Exhibit P-40, Budget Line Item Justification: PB 2021 Navy	Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N: Aircraft Procurement, Navy / BA 05: Modification of Aircraft / BSA 1: Modification of Aircraft	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey
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: 212	

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	1,599.738	197.838	325.367	334.405	0.000	334.405	377.405	562.100	582.833	498.498	3,695.658	8,173.842
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	1,599.738	197.838	325.367	334.405	0.000	334.405	377.405	562.100	582.833	498.498	3,695.658	8,173.842
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**1,599.738**	**197.838**	**325.367**	**334.405**	**0.000**	**334.405**	**377.405**	**562.100**	**582.833**	**498.498**	**3,695.658**	**8,173.842**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost *($ in Dollars)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Dollars)*	-	-	-	-	-	-	-	-	-	-	-	-

Description:

This line item funds modifications to the Navy's V-22 aircraft. The V-22 is a tilt rotor, Vertical/Short Takeoff and Landing (V/STOL) aircraft for Joint Service application. The Navy acts as the lead service with support from the United States Air Force (USAF) co-located in the V-22 Program Office. The V-22 Program is designed to provide an aircraft to meet the amphibious/vertical assault needs of the United States Marine Corps, the Carrier Onboard Delivery needs of the Navy, and the special operations needs of the USAF and United States Special Operations Command (USSOCOM). The MV-22 variant is replacing the CH-46E in the Marine Corps and the CMV-22 will replace the C-2A in the Navy. The CV-22 variant replaced the MH-53J, and is providing a new capability and augments the MC-130 in the USAF/USSOCOM inventory for special operations infiltration, exfiltration, and resupply missions. The V-22 is capable of flying over 2,100 nautical miles with a single refueling, giving the Services the advantage of a V/STOL aircraft able to rapidly self-deploy to any location in the world. This line item funds modifications in support of 318 MV-22's and 15 CMV's that will be delivered through FY 2021. The total planned modifications throughout the Future Year's defense program "FYDP" for MV-22 is 333, and 44 CMV-22.

The overall goal of the modifications budgeted in FY 2021 is to maintain commonality, implement structural safety and reliability improvements, and improve capability. These modifications will also improve readiness, increase aircraft availability, and decrease operating costs. FY 2021 focus will be on reducing flight hour costs, and improving Time On Wing, as reflected in the Readiness Operational Safety Improvement Program.

FY 2021 budget request continues the Nacelle Improvement effort which will improve and upgrade the Nacelle and bring it to a common configuration. This effort addresses reliability and maintainability degraders, improving Mission Capable rates by 6 to 8 percent and reducing direct maintenance man-hours. FY 2021 budget request also prioritizes the Common Configuration -Readiness and Modernization (CC-RAM) effort, as it will return 25 to 30 additional Ready Basic Aircraft to the flight line for tasking and improve Mission Capable rates approximately 15 percent. Nacelle Improvements and CC-RAM are the Marine Corps top two priorities for V-22 Readiness.

Exhibit P-40, Budget Line Item Justification: PB 2021 Navy	Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N: Aircraft Procurement, Navy / BA 05: Modification of Aircraft / BSA 1: Modification of Aircraft	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey
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: 212	

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*
P-3a	1 / MV-22 Correction of Defiencies and Pre Block A Through C (OSIP 022-01) (Safety, Reliability, Increased Service Life, Improved Mission Capability)				- / 1,177.584	- / 8.783	- / 7.554	- / 6.757	- / 0.000	- / 6.757
P-3a	2 / MV-22 Readiness (OSIP 028-12) (Reliability, Cost-per-flight hour, Reduction in Total Ownership cost)				- / 220.441	- / 55.758	- / 90.450	- / 91.863	- / 0.000	- / 91.863
P-3a	3 / Common Configuration (011-17) (Safety, Reliability, Increased Service Life, Improved Mission Capability)				- / 187.507	- / 67.429	- / 161.858	- / 168.298	- / 0.000	- / 168.298
P-3a	4 / Aerial Refueling (008-18) (Performance, Capability)				- / 14.206	- / 1.076	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-3a	5 / Avionics Improvements (009-19) (Safety, Reliability, Increased Service Life, Improved Mission Capability)				- / 0.000	- / 45.792	- / 60.149	- / 45.876	- / 0.000	- / 45.876
P-3a	6 / CMV Improvements 005-20 (Safety, Improved Mission Capability)				- / 0.000	- / 0.000	- / 5.356	- / 21.611	- / 0.000	- / 21.611
P-3a	7 / FY 2020 Enacted Rescissions (TBD)				- / 0.000	- / 19.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-40	**Total Gross/Weapon System Cost**				**- / 1,599.738**	**- / 197.838**	**- / 325.367**	**- / 334.405**	**- / 0.000**	**- / 334.405**

Exhibits Schedule					FY 2022	FY 2023	FY 2024	FY 2025	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 / MV-22 Correction of Defiencies and Pre Block A Through C (OSIP 022-01) (Safety, Reliability, Increased Service Life, Improved Mission Capability)				- / 6.998	- / 7.585	- / 7.305	- / 4.810	- / 0.244	- / 1,227.620
P-3a	2 / MV-22 Readiness (OSIP 028-12) (Reliability, Cost-per-flight hour, Reduction in Total Ownership cost)				- / 131.466	- / 166.621	- / 123.494	- / 126.330	- / 1,586.991	- / 2,593.414
P-3a	3 / Common Configuration (011-17) (Safety, Reliability, Increased Service Life, Improved Mission Capability)				- / 177.523	- / 309.314	- / 349.322	- / 281.440	- / 1,279.985	- / 2,982.676
P-3a	4 / Aerial Refueling (008-18) (Performance, Capability)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 15.282
P-3a	5 / Avionics Improvements (009-19) (Safety, Reliability, Increased Service Life, Improved Mission Capability)				- / 48.016	- / 66.823	- / 73.309	- / 60.603	- / 699.847	- / 1,100.415
P-3a	6 / CMV Improvements 005-20 (Safety, Improved Mission Capability)				- / 13.402	- / 11.757	- / 29.403	- / 25.315	- / 128.591	- / 235.435
P-3a	7 / FY 2020 Enacted Rescissions (TBD)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 19.000
P-40	**Total Gross/Weapon System Cost**				**- / 377.405**	**- / 562.100**	**- / 582.833**	**- / 498.498**	**- / 3,695.658**	**- / 8,173.842**

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

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

Justification:
The FY 2020 enacted includes congressional rescissions of $19 million to FY 2019 funding. However, these rescissions are not reflected on the P-40 and associated detail P-3a.

OSIP 22-01 MV-22 Correction of Deficiencies provides near and long term improvements to the fleet, focusing on documented deficiencies related to safety, maintainability, and aircraft systems. FY21 will continue upgrades to the Cockpit Voice Recorder and the Iridium Antenna as well as installation of previous kit procurements.

Exhibit P-40, Budget Line Item Justification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N: Aircraft Procurement, Navy / BA 05: Modification of Aircraft / BSA 1: Modification of Aircraft	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	
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: 212		

OSIP 28-12 V-22 Readiness supports the correction of readiness degraders impacting V-22 cost per flight hour, Reliability, Maintainability and Availability (RM&A), obsolescence, and reduction of life-cycle costs. In order to meet the goal of increasing readiness, the airframe and integrated systems must be modified as critical RM&A issues are identified. FY21 funds are required to address multiple upgrades including Nacelle Improvements, which USMC has identified as a top readiness degrader. The reliability and readiness initiatives included in the proposed OSIP are projected to have a significant positive impact to the V-22 Aircraft platform.

