provide upgrades to AN/SPN-41/41A to improve Operational Availability (Ao) by addressing numerous part obsolescence issues germane to the current aging system. The change will also provide digital interfaces with other shipboard systems including the Joint Precision Approach Landing System (JPALS), and extend the service life of the AN/SPN-41/41A.



**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 5 / AN/SPN-41 Coder Monitor (LCE) PN417

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Models of Systems Affected:</b> CVNs, LHA/LHD class ships, and selected shore sites	<b>Modification Type:</b> Modernization	<b>Related RDT&amp;E PEs:</b>
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Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
<b>Procurement</b>												
<i>Modification Item 1 of 1:</i> AN/SPN-41 Coder Monitor (LCE) PN417												
B Kits												
Recurring												
2.1.1) AN/SPN-41 Coder Monitor (LCE) - NonOrganic	2 / 0.207	1 / 0.207	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3 / 0.414
<i>Subtotal: Recurring</i>	- / 0.207	- / 0.207	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.414
<i>Subtotal: AN/SPN-41 Coder Monitor (LCE) PN417</i>	2 / 0.207	1 / 0.207	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3 / 0.414
<i>Subtotal: Procurement, All Modification Items</i>	- / 0.207	- / 0.207	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.414
<b>Support (All Modification Items)</b>												
3.1) Integrated Logistic Support	- / 0.047	- / 0.032	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.079
3.2) Production Engineering	- / 0.177	- / 0.140	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.317
<i>Subtotal: Support</i>	- / 0.224	- / 0.172	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.396
<b>Installation</b>												
<i>Modification Item 1 of 1:</i> AN/SPN-41 Coder Monitor (LCE) PN417	- / 0.592	- / 0.602	- / 0.614	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 1.808
<i>Subtotal: Installation</i>	- / 0.592	- / 0.602	- / 0.614	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 1.808
<b>Total</b>												
<b>Total Cost (Procurement + Support + Installation)</b>	<b>1.023</b>	<b>0.981</b>	<b>0.614</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>2.618</b>

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 5 / AN/SPN-41 Coder Monitor (LCE) PN417

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 1 of 1:** AN/SPN-41 Coder Monitor (LCE) PN417

**Manufacturer Information**

Manufacturer Name: NAWCAD	Manufacturer Location: St. Inigoes, MD
Administrative Leadtime (in Months): 3	Production Leadtime (in Months): 12

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates	Dec 2017						
Delivery Dates	Dec 2018						

**Installation Information**

**Method of Implementation:** Alteration Installation Team AIT:: Installation Name: AN/SPN-41 Coder Monitor (LCE)

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	1 / 0.592	1 / 0.602	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	2 / 1.194
FY 2018	- / -	- / -	1 / 0.614	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	1 / 0.614
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	1 / 0.592	1 / 0.602	1 / 0.614	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	3 / 1.808

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Out	1	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 6 / AN/SPN-41 Electronic Drawer Assembly (LCE) PN418

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

<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	2.534	1.392	1.581	0.800	0.000	0.800	0.000	0.000	0.000	0.000	0.000	6.307
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	2.534	1.392	1.581	0.800	0.000	0.800	0.000	0.000	0.000	0.000	0.000	6.307
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>2.534</b>	<b>1.392</b>	<b>1.581</b>	<b>0.800</b>	<b>0.000</b>	<b>0.800</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>6.307</b>

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

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

**Description:**

AN/SPN-41 Electronic Drawer Assembly (LCE) PN418. The equipment and installation costs are for individual modification programs though it must be installed in conjunction with ECP SPN41-031 and SPN41-034 in order to be fully functional as part of the AN/SPN-41 Life Cycle Extension program. This change replaces obsolete analog interfaces with required digital interfaces to connect with other shipboard systems including the Joint Precision Approach Landing System (JPALS).

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 6 / AN/SPN-41 Electronic Drawer Assembly (LCE) PN418

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Models of Systems Affected:</b> CVNs, LHA/LHD class ships, and selected shore sites	<b>Modification Type:</b> Modernization	<b>Related RDT&amp;E PEs:</b>
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Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
<b>Procurement</b>												
<i>Modification Item 1 of 1:</i> AN/SPN-41 Electronic Drawer Assembly (LCE) PN418												
B Kits												
Recurring												
2.1.1) AN/SPN-41 Electronic Drawer Assembly (LCE) - NonOrganic <sup>(13)</sup>	6 / 1.712	- / -	2 / 1.289	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	8 / 3.001
<i>Subtotal: Recurring</i>	- / 1.712	- / -	- / 1.289	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 3.001
<i>Subtotal: AN/SPN-41 Electronic Drawer Assembly (LCE) PN418</i>	6 / 1.712	- / -	2 / 1.289	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	8 / 3.001
<i>Subtotal: Procurement, All Modification Items</i>	- / 1.712	- / -	- / 1.289	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 3.001
<b>Support (All Modification Items)</b>												
3.1) Integrated Logistics	- / 0.086	- / -	- / 0.086	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.172
3.2) Production Engineering	- / 0.388	- / -	- / 0.206	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.594
<i>Subtotal: Support</i>	- / 0.474	- / -	- / 0.292	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.766
<b>Installation</b>												
<i>Modification Item 1 of 1:</i> AN/SPN-41 Electronic Drawer Assembly (LCE) PN418	- / 0.348	- / 1.392	- / 0.000	- / 0.800	- / 0.000	- / 0.800	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 2.540
<i>Subtotal: Installation</i>	- / 0.348	- / 1.392	- / -	- / 0.800	- / -	- / 0.800	- / -	- / -	- / -	- / -	- / 0.000	- / 2.540
<b>Total</b>												
<b>Total Cost (Procurement + Support + Installation)</b>	<b>2.534</b>	<b>1.392</b>	<b>1.581</b>	<b>0.800</b>	<b>0.000</b>	<b>0.800</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>6.307</b>

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 6 / AN/SPN-41 Electronic Drawer Assembly (LCE) PN418

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 1 of 1:** AN/SPN-41 Electronic Drawer Assembly (LCE) PN418

**Manufacturer Information**

Manufacturer Name: NAWCAD	Manufacturer Location: Webster Field, St. Inigoes, MD
Administrative Leadtime (in Months): 3	Production Leadtime (in Months): 12

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates		Jan 2019					
Delivery Dates		Dec 2019					

**Installation Information**

**Method of Implementation:** Alteration Installation Team AIT:: Installation Name: AN/SPN-41 Electronic Drawer Assembly (LCE)

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	2 / 0.348	4 / 1.392	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	6 / 1.740
FY 2018	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	2 / 0.800	0 / 0.000	2 / 0.800	- / -	- / -	- / -	- / -	0 / 0.000	2 / 0.800
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	2 / 0.348	4 / 1.392	- / -	2 / 0.800	0 / 0.000	2 / 0.800	- / -	- / -	- / -	- / -	0 / 0.000	8 / 2.540

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	2	4	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Out	2	-	-	4	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Footnotes:**  
<sup>(13)</sup> AN/SPN-41 Electronic Drawer Assembly (LCE) inventory objective is (20) with 14 procurements and 12 installations occurring in PY - FY16 are funded in BLI 2832. Inventory objective changed from 19 to 20 due to one of the original EDA units that was used, as intended, for initial system testing (including shock and vibrate). When completed this type testing usually results in a unit that is damaged beyond acceptable repair. It should not have been counted as an End Item for installation in the Fleet once testing was completed.

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 7 / AN/SPN-41 Radome Hardware Upgrade (LCE) PN419

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1.692	0.121	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.813
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1.692	0.121	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.813
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>1.692</b>	<b>0.121</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>0.000</b>	<b>1.813</b>

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

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

**Description:**

AN/SPN-41 Radome Hardware Upgrade (LCE) PN419. The equipment and installation costs are for individual modification programs. This is part of the AN/SPN-41 Life Cycle Extension program. This change will improve overall AN/SPN-41/41A Operational Availability (Ao) by addressing extreme environmental issues currently being experienced by the systems in the field. This change increases overall thermal resistance while decreasing solar absorptivity thereby reducing the ambient operating temperature for the equipment inside the radome, prolonging component life and reducing failure rates.