OSIP 011-17 Common Configuration- Readiness and Modernization (CC-RAM) is the Marine Corps' top priority for MV-22 readiness. Modification of 129 Block B and 124 Block C MV-22B aircraft to a common production configuration in support of improved readiness, achieving common configuration (Deputy Commandant for Aviation Goal), and reducing Life Cycle Cost. The reduction of future Operating and Support costs is achieved by the reduction of National Stock Numbers in the supply system, reduction of training and maintenance tasks in the Intelligent Electronic Technical Manuals, and reduction of Non-Recurring Engineering retrofit costs due to multiple aircraft configurations on future engineering changes. FY21 funds are required for CC-RAM kits and associated support.

OSIP 008-18 was established for the MV-22 Aerial Refueling System (VARS) Capability. The VARS is an initiative which would deliver the capability to aerial refuel F/A-18, F-35, AV-8B, V-22 and CH-53E aircraft from the V-22. Funding for this OSIP has been removed from this budget in FY 2020 through the Future Years Defense Plan (FYDP) due to Marine Corps reprioritization.

OSIP 009-19 Avionic Improvements incorporates changes to V-22 avionics systems. Avionics modifications to the V-22 will improve display reliability, eliminate communication security issues and alleviate parts obsolescence/vendor problems. Changes to the V-22 avionics will include: Display System upgrade, Cockpit Inter Communication System modification, upgraded Mission Computer, updated Data Transfer Module, Control Display Unit/Engine Instrument Caution Advisory System upgrade, Control Display Unit Keyboard upgrade, and Avionics Interface Units upgrades. Improvements to safety of flight, maintenance, obsolescence (Diminishing Manufacturing Sources/Material Shortages), and readiness degrader items will yield a more interoperable and survivable V-22 force to sustain warfighter capability in support of worldwide operations. FY21 will continue upgrades to Advanced Interoperability Multifunction Display, Traffic Collision Avoidance System and Integrated Aircraft Survivability Equipment.

OSIP 005-20 is for the modification of delivered CMV-22s for critical interoperability capabilities including Link-16 for Carrier Strike Group/Expeditionary Strike Group interoperability and secure MILSAT connectivity through integration of Mobile Users Objective System (MUOS). FY21 funds are required to begin the upgrades to the Link 16 /Iridium Improved Intercommunication System (ICS). Also any required modifications for compliance with FAR 121-345/347 for Beyond Line of Sight (BLOS) Air Traffic Control, Required Navigation Performance/Area Navigation capabilities, and Terrain Awareness and Warning System.

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 1 / MV-22 Correction of Defiencies and Pre Block A Through C (OSIP 022-01)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	1,177.584	8.783	7.554	6.757	0.000	6.757	6.998	7.585	7.305	4.810	0.244	1,227.620
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	1,177.584	8.783	7.554	6.757	0.000	6.757	6.998	7.585	7.305	4.810	0.244	1,227.620
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**1,177.584**	**8.783**	**7.554**	**6.757**	**0.000**	**6.757**	**6.998**	**7.585**	**7.305**	**4.810**	**0.244**	**1,227.620**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Dollars)*	-	-	-	-	-	-	-	-	-	-	-	-

Description:

MV-22 Correction of Deficiencies provides near and long term improvements to the fleet, focusing on documented deficiencies related to safety, maintainability, and aircraft systems. These modifications and selected component changes are being accomplished by field retrofit. In order to meet emerging deficiencies the airframe and integrated systems must be modified as critical corrections/changes are identified. Funds will be used to manage, prepare, process and incorporate Engineering Change Proposals (ECP) and implement those changes to sustain and improve MV-22 system operations. ECPs are implemented to coincide with resources and aircraft availability. These changes provide more robust performance in navigation, weapons, avionics, survivability, maneuverability, maintainability, and mission deployment of the MV-22 platform. This modification program may be required to provide timely remedial action for any aircraft system, component or structure. Funds are used to incorporate ECPs to correct emerging deficiencies of the airframe and integrated systems of the aircraft. AVIONICS: Avionics modifications to the V-22 will improve display reliability, eliminate communication security issues and alleviate parts obsolescence/vendor problems. Changes to the V-22 avionics will include: Display System upgrade, Cockpit Inter Communication System modification, Control Display Unit/Engine Instrument Caution Advisory System upgrade, Control Display Unit Keyboard upgrade, and Avionics Interface Units upgrades. Software modifications are controlled by the functional requirements document (FRD) and introduced to the fleet for release every two years, or as needed based on emerging fleet requirements. Modifications to the various avionics software configuration items being incorporated into the fleet aircraft also require updates to the Collaborative Automated Maintenance Environment Optimized (CAMEO), Integrated Electronic Technical Manuals (IETMs); and mission planning. Specifically for the mission planning system, the V-22 Unique Planning Component (UPC) for the Joint Mission Planning System (JMPS) must implement frequent software updates in conjunction with production aircraft performance and software changes. Changes to the JMPS UPC in accordance with the FRD must include mission planning specific software regression tests to ensure proper operation and integration with other aircraft UPCs within JMPS. POWER TRANSMISSION AND CONTROL: Changes to the V-22 Power Transmission and Control System will improve reliability and maintainability. COCKPIT: Changes to the V-22 cockpit will improve crew safety, mission suitability and overall reliability. STRUCTURAL: Structural changes to the V-22 will increase survivability, improve maintainability and aircraft availability, eliminate component interferences, improve suitability and correct safety related issues. RELIABILITY & MAINTAINABILITY FIXES: Includes Corrective Action Plans to make the aircraft compliant with Operation Requirements Document requirements. Communication, Navigation & Surveillance/Air Traffic Management (CNS/ATM) Modification to the V-22 will facilitate Federal Aviation Administration and International Civil Aviation Organization standards compliance in support of Next Gen initiatives, such as Automatic Dependent Surveillance - Broadcast, Required Navigation Performance/Area Navigation, Identification Friend or Foe, Modernization and Global Positioning System (GPS) Modernization in relation to Correction of Deficiencies ECPs.

MTX Kits: Meyers Mini Transmitters are incorporated as friendly force tracking and situational awareness devices.

Enhanced Crash Survivable Memory Unit (Cockpit Voice Recorder): To protect aircraft flight information and facilitate post-mishap investigations, a crash-survivable recorder capable of recording a/c parametric data and aircrew voice communications.

Iridium Antenna: Iridium Antenna is connected to the Troop Commander Station panel allowing ready access to the antenna by systems/equipment (such as brought on to the MV-22 for mission specific operations. Enables ground forces to have access to Distributed Tactical Communication Systems (DTCS) while aboard MV-22s.

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 1 / MV-22 Correction of Defiencies and Pre Block A Through C (OSIP 022-01)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

All aircraft except one have been upgraded to a Block B configuration.

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 1 / MV-22 Correction of Defiencies and Pre Block A Through C (OSIP 022-01)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	
Models of Systems Affected: V-22 Series	**Modification Type:** Safety, Reliability, Increased Service Life, Improved Mission Capability	**Related RDT&E PEs:** 0604262N