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 7 / AN/SPN-41 Radome Hardware Upgrade (LCE) PN419

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Models of Systems Affected:</b> CVNs, LHA/LHD class ships, and selected shore sites	<b>Modification Type:</b> Modernization	<b>Related RDT&amp;E PEs:</b>
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Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)

**Procurement**

<b>Modification Item 1 of 1:</b> AN/SPN-41 Radome Hardware Upgrade (LCE) PN419												
B Kits												
Recurring												
2.1.1) AN/SPN-41 Radome Hardware Upgrade - NonOrganic	6 / 1.260	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	6 / 1.260
<b>Subtotal: Recurring</b>	- / 1.260	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 1.260
<b>Subtotal: AN/SPN-41 Radome Hardware Upgrade (LCE) PN419</b>	6 / 1.260	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	6 / 1.260
<b>Subtotal: Procurement, All Modification Items</b>	- / 1.260	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 1.260

**Support (All Modification Items)**

3.1) Production Engineering	- / 0.278	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.278
3.2) Logistics	- / 0.034	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.034
<b>Subtotal: Support</b>	- / 0.312	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.312

**Installation**

<b>Modification Item 1 of 1:</b> AN/SPN-41 Radome Hardware Upgrade (LCE) PN419	- / 0.120	- / 0.121	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.241
<b>Subtotal: Installation</b>	- / 0.120	- / 0.121	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.241

<b>Total</b>												
<b>Total Cost (Procurement + Support + Installation)</b>	1.692	0.121	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.813

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 7 / AN/SPN-41 Radome Hardware Upgrade (LCE) PN419

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 1 of 1:** AN/SPN-41 Radome Hardware Upgrade (LCE) PN419

**Manufacturer Information**

Manufacturer Name: NAWCAD	Manufacturer Location: St. Inigoes, MD
Administrative Leadtime (in Months): 3	Production Leadtime (in Months): 12

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates							
Delivery Dates							

**Installation Information**

**Method of Implementation:** Alteration Installation Team AIT:: Installation Name: AN/SPN-41 Radome Hardware Upgrade

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	3 / 0.120	3 / 0.121	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	6 / 0.241
FY 2018	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	3 / 0.120	3 / 0.121	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	6 / 0.241

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
Out	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6



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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy	<b>Date:</b> March 2019
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 8 / AN/SPN-46 Block IV (PN420)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1.329	6.820	16.479	18.448	0.000	18.448	18.550	17.796	12.828	12.969	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1.329	6.820	16.479	18.448	0.000	18.448	18.550	17.796	12.828	12.969	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>1.329</b>	<b>6.820</b>	<b>16.479</b>	<b>18.448</b>	<b>0.000</b>	<b>18.448</b>	<b>18.550</b>	<b>17.796</b>	<b>12.828</b>	<b>12.969</b>	<b>Continuing</b>	<b>Continuing</b>

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

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

**Description:**

The AN/SPN-46 Block IV Precision Approach Landing System (PALS) Block IV upgrade is designed to correct known obsolescence issues in the antenna pedestal, 50KW Ka band modulator/transmitter, and various Circuit Card Assemblies (CCAs). This effort is designed to extend the supportability of the AN/SPN-46 beyond its current design life that has been exceeded. If this effort is not accomplished, replacement parts will not be available to support the fielded AN/SPN-46 systems, thereby, negatively affecting Operational Availability (Ao) and safety of flight on the aircraft carrier. Each BLK IV will be comprised of the upgraded ACIO CCA, 2500 CCA, Transmitter, and Pedestal.