Financial Plan (*) Indicates the modification is being installed organically and no installation funds are required.	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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												
1.1.1) MTX Kits - Organic(*)	55 / 0.485	4 / 0.039	2 / 0.025	2 / 0.025	- / -	2 / 0.025	3 / 0.039	6 / 0.080	3 / 0.041	4 / 0.055	- / -	79 / 0.789
1.1.2) Enhanced Crash Survivable Memory Unit (Cockpit Voice Recorder) - NonOrganic *Installation 1 of 2*	99 / 2.727	- / -	- / -	24 / 1.440	- / -	24 / 1.440	48 / 2.928	48 / 2.978	35 / 2.208	24 / 1.540	- / -	278 / 13.821
1.1.3) Iridium Antenna - NonOrganic *Installation 2 of 2*	99 / 0.202	48 / 0.108	48 / 0.103	48 / 0.105	- / -	48 / 0.105	48 / 0.107	42 / 0.095	- / -	- / -	- / -	333 / 0.720
1.1.4) Archived ECPs - Organic(*)	6,392 / 595.546	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	6,392 / 595.546
1.2.1) Installation Kits N/R - Organic(*)	- / 162.555	- / 1.756	- / 0.230	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 164.541
2.1.1) Archived B Kits - Organic(*)	234 / 63.820	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	234 / 63.820
2.2.1) Installation Equipment N/R - Organic(*)	- / 0.577	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.577
Subtotal: Procurement	*- / 825.912*	*- / 1.903*	*- / 0.358*	*- / 1.570*	*- / -*	*- / 1.570*	*- / 3.074*	*- / 3.153*	*- / 2.249*	*- / 1.595*	*- / 0.000*	*- / 839.814*
Support												
3.2) Software Modifications	- / 10.302	- / 0.012	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 10.314
3.3) Data	- / 1.384	- / 0.174	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.558
3.4) Training Equipment	7 / 237.997	- / 0.848	- / 2.268	- / 2.007	- / -	- / 2.007	- / 1.986	- / 2.033	- / 2.533	- / 1.549	- / -	7 / 251.221
3.5) Support Equipment	- / 11.301	- / 0.722	- / 1.201	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 13.224
3.6) ILS	- / 7.224	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 7.224
3.7) Other Support	- / 66.684	- / 4.928	- / 3.249	- / 2.774	- / -	- / 2.774	- / 1.298	- / 1.516	- / 1.679	- / 1.316	- / -	- / 83.444
3.8) Interim Contractor Support	- / 10.002	- / -	- / 0.080	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 10.082
Subtotal: Support	*- / 344.894*	*- / 6.684*	*- / 6.798*	*- / 4.781*	*- / -*	*- / 4.781*	*- / 3.284*	*- / 3.549*	*- / 4.212*	*- / 2.865*	*- / 0.000*	*- / 377.067*
Installation												
Installation 1 of 2: Enhanced Crash Survivable Memory Unit (Cockpit Voice Recorder)	- / 6.370	- / -	- / -	- / -	- / -	- / -	- / 0.228	- / 0.464	- / 0.472	- / 0.350	- / 0.244	- / 8.128
Installation 2 of 2: Iridium Antenna	- / 0.408	- / 0.196	- / 0.398	- / 0.406	- / 0.000	- / 0.406	- / 0.412	- / 0.419	- / 0.372	- / -	- / 0.000	- / 2.611
Subtotal: Installation	*- / 6.778*	*- / 0.196*	*- / 0.398*	*- / 0.406*	*- / -*	*- / 0.406*	*- / 0.640*	*- / 0.883*	*- / 0.844*	*- / 0.350*	*- / 0.244*	*- / 10.739*
Total												
Total Cost (Procurement + Support + Installation)	**1,177.584**	**8.783**	**7.554**	**6.757**	**0.000**	**6.757**	**6.998**	**7.585**	**7.305**	**4.810**	**0.244**	**1,227.620**

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 1 / MV-22 Correction of Deficiencies and Pre Block A Through C (OSIP 022-01)

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

Installation 1 of 2: Enhanced Crash Survivable Memory Unit (Cockpit Voice Recorder)

Manufacturer Information

Manufacturer Name: Bell Boeing - Enhanced Crash Survivable Memory Unit	Manufacturer Location: Amorillo, TX
Administrative Leadtime *(in Months)*: 12	Production Leadtime *(in Months)*: 6

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates			Oct 2021	Oct 2022	Oct 2023	Oct 2024	Oct 2025
Delivery Dates			Mar 2022	Mar 2023	Mar 2024	Mar 2025	Mar 2026

Installation Information

Method of Implementation: Contractor Forced Retrofit of Components:: Installation Name: Enhanced Crash Survivable Memory Unit

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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	99 / 6.370	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	99 / 6.370
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	24 / 0.228	- / -	- / -	- / -	0 / 0.000	24 / 0.228
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	48 / 0.464	- / -	- / -	0 / 0.000	48 / 0.464
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	48 / 0.472	- / -	0 / 0.000	48 / 0.472
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	35 / 0.350	0 / 0.000	35 / 0.350
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	24 / 0.244	24 / 0.244
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	99 / 6.370	- / -	- / -	- / -	- / -	- / -	24 / 0.228	48 / 0.464	48 / 0.472	35 / 0.350	24 / 0.244	278 / 8.128

Installation Schedule

		FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025					
	PYS	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	TC	Tot
In	99	-	-	-	-	-	-	-	-	-	-	-	-	-	8	8	8	-	16	16	16	-	16	16	16	-	12	12	11	24	278
Out	99	-	-	-	-	-	-	-	-	-	-	-	-	-	8	8	8	-	16	16	16	-	16	16	16	-	12	12	11	24	278

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 1 / MV-22 Correction of Deficiencies and Pre Block A Through C (OSIP 022-01)

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

Installation 2 of 2: Iridium Antenna

Manufacturer Information

Manufacturer Name: FRC - Iridium Antenna	Manufacturer Location: FRC - Various
Administrative Leadtime *(in Months)*: 2	Production Leadtime *(in Months)*: 12

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

Installation Information

Method of Implementation: Contractor Field Modification:: Installation Name: Iridium Antenna

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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	51 / 0.408	48 / 0.196	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	99 / 0.604
FY 2019	- / -	- / -	48 / 0.398	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	48 / 0.398
FY 2020	- / -	- / -	- / -	48 / 0.406	0 / 0.000	48 / 0.406	- / -	- / -	- / -	- / -	0 / 0.000	48 / 0.406
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	48 / 0.412	- / -	- / -	- / -	0 / 0.000	48 / 0.412
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	48 / 0.419	- / -	- / -	0 / 0.000	48 / 0.419
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	42 / 0.372	- / -	0 / 0.000	42 / 0.372
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	51 / 0.408	48 / 0.196	48 / 0.398	48 / 0.406	0 / 0.000	48 / 0.406	48 / 0.412	48 / 0.419	42 / 0.372	- / -	0 / 0.000	333 / 2.611

Installation Schedule

		FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025					
	PYS	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	TC	Tot
In	51	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	10	10	10	-	-	-	-	-	333
Out	51	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	10	10	10	-	-	-	-	-	333

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 2 / MV-22 Readiness (OSIP 028-12)
ID Code (A=Service Ready, B=Not Service Ready) :		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	220.441	55.758	90.450	91.863	0.000	91.863	131.466	166.621	123.494	126.330	1,586.991	2,593.414
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	220.441	55.758	90.450	91.863	0.000	91.863	131.466	166.621	123.494	126.330	1,586.991	2,593.414
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**220.441**	**55.758**	**90.450**	**91.863**	**0.000**	**91.863**	**131.466**	**166.621**	**123.494**	**126.330**	**1,586.991**	**2,593.414**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Dollars)*	-	-	-	-	-	-	-	-	-	-	-	-

Description:

This Operational Safety Improvement Program (OSIP) 28-12 is established for the correction of readiness degraders impacting V-22 cost per flight hour, Reliability Maintainability and Availability (RM&A), obsolescence, and reduction of life-cycle costs. These modifications will be accomplished by field retrofit and implemented to coincide with resources and aircraft availability. In order to meet the goal of increasing readiness, the airframe and integrated systems must be modified as critical RM&A issues are identified. Funds will be used to manage, prepare, process and incorporate Engineering Change Proposals. The reliability and readiness initiatives included in the proposed OSIP are projected to have a significant positive impact to the V-22 Aircraft platform.