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<b>Exhibit P-3a, Individual Modification: PB 2020 Navy</b>										<b>Date: March 2019</b>			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9					<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment					<b>Modification Number / Title:</b> 8 / AN/SPN-46 Block IV (PN420)			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> CVNs and selected shore sites				<b>Modification Type:</b> TBD				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
<b>Procurement</b>													
<i>Modification Item 1 of 1: AN/SPN-46 Block IV (PN420)</i>													
B Kits													
Recurring													
1.1.1) AN/SPN-46 Block IV - NonOrganic	- / -	1 / 5.017	3 / 12.897	3 / 13.155	- / -	3 / 13.155	3 / 13.419	3 / 13.686	2 / 9.393	2 / 10.250	- / -	17 / 77.817	
<i>Subtotal: Recurring</i>	- / 0.000	- / 5.017	- / 12.897	- / 13.155	- / -	- / 13.155	- / 13.419	- / 13.686	- / 9.393	- / 10.250	- / 0.000	- / 77.817	
<i>Subtotal: AN/SPN-46 Block IV (PN420)</i>	- / -	1 / 5.017	3 / 12.897	3 / 13.155	- / -	3 / 13.155	3 / 13.419	3 / 13.686	2 / 9.393	2 / 10.250	- / -	17 / 77.817	
<i>Subtotal: Procurement, All Modification Items</i>	- / 0.000	- / 5.017	- / 12.897	- / 13.155	- / -	- / 13.155	- / 13.419	- / 13.686	- / 9.393	- / 10.250	- / 0.000	- / 77.817	
<b>Support (All Modification Items)</b>													
2.1) Integrated Logistics Support <sup>(14)</sup>	- / 0.514	- / 0.700	- / 1.050	- / 1.340	- / -	- / 1.340	- / 1.022	- / 0.854	- / 0.599	- / 0.572	Continuing	Continuing	
2.2) Production Engineering	- / 0.815	- / 0.853	- / 1.176	- / 1.200	- / -	- / 1.200	- / 1.227	- / 0.937	- / 0.676	- / 0.690	Continuing	Continuing	
2.3) Quality Assurance	- / -	- / 0.250	- / 0.255	- / 0.260	- / -	- / 0.260	- / 0.265	- / 0.270	- / 0.142	- / -	Continuing	Continuing	
2.4) Acceptance Test and Evaluation	- / -	- / -	- / -	- / 0.254	- / -	- / 0.254	- / 0.256	- / 0.265	- / 0.203	- / 0.207	Continuing	Continuing	
<i>Subtotal: Support</i>	- / 1.329	- / 1.803	- / 2.481	- / 3.054	- / -	- / 3.054	- / 2.770	- / 2.326	- / 1.620	- / 1.469	Continuing	Continuing	
<b>Installation</b>													
<i>Modification Item 1 of 1: AN/SPN-46 Block IV (PN420)</i>	- / 0.000	- / 0.000	- / 1.101	- / 1.239	- / 0.000	- / 1.239	- / 1.2361	- / 1.784	- / 1.815	- / 1.250	- / 1.300	- / 11.850	
<i>Subtotal: Installation</i>	- / 0.000	- / -	- / 1.101	- / 1.239	- / -	- / 1.239	- / 1.2361	- / 1.784	- / 1.815	- / 1.250	- / 1.300	- / 11.850	
<b>Total</b>													
<b>Total Cost (Procurement + Support + Installation)</b>	<b>1.329</b>	<b>6.820</b>	<b>16.479</b>	<b>18.448</b>	<b>0.000</b>	<b>18.448</b>	<b>18.550</b>	<b>17.796</b>	<b>12.828</b>	<b>12.969</b>	<b>Continuing</b>	<b>Continuing</b>	

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**Exhibit P-3a, Individual Modification: PB 2020 Navy** **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 8 / AN/SPN-46 Block IV (PN420)
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**ID Code** (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

**Modification Item 1 of 1:** AN/SPN-46 Block IV (PN420)

**Manufacturer Information**

Manufacturer Name: Sierra Nevada Corporation	Manufacturer Location: Sierra, Nevada
Administrative Leadtime (in Months): 4	Production Leadtime (in Months): 12