CURRENT/ACTIVE ECPs:
Funds are used to incorporate ECPs to improve readiness and availability of the aircraft.
Rudder Attachment Reliability Improvement is an upgrade to bearings associated with the rear rudder.
Nacelle Improvements: Kits that will improve and upgrade the Nacelle to bring it to a common configuration. Nacelle improvements is a top priority for improving MV-22 readiness. It addresses Nacelle reliability and maintainability degraders as recommended by the Osprey Independent Readiness Review. Nacelle Improvements will reduce wire harness counts, reduce wire interface assemblies, and improve structure and maintenance access ports. Overall, Nacelle Improvements will improve Mission Capable rates by 6 to 8 percent and reduce direct maintenance man-hours.
Drive Tube: This effort will redesign the drive tube which will eliminate an O level recurring inspection as it will decrease stresses at the lower end without affecting the interface with the mast.
V-22 Prop Rotor Gear Box (PRGB) Input Quill/Clutch Redesign: This effort will eliminate resident issues with Input Quill and clutch and to Purge Fleet of Thin Densed Chrome.
Aircraft Bus Tie Circuit Reliability Improvement to provide the ability to power all buses with a battery start of the APU in the presence of a failed Regulated Converter.
Upper and Lower Rod Ends Redesign to prevent excessive wear from normal proprotor operation.
PRGB Atmospheric Protection and Mast Seal Improvement: This initiative reduces corrosion related removals due to water intrusion.
Drive Link/Hub Spring Change: The drive link and hub spring are critical components of the Proprotor Hub Assembly. This effort will reduce the the current safety risk and improve readiness of aircraft.
Engine Thermo Couple Wire Harness: This ECP is a safety issue. This purpose of this change is to replace the copper wire with thermocouple wire (Chromel-Alumel material) and eliminate a source of Measured Gas Temperature calculation errors.
Aft Sponson Fuel Tank: This improvement will increase combat range and endurance of the V-22 and enable accomplishment of the Rapid Ground Refueling (RGR) mission with a single aircraft, greatly enhancing support
to the Marine Air Ground Task Force during expeditionary operations.
Aft Sponson Fuel Tank & Main Landing Gear Bay Fire Suppression System (FSS): This improvement will increase combat range and endurance of the V-22 and enable accomplishment of the RGR mission with a single aircraft, greatly enhancing support to the Marine Air Ground Task Force during expeditionary operations. The kit will also increase FSS protection in the Aft Sponson Bay and Main Landing Gear Bays of the standard V-22.
V-22 Prop-Rotor Blade Improvements: Incorporate Readiness upgrades to improve Prop Rotor Blades such as an erosion protection system.

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 2 / MV-22 Readiness (OSIP 028-12)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Shaft Driven Compressor (SDC): Modify the SDC gear train to eliminate high cycle fatigue that leads to early failure of SDC impeller and incorporate improvements to gears and seals.
Conversion Area Harness: Increases reliability of the Conversion Area Harness by upgrading the harness, wire type, ribbons and connectors for MV-22.
Manual Override Switches for Environmental Bus Contractor: Incorporates a manual override switch so that in the event of a dual-VFG failure the aircrew can ensure the continued ability to power both ENV busses and all fuel pumps with the CFG, and make certain all fuel on the aircraft can be utilized during a dual-VFG failure.
Ice Protection System (IPS): Strengthens component parts which have been prone to stress failures or fraying, Central De-ice Device and Nacelle Ice Protection Control Unit / Master Ice Protection Controller.
Troop Seat Retrofit/Pin: Troop Seat retrofit/improvement would upgrade the troop seat from a -507 to a -509 configuration.
O2N2 Sieve Bed Kits: A correction of the O2N2 Concentrator sieve beds is required to address the loss of sieve material pre-load and the resulting loss of function and potential sieve material escapements into the OBOGS or OBIGGS distribution system, a potential health hazard. This change incorporates a new spring retention system to prevent the sieve loss and is changing the overhaul procedure for the sieve beds to prevent reuse of sieve material.

FUTURE ECPs:
APU K8/K9 Improvement: Improve power distribution contactors K8 and K9 that provide power during Auxiliary Power Unit (APU) starts. This change will provide appropriately-rated contactors to prevent damage to the APU, other power distribution components, and the aircraft.
Electrical System Upgrade and reliability improvement effort. Increased V-22 electrical system reliability and capacity is required to accommodate demands on electrical power system as additional systems are added to the V-22.
Electrical System Re-Design Generator Control Unit (GCU) Relocation: The Constant Frequency Generator (CFG) GCU Redesign effort will increase reliability and sustainability by modernizing the GCU, eliminating persistent fluid intrusion, and introducing an I-level maintenance concept.
Swashplate Actuator: Will incorporate engineering for several reliability, safety and life improvements to the current Swashplate Servoactuator.
Gimbal Ring Joint will increase mean time between failures of the swashplate and hub assembly (which includes the gimbal assembly).
Engine Air Particle Separator (EAPS) 2.0: Provides a suitable Improved Inlet Solution (IIS) to increase particle filtration efficiency of the engine air induction subsystem to improve platform readiness and engine TOW when operating in austere environments laden with sand and dust.
Coanda Valve Reliability Improvement: Improves reliability of the Coanda Valve and associated wiring harness. Intent is to reduce "false positive" fault indications while addressing a number of priority failure modes. Other component improvement objectives include improved maintenance footprint, compliance with IUID requirements, and improved harness reparability.

Migrating to OSIP 009-09 in FY 2020
Mission Computer Obsolescence Initiative (MCOI) Retrofit for BLK C: MCOI replaces several components and allows planned capabilities to operate without memory processing power or memory storage. Has a positive Return on Investment compared too many other costs that would be absorbed (avoidance).

Funding in OSIP 028-12 increases in FY21 due to initial kit procurements for IPS, Shaft Driven Compressor, and PRGB Input Quill/Clutch Redesign, and initial installations for APU K8/K9 and Nacelle Improvements.

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 2 / MV-22 Readiness (OSIP 028-12)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	
Models of Systems Affected: V-22 Series	**Modification Type:** Reliability, Cost-per-flight hour, Reduction in Total Ownership cost	**Related RDT&E PEs:** 0604262N

Financial Plan (*) Indicates the modification is being installed organically and no installation funds are required.	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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												
1.1.1) Aircraft Bus Tie Circuit Reliability Improvement - NonOrganic *Installation 1 of 10*	151 / 0.624	- / -	60 / 0.150	60 / 0.152	- / -	60 / 0.152	14 / 0.036	- / -	- / -	- / -	- / -	285 / 0.962
1.1.2) APU K8/K9 Improvement - Organic(*)	- / -	- / -	- / -	- / -	- / -	- / -	60 / 0.702	60 / 0.714	60 / 0.726	60 / 0.738	93 / 1.164	333 / 4.044
1.1.3) Conversion Area Harness - Organic(*) (1)	- / -	1 / 0.128	9 / 1.172	13 / 1.721	- / -	13 / 1.721	16 / 2.154	18 / 2.465	14 / 1.950	16 / 2.266	228 / 32.839	315 / 44.695
1.1.4) Drive Link/Prop Rotor Hub Spring Change - NonOrganic *Installation 2 of 10*	- / -	60 / 13.356	60 / 13.583	30 / 6.907	- / -	30 / 6.907	30 / 7.024	60 / 14.287	15 / 3.633	15 / 3.698	26 / 6.519	296 / 69.007
1.1.5) Drive Tube - NonOrganic (2) *Installation 3 of 10*	60 / 2.615	60 / 2.659	60 / 2.705	30 / 1.375	- / -	30 / 1.375	30 / 1.399	60 / 2.845	11 / 0.531	- / -	- / -	311 / 14.129
1.1.6) Engine Thermo Couple Wire Harness - NonOrganic *Installation 4 of 10*	89 / 1.376	48 / 0.767	48 / 0.780	48 / 0.793	- / -	48 / 0.793	48 / 0.807	- / -	- / -	- / -	- / -	281 / 4.523
1.1.7) Gimbal Ring Joint - NonOrganic *Installation 5 of 10*	- / -	- / -	- / -	- / -	- / -	- / -	10 / 0.816	12 / 0.996	12 / 1.013	12 / 1.030	235 / 20.514	281 / 24.369
1.1.8) Ice Protection System (IPS) - Organic(*) (3)	- / -	- / -	- / -	48 / 0.250	- / -	48 / 0.250	48 / 0.254	48 / 0.259	48 / 0.263	48 / 0.267	41 / 0.232	281 / 1.525
1.1.9) Manual Override Switches for Environmental Bus - NonOrganic *Installation 6 of 10*	- / -	50 / 0.062	60 / 0.076	60 / 0.077	- / -	60 / 0.077	14 / 0.018	- / -	- / -	- / -	- / -	184 / 0.233
1.1.10) Rudder Attachment Reliability Improvement - NonOrganic *Installation 7 of 10*	246 / 0.558	13 / 0.048	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	259 / 0.606
1.1.11) Shaft Driven Compressor - NonOrganic (4) *Installation 8 of 10*	- / -	- / -	- / -	86 / 2.580	- / -	86 / 2.580	86 / 2.624	86 / 2.668	75 / 2.367	- / -	- / -	333 / 10.239
1.1.12) Upper and Lower Rod Ends - Organic(*)	- / -	- / -	64 / 5.757	24 / 2.195	- / -	24 / 2.195	24 / 2.233	54 / 5.109	12 / 1.155	24 / 2.349	121 / 12.042	323 / 30.840
1.1.13) V-22 PRGB Input Quill/Clutch Redesign - Organic(*) (5)	- / -	- / -	- / -	30 / 1.500	- / -	30 / 1.500	30 / 1.526	30 / 1.551	60 / 3.156	30 / 1.605	153 / 8.323	333 / 17.661
1.1.14) Aft Sponson & MLGB FSS - NonOrganic *Installation 9 of 10*	48 / 5.500	24 / 2.938	24 / 2.988	24 / 3.039	- / -	24 / 3.039	12 / 1.545	24 / 3.143	14 / 1.865	- / -	- / -	170 / 21.018
1.1.15) CFG GCU Redesign (UTAS) - Organic(*)	- / -	- / -	- / -	- / -	- / -	- / -	52 / 2.189	64 / 2.740	137 / 5.966	80 / 3.542	- / -	333 / 14.437
1.1.16) Nacelle Improvements - Organic(*) (6)	- / -	- / -	6 / 38.082	9 / 50.845	- / -	9 / 50.845	16 / 91.928	18 / 105.177	14 / 83.195	16 / 96.696	232 / 1,425.929	311 / 1,891.852
1.1.17) O2N2 Sieve Bed Kits - Organic(*)	62 / 0.779	62 / 0.779	62 / 0.794	66 / 0.860	- / -	66 / 0.860	56 / 0.742	- / -	- / -	- / -	- / -	308 / 3.954
1.1.18) Troop Seat Pin - Organic(*)	- / -	- / -	85 / 0.468	98 / 0.549	- / -	98 / 0.549	102 / 0.581	31 / 0.180	- / -	- / -	- / -	316 / 1.778
1.1.19) Coanda Valve Reliability Improvement - Organic(*)	- / -	- / -	- / -	- / -	- / -	- / -	45 / 1.228	255 / 7.080	- / -	- / -	- / -	300 / 8.308
1.1.20) MCOI Retrofit BLK C - NonOrganic *Installation 10 of 10*	47 / 8.369	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	47 / 8.369
1.1.21) Archived ECPs - Organic(*)	3,631 / 100.726	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3,631 / 100.726

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 2 / MV-22 Readiness (OSIP 028-12)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	
Models of Systems Affected: V-22 Series	**Modification Type:** Reliability, Cost-per-flight hour, Reduction in Total Ownership cost	**Related RDT&E PEs:** 0604262N

Financial Plan (*) Indicates the modification is being installed organically and no installation funds are required.	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*
1.2.1) Installation Kits N/R - Organic(*)	- / 47.114	- / 8.960	- / 4.379	- / 1.320	- / -	- / 1.320	- / -	- / -	- / -	- / -	- / -	- / 61.773
Subtotal: Procurement	*- / 167.661*	*- / 29.697*	*- / 70.934*	*- / 74.163*	*- / -*	*- / 74.163*	*- / 117.806*	*- / 149.214*	*- / 105.820*	*- / 112.191*	*- / 1,507.562*	*- / 2,335.048*
Support												
3.3) Data	- / 0.807	- / 0.246	- / 0.072	- / 0.072	- / -	- / 0.072	- / 0.072	- / 0.072	- / 0.072	- / 0.072	- / 0.232	- / 1.717
3.4) Training Equipment	- / 0.505	- / 0.223	- / 0.227	- / 0.232	- / -	- / 0.232	- / 0.236	- / 0.241	- / 0.245	- / 0.245	- / 2.855	- / 5.009
3.5) Support Equipment	- / 2.264	- / 0.775	- / 0.789	- / 0.803	- / -	- / 0.803	- / 0.951	- / 1.767	- / 1.121	- / 0.604	- / 4.085	- / 13.159
3.6) ILS (7)	- / 1.019	- / 3.383	- / 0.160	- / 0.168	- / -	- / 0.168	- / 0.171	- / 0.175	- / 0.178	- / 0.182	- / 2.568	- / 8.004
3.7) Other Support	- / 43.510	- / 15.183	- / 12.376	- / 10.205	- / -	- / 10.205	- / 7.136	- / 10.596	- / 10.968	- / 10.910	- / 52.335	- / 173.219
Subtotal: Support	*- / 48.105*	*- / 19.810*	*- / 13.624*	*- / 11.480*	*- / -*	*- / 11.480*	*- / 8.566*	*- / 12.851*	*- / 12.584*	*- / 12.013*	*- / 62.075*	*- / 201.108*
Installation												
Installation 1 of 10: Aircraft Bus Tie Circuit Reliability Improvement	- / 0.731	- / 0.442	- / 0.000	- / 0.599	- / 0.000	- / 0.599	- / 0.610	- / 0.147	- / -	- / -	- / 0.000	- / 2.529
Installation 2 of 10: Drive Link/Prop Rotor Hub Spring Change	- / -	- / -	- / 2.284	- / 2.323	- / 0.000	- / 2.323	- / 1.181	- / 1.201	- / 2.443	- / 0.621	- / 3.622	- / 13.675
Installation 3 of 10: Drive Tube	- / -	- / 1.096	- / 1.115	- / 1.134	- / 0.000	- / 1.134	- / 0.577	- / 0.586	- / 1.193	- / 0.222	- / 0.000	- / 5.923
Installation 4 of 10: Engine Thermo Couple Wire Harness	- / 0.752	- / 1.200	- / 1.220	- / 1.241	- / 0.000	- / 1.241	- / 1.262	- / 1.284	- / -	- / -	- / 0.000	- / 6.959
Installation 5 of 10: Gimbal Ring Joint	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.504	- / 0.615	- / 0.626	- / 13.732	- / 15.477
Installation 6 of 10: Manual Override Switches for Environmental Bus	- / -	- / -	- / 0.526	- / 0.642	- / 0.000	- / 0.642	- / 0.653	- / 0.155	- / -	- / -	- / 0.000	- / 1.976
Installation 7 of 10: Rudder Attachment Reliability Improvement	- / 2.639	- / 0.881	- / 0.194	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 3.714
Installation 8 of 10: Shaft Driven Compressor	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.525	- / 0.534	- / 0.543	- / 0.482	- / 0.000	- / 2.084
Installation 9 of 10: Aft Sponson & MLGB FSS	- / 0.553	- / -	- / 0.553	- / 0.281	- / 0.000	- / 0.281	- / 0.286	- / 0.145	- / 0.296	- / 0.175	- / 0.000	- / 2.289
Installation 10 of 10: MCOI Retrofit BLK C	- / -	- / 2.632	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 2.632
Subtotal: Installation	*- / 4.675*	*- / 6.251*	*- / 5.892*	*- / 6.220*	*- / -*	*- / 6.220*	*- / 5.094*	*- / 4.556*	*- / 5.090*	*- / 2.126*	*- / 17.354*	*- / 57.258*
Total												
Total Cost (Procurement + Support + Installation)	**220.441**	**55.758**	**90.450**	**91.863**	**0.000**	**91.863**	**131.466**	**166.621**	**123.494**	**126.330**	**1,586.991**	**2,593.414**