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates	Jan 2018	Jan 2019	Jan 2020	Jan 2021	Jan 2022	Jan 2023	Jan 2024
Delivery Dates	Jan 2019	Jan 2020	Jan 2021	Jan 2022	Jan 2023	Jan 2024	Jan 2025

**Installation Information**

**Method of Implementation:** Method:: Installation Name: Installation Group Name

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2018	- / -	- / -	1 / 1.101	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	1 / 1.101
FY 2019	- / -	- / -	- / -	3 / 2.239	0 / 0.000	3 / 2.239	- / -	- / -	- / -	- / -	0 / 0.000	3 / 2.239
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	3 / 2.361	- / -	- / -	- / -	0 / 0.000	3 / 2.361
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3 / 1.784	- / -	- / -	0 / 0.000	3 / 1.784
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3 / 1.815	- / -	0 / 0.000	3 / 1.815
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 1.250	0 / 0.000	2 / 1.250
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 1.300	2 / 1.300
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
<b>Total</b>	- / -	- / -	1 / 1.101	3 / 2.239	0 / 0.000	3 / 2.239	3 / 2.361	3 / 1.784	3 / 1.815	2 / 1.250	2 / 1.300	17 / 11.850

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot		
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
In	-	-	-	-	-	-	1	-	-	-	2	1	-	-	2	1	-	-	1	1	1	-	1	2	-	-	-	-	-	2	-	2	17
Out	-	-	-	-	-	-	1	-	-	-	2	1	-	-	2	1	-	-	1	1	1	-	1	2	-	-	-	-	-	2	-	2	17

**Footnotes:**

(14) ILS increase in FY20 is due to identifying projected system installation requirements, modification adjustments, preparation for integration planning, and drawing support efforts for increased number of installations.

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 9 / AN/SPN-35 Block I (PN421)

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

<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	0.000	0.000	1.475	5.942	0.000	5.942	8.475	8.362	8.474	12.180	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	0.000	0.000	1.475	5.942	0.000	5.942	8.475	8.362	8.474	12.180	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>0.000</b>	<b>0.000</b>	<b>1.475</b>	<b>5.942</b>	<b>0.000</b>	<b>5.942</b>	<b>8.475</b>	<b>8.362</b>	<b>8.474</b>	<b>12.180</b>	<b>Continuing</b>	<b>Continuing</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

This modification upgrades the AN/SPN-35C to Block 1. AN/SPN-35C is the Precision Approach Radar aboard LHA/LHD class ships and is used for Mode III aircraft recovery which ensures the safe approach and landing of fixed-wing aircraft and various helicopters during adverse weather & night conditions. The AN/SPN-35C Block I upgrade includes replacement of common failure items, obsolete components, and analog system components. Block I will ensure the availability of, and extend the service life of the AN/SPN-35. The inventory objective for this item is 16. PMA-213 configuration control board approves inventory objectives.