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 2 / MV-22 Readiness (OSIP 028-12)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Installation 1 of 10: Aircraft Bus Tie Circuit Reliability Improvement

Manufacturer Information

Manufacturer Name: FRC Various - Aircraft Bus Tie Circuit Reliability Improvement	Manufacturer Location: FRC - Various
Administrative Leadtime *(in Months)*: 9	Production Leadtime *(in Months)*: 4

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates		Jun 2020	Jun 2021	Jun 2022			
Delivery Dates		Oct 2020	Oct 2021	Oct 2022			

Installation Information

Method of Implementation: Contractor Field Modification:: Installation Name: Aircraft Bus Tie Circuit Reliability Improvement

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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	95 / 0.731	45 / 0.442	11 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	151 / 1.173
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	60 / 0.599	0 / 0.000	60 / 0.599	- / -	- / -	- / -	- / -	0 / 0.000	60 / 0.599
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	60 / 0.610	- / -	- / -	- / -	0 / 0.000	60 / 0.610
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	14 / 0.147	- / -	- / -	0 / 0.000	14 / 0.147
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	95 / 0.731	45 / 0.442	11 / 0.000	60 / 0.599	0 / 0.000	60 / 0.599	60 / 0.610	14 / 0.147	- / -	- / -	0 / 0.000	285 / 2.529

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				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	95	12	12	11	10	11	-	-	-	15	15	15	15	15	15	15	15	4	4	3	3	-	-	-	-	-	-	-	-	-	285
Out	95	12	12	11	10	11	-	-	-	15	15	15	15	-	15	15	15	15	4	4	3	3	-	-	-	-	-	-	-	-	285

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 2 / MV-22 Readiness (OSIP 028-12)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Installation 2 of 10: Drive Link/Prop Rotor Hub Spring Change

Manufacturer Information

Manufacturer Name: FRC Various - Drive Link/Prop Rotor Hub Spring Change	Manufacturer Location: FRC - Various
Administrative Leadtime *(in Months)*: 2	Production Leadtime *(in Months)*: 12

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

Installation Information

Method of Implementation: Contractor Field Mod:: Installation Name: Drive Link/Prop Rotor Hub Spring Change

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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 2019	- / -	- / -	60 / 2.284	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	60 / 2.284
FY 2020	- / -	- / -	- / -	60 / 2.323	0 / 0.000	60 / 2.323	- / -	- / -	- / -	- / -	0 / 0.000	60 / 2.323
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	30 / 1.181	- / -	- / -	- / -	0 / 0.000	30 / 1.181
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	30 / 1.201	- / -	- / -	0 / 0.000	30 / 1.201
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	60 / 2.443	- / -	0 / 0.000	60 / 2.443
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	15 / 0.621	0 / 0.000	15 / 0.621
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	30 / 1.263	30 / 1.263
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	26 / 2.359	26 / 2.359
Total	- / -	- / -	60 / 2.284	60 / 2.323	0 / 0.000	60 / 2.323	30 / 1.181	30 / 1.201	60 / 2.443	15 / 0.621	56 / 3.622	311 / 13.675

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	15	15	15	15	15	15	15	15	8	8	7	7	8	8	7	7	15	15	15	15	15	-	-	-	56	311
Out	-	-	-	-	-	-	15	15	15	15	15	15	15	15	8	8	7	7	8	8	7	7	15	15	15	15	15	-	-	56	311

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 2 / MV-22 Readiness (OSIP 028-12)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	
Installation 3 of 10: Drive Tube		

Manufacturer Information

Manufacturer Name: FRC Various - Drive Tube	Manufacturer Location: FRC - Various
Administrative Leadtime *(in Months)*: 2	Production Leadtime *(in Months)*: 12

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

Installation Information

Method of Implementation: Contractor Field Mod:: Installation Name: Drive Tube

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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	- / -	60 / 1.096	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	60 / 1.096
FY 2019	- / -	- / -	60 / 1.115	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	60 / 1.115
FY 2020	- / -	- / -	- / -	60 / 1.134	0 / 0.000	60 / 1.134	- / -	- / -	- / -	- / -	0 / 0.000	60 / 1.134
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	30 / 0.577	- / -	- / -	- / -	0 / 0.000	30 / 0.577
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	30 / 0.586	- / -	- / -	0 / 0.000	30 / 0.586
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	60 / 1.193	- / -	0 / 0.000	60 / 1.193
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	11 / 0.222	0 / 0.000	11 / 0.222
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	60 / 1.096	60 / 1.115	60 / 1.134	0 / 0.000	60 / 1.134	30 / 0.577	30 / 0.586	60 / 1.193	11 / 0.222	0 / 0.000	311 / 5.923

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	15	15	15	15	15	15	15	15	15	15	15	15	8	8	7	7	8	8	7	7	15	15	15	15	11	-	-	-	-	311
Out	-	-	15	15	15	15	15	15	15	15	15	15	15	15	8	8	7	7	8	8	7	7	15	15	15	15	11	-	-	-	311

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 2 / MV-22 Readiness (OSIP 028-12)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Installation 4 of 10: Engine Thermo Couple Wire Harness

Manufacturer Information

Manufacturer Name: FRC Various - Engine Thermo Couple Wire Harness	Manufacturer Location: FRC - Various
Administrative Leadtime *(in Months)*: 4	Production Leadtime *(in Months)*: 9

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

Installation Information

Method of Implementation: Contractor Drive-In Modification:: Installation Name: Engine Thermo Couple Wire Harness

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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	41 / 0.752	48 / 1.200	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	89 / 1.952
FY 2019	- / -	- / -	48 / 1.220	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	48 / 1.220
FY 2020	- / -	- / -	- / -	48 / 1.241	0 / 0.000	48 / 1.241	- / -	- / -	- / -	- / -	0 / 0.000	48 / 1.241
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	48 / 1.262	- / -	- / -	- / -	0 / 0.000	48 / 1.262
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	48 / 1.284	- / -	- / -	0 / 0.000	48 / 1.284
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	41 / 0.752	48 / 1.200	48 / 1.220	48 / 1.241	0 / 0.000	48 / 1.241	48 / 1.262	48 / 1.284	- / -	- / -	0 / 0.000	281 / 6.959

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				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	41	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	-	-	-	-	-	-	-	-	-	281
Out	31	10	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	-	-	-	-	-	-	-	-	281

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 2 / MV-22 Readiness (OSIP 028-12)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	
Installation 5 of 10: Gimbal Ring Joint		

Manufacturer Information

Manufacturer Name: FRC Various -Gimbal Ring Joint	Manufacturer Location: FRC - Various
Administrative Leadtime *(in Months)*: 2	Production Leadtime *(in Months)*: 12

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates				Nov 2021	Nov 2022	Nov 2023	Nov 2024
Delivery Dates				Nov 2022	Nov 2023	Nov 2024	Nov 2025

Installation Information

Method of Implementation: Contractor Field Mod:: Installation Name: Gimbal Ring Joint

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 0.504	- / -	- / -	0 / 0.000	10 / 0.504
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 0.615	- / -	0 / 0.000	12 / 0.615
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 0.626	0 / 0.000	12 / 0.626
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 0.637	12 / 0.637
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	235 / 13.095	235 / 13.095
Total	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 0.504	12 / 0.615	12 / 0.626	247 / 13.732	281 / 15.477