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<b>Exhibit P-3a, Individual Modification: PB 2020 Navy</b>										<b>Date: March 2019</b>			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9					<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment					<b>Modification Number / Title:</b> 9 / AN/SPN-35 Block I (PN421)			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> LHA/LHD class ships				<b>Modification Type:</b> TBD				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
<b>Procurement</b>													
<i>Modification Item 1 of 1: AN/SPN-35 Block I (PN421)</i>													
B Kits													
Recurring													
2.1.1) AN/SPN-35 Block I - NonOrganic	- / -	- / -	- / -	2 / 3.153	- / -	2 / 3.153	3 / 4.831	3 / 4.932	3 / 5.036	5 / 8.569	- / -	16 / 26.521	
<i>Subtotal: Recurring</i>	- / 0.000	- / -	- / -	- / 3.153	- / -	- / 3.153	- / 4.831	- / 4.932	- / 5.036	- / 8.569	- / 0.000	- / 26.521	
<i>Subtotal: AN/SPN-35 Block I (PN421)</i>	- / -	- / -	- / -	2 / 3.153	- / -	2 / 3.153	3 / 4.831	3 / 4.932	3 / 5.036	5 / 8.569	- / -	16 / 26.521	
<i>Subtotal: Procurement, All Modification Items</i>	- / 0.000	- / -	- / -	- / 3.153	- / -	- / 3.153	- / 4.831	- / 4.932	- / 5.036	- / 8.569	- / 0.000	- / 26.521	
<b>Support (All Modification Items)</b>													
3.1) Integrated Logistics <sup>(15)</sup>	- / -	- / -	- / 0.450	- / 1.106	- / -	- / 1.106	- / 1.129	- / 0.397	- / 0.406	- / 0.414	- / 0.423	- / 4.325	
3.2) Production Engineering <sup>(16)</sup>	- / -	- / -	- / 1.025	- / 1.658	- / -	- / 1.658	- / 1.666	- / 1.672	- / 1.706	- / 1.778	Continuing	Continuing	
3.3) Quality Assurance	- / -	- / -	- / -	- / 0.025	- / -	- / 0.025	- / 0.065	- / 0.066	- / 0.068	- / 0.069	Continuing	Continuing	
<i>Subtotal: Support</i>	- / 0.000	- / -	- / 1.475	- / 2.789	- / -	- / 2.789	- / 2.860	- / 2.135	- / 2.180	- / 2.261	Continuing	Continuing	
<b>Installation</b>													
<i>Modification Item 1 of 1: AN/SPN-35 Block I (PN421)</i>	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.784	- / 1.295	- / 1.258	- / 1.350	- / 2.316	- / 7.003	
<i>Subtotal: Installation</i>	- / 0.000	- / -	- / -	- / -	- / -	- / -	- / 0.784	- / 1.295	- / 1.258	- / 1.350	- / 2.316	- / 7.003	
<b>Total</b>													
<b>Total Cost (Procurement + Support + Installation)</b>	<b>0.000</b>	<b>0.000</b>	<b>1.475</b>	<b>5.942</b>	<b>0.000</b>	<b>5.942</b>	<b>8.475</b>	<b>8.362</b>	<b>8.474</b>	<b>12.180</b>	<b>Continuing</b>	<b>Continuing</b>	

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 9 / AN/SPN-35 Block I (PN421)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 1 of 1:** AN/SPN-35 Block I (PN421)

**Manufacturer Information**

Manufacturer Name: NAWCAD	Manufacturer Location: St. Inigoes, MD
Administrative Leadtime (in Months): 3	Production Leadtime (in Months): 12

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates			Dec 2019	Dec 2020	Dec 2021	Dec 2022	Dec 2023
Delivery Dates			Dec 2020	Dec 2021	Dec 2022	Dec 2023	Dec 2024

**Installation Information**

**Method of Implementation:** Alteration Installation Team AIT:: Installation Name: AN/SPN-35 Block I

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2018	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	2 / 0.784	- / -	- / -	- / -	0 / 0.000	2 / 0.784
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3 / 1.295	- / -	- / -	0 / 0.000	3 / 1.295
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3 / 1.258	- / -	0 / 0.000	3 / 1.258
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3 / 1.350	0 / 0.000	3 / 1.350
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 2.316	5 / 2.316
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	- / -	- / -	- / -	- / -	2 / 0.784	3 / 1.295	3 / 1.258	3 / 1.350	5 / 2.316	16 / 7.003

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1	1	1	-	1	1	1	-	1	1	1	1	5	16
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1	1	1	-	1	1	1	-	1	1	1	1	5	16

**Footnotes:**  
<sup>(15)</sup> Integrated Logistic support (ILS) costs beginning in FY19 include identifying projected system installation requirements, modification adjustments, preparation for integration planning, and drawing support efforts. Preparing for the receipt, integration, and installation of future, identified equipment often requires significant planning. The FY19 PE/ILS funding was required to prepare for the FY20 procurements; the FY20 PE/ILS budget request is the required funding to support the associated FY20 procurements, thus setting the baseline for the necessary support funding for FY20 and future years.