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				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	3	3	1	3	3	3	3	3	3	3	3	247	281
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	1	3	3	3	3	3	3	3	250	281

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 2 / MV-22 Readiness (OSIP 028-12)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Installation 6 of 10: Manual Override Switches for Environmental Bus

Manufacturer Information

Manufacturer Name: FRC Various - Manual Override Switches for Environmental Bus	Manufacturer Location: FRC -Various
Administrative Leadtime *(in Months)*: 4	Production Leadtime *(in Months)*: 9

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

Installation Information

Method of Implementation: Contractor Field Modification:: Installation Name: Manual Override Switches for Environmental Bus

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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 2019	- / -	- / -	50 / 0.526	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	50 / 0.526
FY 2020	- / -	- / -	- / -	60 / 0.642	0 / 0.000	60 / 0.642	- / -	- / -	- / -	- / -	0 / 0.000	60 / 0.642
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	60 / 0.653	- / -	- / -	- / -	0 / 0.000	60 / 0.653
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	14 / 0.155	- / -	- / -	0 / 0.000	14 / 0.155
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	50 / 0.526	60 / 0.642	0 / 0.000	60 / 0.642	60 / 0.653	14 / 0.155	- / -	- / -	0 / 0.000	184 / 1.976

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	15	15	10	10	15	15	15	15	15	15	15	15	4	4	3	3	-	-	-	-	-	-	-	-	-	184
Out	-	-	-	-	-	-	15	15	10	10	15	15	15	15	15	15	15	15	4	4	3	3	-	-	-	-	-	-	-	-	184

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 2 / MV-22 Readiness (OSIP 028-12)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Installation 7 of 10: Rudder Attachment Reliability Improvement

Manufacturer Information

Manufacturer Name: Rudder Attachment Reliability Improvement	Manufacturer Location: N/AN/A
Administrative Leadtime *(in Months)*: 1	Production Leadtime *(in Months)*: 12

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

Installation Information

Method of Implementation: Contractor Drive-In Modification:: Installation Name: Rudder Attachment Reliability Improvement

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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	186 / 2.639	60 / 0.881	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	246 / 3.520
FY 2019	- / -	- / -	13 / 0.194	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	13 / 0.194
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	186 / 2.639	60 / 0.881	13 / 0.194	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	259 / 3.714

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				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	186	15	15	15	15	7	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	259
Out	186	15	15	15	15	7	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	259

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 2 / MV-22 Readiness (OSIP 028-12)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	
Installation 8 of 10: Shaft Driven Compressor		

Manufacturer Information

Manufacturer Name: FRC Various - Shaft Driven Compressor	Manufacturer Location: FRC - Various
Administrative Leadtime *(in Months)*: 6	Production Leadtime *(in Months)*: 7

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates			Mar 2021	Mar 2022	Mar 2023	Mar 2024	
Delivery Dates			Oct 2021	Oct 2022	Oct 2023	Oct 2024	

Installation Information

Method of Implementation: Contractor Drive-In Mod:: Installation Name: Shaft Driven Compressor

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	86 / 0.525	- / -	- / -	- / -	0 / 0.000	86 / 0.525
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	86 / 0.534	- / -	- / -	0 / 0.000	86 / 0.534
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	86 / 0.543	- / -	0 / 0.000	86 / 0.543
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	75 / 0.482	0 / 0.000	75 / 0.482
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	- / -	- / -	- / -	- / -	86 / 0.525	86 / 0.534	86 / 0.543	75 / 0.482	0 / 0.000	333 / 2.084

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				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	-	-	-	-	-	-	-	-	-	-	-	-	-	22	22	21	21	22	22	21	21	22	22	21	21	19	19	19	18	-	333
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	22	22	21	21	22	22	21	21	22	22	21	21	19	19	19	18	-	333

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 2 / MV-22 Readiness (OSIP 028-12)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Installation 9 of 10: Aft Sponson & MLGB FSS

Manufacturer Information

Manufacturer Name: FRC Various - AFT Sponson Fuel / MLGB / FSS	Manufacturer Location: FRC-Various
Administrative Leadtime *(in Months)*: 6	Production Leadtime *(in Months)*: 7

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates	Jul 2019	Mar 2020	Mar 2021	Mar 2022	Mar 2023	Mar 2024	Mar 2025
Delivery Dates	Oct 2019	Oct 2020	Oct 2021	Oct 2022	Oct 2023	Oct 2024	Oct 2025

Installation Information

Method of Implementation: Contractor Field Mod:: Installation Name: Aft Sponson & MLGB FSS

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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	48 / 0.553	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	48 / 0.553
FY 2019	- / -	- / -	24 / 0.553	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	24 / 0.553
FY 2020	- / -	- / -	- / -	24 / 0.281	0 / 0.000	24 / 0.281	- / -	- / -	- / -	- / -	0 / 0.000	24 / 0.281
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	24 / 0.286	- / -	- / -	- / -	0 / 0.000	24 / 0.286
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 0.145	- / -	- / -	0 / 0.000	12 / 0.145
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	24 / 0.296	- / -	0 / 0.000	24 / 0.296
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	14 / 0.175	0 / 0.000	14 / 0.175
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	48 / 0.553	- / -	24 / 0.553	24 / 0.281	0 / 0.000	24 / 0.281	24 / 0.286	12 / 0.145	24 / 0.296	14 / 0.175	0 / 0.000	170 / 2.289

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	48	-	-	-	-	6	6	6	6	6	6	6	6	6	6	6	6	3	3	3	3	6	6	6	6	4	4	3	3	-	170
Out	48	-	-	-	-	-	6	6	6	6	6	6	6	6	6	6	6	6	3	3	3	3	6	6	6	6	4	4	3	3	170

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 2 / MV-22 Readiness (OSIP 028-12)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	
Installation 10 of 10: MCOI Retrofit BLK C		

Manufacturer Information

Manufacturer Name: Redstone Arsenal Army - MCOI Retrofit BLK C	Manufacturer Location: Redstone, AL
Administrative Leadtime *(in Months)*: 3	Production Leadtime *(in Months)*: 10

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

Installation Information

Method of Implementation: [none specified]:: Installation Name: MCOI Retrofit BLK C

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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	- / -	47 / 2.632	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	47 / 2.632
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	47 / 2.632	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	47 / 2.632

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	12	12	12	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47
Out	-	12	12	12	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47

Footnotes:

(1) The funding for Nacelle Improvement and Conversion Area Harness Installations have been moved to the CC-RAM kit procurement line (1.1.1 under OSIP 011-17) because installations will be done in conjunction with the CC-RAM modification.

(2) Drive Tube was previously being installed with Drive Link/Prop Rotor Hub Spring. Due to changes in install strategy, this effort now has its own installation schedule.

(3) FY 2021 is the first year of Ice Protection System kit procurement. Ice Protection System kits will be organically installed. Two units per aircraft.

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 2 / MV-22 Readiness (OSIP 028-12)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

(4) FY 2021 is the first year of procurement of Shaft Driven Compressor kits.

(5) FY 2021 is the first year of procurement of PRGB Input Quill/Clutch kits.

(6) Nacelle Improvement Kits and Installations addresses reliability and maintainability degraders and will improve Mission Capable rates by 6 to 8 percent. Kit procurement begins in FY 2020. Non-recurring engineering for this effort was partially funded under OSIP 011-17, and migrated to OSIP 028-12 in FY 2020. The funding for Nacelle Improvement and Conversion Area Harness Installations have been moved to the CC-RAM kit procurement line (1.1.1 under OSIP 011-17) because installations will be done in conjunction with the CC-RAM modification.

(7) Increase to Other ILS from FY 2020 to FY 2021 is due to increase in logistics support needed for V-22 Readiness efforts.