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 9 / AN/SPN-35 Block I (PN421)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>	
<p><sup>(16)</sup> Production engineering costs beginning in FY19 include identifying projected system installation requirements, modification adjustments, preparation for integration planning, and drawing support efforts. Preparing for the receipt, integration, and installation of future, identified equipment often requires significant planning.</p>		

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<b>Exhibit P-3a, Individual Modification: PB 2020 Navy</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 10 / AN/SPN-50(V)1

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	0.000	0.000	0.000	18.340	0.000	18.340	31.600	35.408	54.129	56.210	123.425	319.112
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	0.000	0.000	0.000	18.340	0.000	18.340	31.600	35.408	54.129	56.210	123.425	319.112
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>18.340</b>	<b>0.000</b>	<b>18.340</b>	<b>31.600</b>	<b>35.408</b>	<b>54.129</b>	<b>56.210</b>	<b>123.425</b>	<b>319.112</b>

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

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

**Description:**

Shipboard Air Traffic Radar (SATR) (AN/SPN-50(V)1)

The "National Defense Strategy of the United States of America" calls for military forces to assure allies and friends, dissuade potential adversaries, deter aggression and counter coercion, and defeat adversaries in order to accomplish our national objectives. The Shipboard Air Traffic Radar (SATR) AN/SPN-50(V)1 (hereinafter referred to as AN/SPN-50(V)1) supports these objectives and will be the primary Air Traffic Control (ATC) surveillance radar onboard Nimitz Class Aircraft Carrier (CVN) and Amphibious (LHA and LHD (LH)) type ships. The launch and recovery of aircraft, to include ATC, is a primary function of aircraft carriers and amphibious landing platforms. The surveillance function provides weather and radar data to air traffic controllers supporting aviation operations of all Navy, Marine Corps, joint and allied aviation assets within the assigned airspace. This data is utilized by air traffic controllers to provide a variety of ATC services such as ATC radar approach and departure services (which includes aircraft separation), airspace monitoring, navigational assistance, emergency vectoring, traffic calls, and vectoring and sequencing to the final approach point. Reliable and accurate ATC surveillance radar enhances overall mission and training effectiveness and safety for aircrews and aircraft alike. The AN/SPN-50(V)1 Capability D Document was signed March 2015 and Milestone B was achieved September 2015, at which time the Milestone Decision Authority (MDA) designated the AN/SPN-50(V)1 program as an ACAT IV(T). Milestone C is planned for 3rd quarter FY 2020 and IOC is planned for 4th quarter FY 2022. The AN/SPN-50(V)1 inventory objective is 25 systems (6 LRIPs, and 19 FRP). Twenty-one systems are schedule to be procured with Other Procurement, Navy, funding and 4 are scheduled to be procured with Ship Conversion, Navy, funding.



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<b>Exhibit P-3a, Individual Modification: PB 2020 Navy</b>										<b>Date: March 2019</b>			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9				<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment						<b>Modification Number / Title:</b> 10 / AN/SPN-50(V)1			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> [No Model Specified]				<b>Modification Type:</b> TBD				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
<b>Procurement</b>													
<i>Modification Item 1 of 1: AN/SPN-50(V)1</i>													
B Kits													
Recurring													
2.1.1) SATR (SPN-50) - NonOrganic	- / -	- / -	- / -	1 / 10.756	- / -	1 / 10.756	2 / 20.926	2 / 21.344	4 / 39.712	4 / 38.505	8 / 79.336	21 / 210.579	
<i>Subtotal: Recurring</i>	- / 0.000	- / -	- / -	- / 10.756	- / -	- / 10.756	- / 20.926	- / 21.344	- / 39.712	- / 38.505	- / 79.336	- / 210.579	
<i>Subtotal: AN/SPN-50(V)1</i>	- / -	- / -	- / -	1 / 10.756	- / -	1 / 10.756	2 / 20.926	2 / 21.344	4 / 39.712	4 / 38.505	8 / 79.336	21 / 210.579	
<i>Subtotal: Procurement, All Modification Items</i>	- / 0.000	- / -	- / -	- / 10.756	- / -	- / 10.756	- / 20.926	- / 21.344	- / 39.712	- / 38.505	- / 79.336	- / 210.579	
<b>Support (All Modification Items)</b>													
3.1) Support Equipment	- / -	- / -	- / -	- / 0.161	- / -	- / 0.161	- / 0.328	- / 0.335	- / 0.683	- / 0.697	- / 1.435	- / 3.639	
3.2) Integrated Logistics Support <sup>(17)</sup>	- / -	- / -	- / -	- / 1.698	- / -	- / 1.698	- / 1.930	- / 2.166	- / 2.154	- / 0.564	- / 1.369	- / 9.881	
3.3) Production Engineering <sup>(18)</sup>	- / -	- / -	- / -	- / 5.725	- / -	- / 5.725	- / 6.901	- / 8.473	- / 9.782	- / 7.953	- / 19.908	- / 58.742	
<i>Subtotal: Support</i>	- / 0.000	- / -	- / -	- / 7.584	- / -	- / 7.584	- / 9.159	- / 10.974	- / 12.619	- / 9.214	- / 22.712	- / 72.262	
<b>Installation</b>													
<i>Modification Item 1 of 1: AN/SPN-50(V)1</i>	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 1.515	- / 3.090	- / 1.798	- / 8.491	- / 21.377	- / 36.271	
<i>Subtotal: Installation</i>	- / 0.000	- / -	- / -	- / -	- / -	- / -	- / 1.515	- / 3.090	- / 1.798	- / 8.491	- / 21.377	- / 36.271	
<b>Total</b>													
<b>Total Cost (Procurement + Support + Installation)</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>18.340</b>	<b>0.000</b>	<b>18.340</b>	<b>31.600</b>	<b>35.408</b>	<b>54.129</b>	<b>56.210</b>	<b>123.425</b>	<b>319.112</b>	

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**Exhibit P-3a, Individual Modification: PB 2020 Navy** **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 1810N / 02 / 9	<b>P-1 Line Item Number / Title:</b> 2830 / Afloat ATC Equipment	<b>Modification Number / Title:</b> 10 / AN/SPN-50(V)1
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**ID Code** (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

**Modification Item 1 of 1:** AN/SPN-50(V)1

**Manufacturer Information**

Manufacturer Name: TBD	Manufacturer Location: TBD 6
Administrative Leadtime (in Months): 8	Production Leadtime (in Months): 12

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates			May 2020	May 2021	May 2022	May 2023	May 2024
Delivery Dates			May 2021	May 2022	May 2023	May 2024	May 2025

**Installation Information**

**Method of Implementation:** [none specified]:: Installation Name: SATR (SPN-50)

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2018	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.515	- / -	- / -	- / -	0 / 0.000	1 / 1.515
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 3.090	- / -	- / -	0 / 0.000	2 / 3.090
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.798	1 / 1.659	0 / 0.000	2 / 3.457
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	4 / 6.832	0 / 0.000	4 / 6.832
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	4 / 7.126	4 / 7.126	4 / 7.126
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	8 / 14.251	8 / 14.251
Total	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.515	2 / 3.090	1 / 1.798	5 / 8.491	12 / 21.377	21 / 36.271

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	2	-	-	-	1	-	1	-	2	2	12	21
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	2	-	-	-	1	-	1	-	2	2	12	21

**Footnotes:**

(17) ILS efforts include training courses, courseware management, tech pub management, and supply support planning. These efforts are planned to significantly reduce once the program reaches Material Support Date in FY24.

(18) FY 2020 production engineering is based on the first production lot cost estimate, which will require full support to include: SW support of production required changes, engineering support of the production effort, and ongoing installation support. PE increase from FY22 to FY23 is due to the award of the award of the follow-on Full Rate Production (FRP) contract.