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	P-1 Line Item Number / Title: 0590 / V-22 (Tilt/Rotor Acft) Osprey	Modification Number / Title: 3 / Common Configuration (011-17)
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	187.507	67.429	161.858	168.298	0.000	168.298	177.523	309.314	349.322	281.440	1,279.985	2,982.676
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	187.507	67.429	161.858	168.298	0.000	168.298	177.523	309.314	349.322	281.440	1,279.985	2,982.676
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**187.507**	**67.429**	**161.858**	**168.298**	**0.000**	**168.298**	**177.523**	**309.314**	**349.322**	**281.440**	**1,279.985**	**2,982.676**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Dollars)*	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Operational Safety Improvement Program (OSIP) 011-17 is established for the Modification of 129 Block B and 124 Block C MV-22B aircraft to a common production configuration in support of improved readiness, achieving common configuration, and reducing Life Cycle Cost. The reduction of future Operating and Support costs is achieved by the reduction of National Stock Numbers in the supply system, reduction of training and maintenance tasks in the Intelligent Electronic Technical Manuals, and reduction of Non-Recurring Engineering retrofit costs due to multiple aircraft configurations on future engineering changes. This will include funding for approximately 80 Engineering Change Proposals that impact safety, reliability and cost.

Common Configuration- Readiness and Modernization (CC-RAM) is the Marine Corps' top priority for MV-22 readiness. It will have the biggest impact of returning readiness to required levels for combat by consolidating fleet configurations to a 2019 standard, addressing the major issue identified by the Osprey Independent Readiness Review. The MV-22 CC-RAM effort will upgrade 129 MV-22 Block B aircraft to a Block C configuration. CC-RAM will improve Mission Capable rates approximately 15 percent for aircraft undergoing Block B to C modification, and reduce maintenance man hours by approximately 30 percent. Overall, CC-RAM will return 25 to 30 additional Ready Basic Aircraft to the flightline for tasking and greatly simplify logistics and training upon completion. Additionally, there will be a long term cost avoidance of $1.5 to $1.7B with streamlined supply system and engineering requirements for future modifications.

Common Configuration Kits: Kits that will bring retrofit aircraft up to a common configuration.
Nacelle Reliability Upgrades: Kits that will improve and upgrade the Nacelle to bring it to a common configuration. NRE was funded under OSIP 011-17 through FY19. Migrated to OSIP 028-12 in FY20.
Multifunction Display (MFD) and Advanced MFD: or flight displays in cockpit, thirty lb. weight savings, less cooling and power requirements, significant obsolescence avoided, greater pilot display capabilities.
Data Transfer Unit: Replaces obsolete unit.
Gen 5 Radio - ARC 210 Radio upgrade to current generation UHF/VHF/SATCOM Radio Upgrade
Cockpit control unit- Block C upgrade which relocates the unit to provide accessibility for pilot/co-pilot/ and or crew chief
Power Monitor - Block C upgrade for External Power monitor
CSAD-Cabin Situational Awareness Device Upgrade which expands the situational awareness capabilities for the troop commander, providing a moving map, positional data, flight plan, and other pertinent data

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 3 / Common Configuration (011-17)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	
Models of Systems Affected: V-22 Series	**Modification Type:** Safety, Reliability, Increased Service Life, Improved Mission Capability	**Related RDT&E PEs:** 0604262N

Financial Plan (*) Indicates the modification is being installed organically and no installation funds are required.	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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												
1.1.1) Common Configuration - Organic(*) (8)	- / -	4 / 64.028	9 / 147.976	9 / 157.334	- / -	9 / 157.334	9 / 163.657	16 / 294.103	18 / 335.403	14 / 266.208	50 / 1,237.470	129 / 2,666.179
1.2.1) Installation Kits - N/R Common Configuration - Organic(*)	- / 180.929	- / 0.005	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 180.934
2.1.1) Advanced Multi Function Display - Organic(*) (9)	7 / 0.713	9 / 0.853	9 / 0.868	9 / 0.882	- / -	9 / 0.882	16 / 1.595	18 / 1.825	14 / 1.444	16 / 1.678	31 / 3.306	129 / 13.164
2.1.2) Data Transfer System - Organic(*)	7 / 0.343	2 / 0.410	9 / 1.876	9 / 1.908	- / -	9 / 1.908	16 / 3.450	18 / 3.947	14 / 3.122	16 / 3.629	31 / 7.151	122 / 25.836
2.1.3) Gen 5 Radio - Organic(*)	- / -	- / -	9 / 1.539	9 / 1.565	- / -	9 / 1.565	16 / 2.830	18 / 3.238	14 / 2.561	16 / 2.977	31 / 5.865	113 / 20.575
2.1.4) Cockpit Control Unit - Organic(*)	- / -	9 / 0.194	9 / 0.198	9 / 0.201	- / -	9 / 0.201	16 / 0.364	18 / 0.417	14 / 0.329	16 / 0.383	31 / 0.754	122 / 2.840
2.1.5) Power Monitor - Organic(*)	- / -	9 / 0.014	9 / 0.014	9 / 0.014	- / -	9 / 0.014	16 / 0.026	18 / 0.029	14 / 0.023	16 / 0.027	31 / 0.550	122 / 0.697
2.1.6) CSAD - Organic(*)	- / -	9 / 0.225	9 / 0.228	9 / 0.229	- / -	9 / 0.229	16 / 0.338	18 / 0.387	14 / 0.306	16 / 0.356	31 / 0.550	122 / 2.619
Subtotal: Procurement	*- / 181.985*	*- / 65.729*	*- / 152.699*	*- / 162.133*	*- / -*	*- / 162.133*	*- / 172.260*	*- / 303.946*	*- / 343.188*	*- / 275.258*	*- / 1,255.646*	*- / 2,912.844*
Support												
3.1) Support Equipment (10)	- / -	- / -	- / 3.624	- / 1.952	- / -	- / 1.952	- / -	- / -	- / -	- / -	- / -	- / 5.576
3.2) Other Support	- / 5.522	- / 1.700	- / 5.535	- / 4.213	- / -	- / 4.213	- / 5.263	- / 5.368	- / 6.134	- / 6.182	- / 24.339	- / 64.256
Subtotal: Support	*- / 5.522*	*- / 1.700*	*- / 9.159*	*- / 6.165*	*- / -*	*- / 6.165*	*- / 5.263*	*- / 5.368*	*- / 6.134*	*- / 6.182*	*- / 24.339*	*- / 69.832*
Installation												
Subtotal: Installation	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*
Total												
Total Cost (Procurement + Support + Installation)	**187.507**	**67.429**	**161.858**	**168.298**	**0.000**	**168.298**	**177.523**	**309.314**	**349.322**	**281.440**	**1,279.985**	**2,982.676**

Footnotes:

(8) Common Configuration is being done as a Turn-Key Mod line. Increase from FY 2020 request reflects negotiated pricing in FY 2019-FY 2021 and expected pricing FY 2022 through completion. The funding for Nacelle Improvement (OSIP 28-12 1.1.16) and Conversion Area Harness (OSIP 28-12 1.1.3) Installations has been moved to this CC-RAM kit procurement line because installations will be done in conjunction with the CC-RAM modification.

(9) Quantities for Advanced Multifunction Display, Data Transfer System, Gen 5 Radio, Cockpit Control Unit, Power Monitor, and CSAD have been updated since FY 2020 request to align with CC-RAM aircraft quantities. These items are awarded one year prior to their associated CC-RAM aircraft due to long lead times.

(10) Support Equipment required to upgrade Maintenance Trainer to Common Configuration.

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 4 / Aerial Refueling (008-18)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	14.206	1.076	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	15.282
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	14.206	1.076	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	15.282
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**14.206**	**1.076**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**15.282**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Dollars)*	-	-	-	-	-	-	-	-	-	-	-	-

Description:
The MV-22 Aerial Refueling system effort has been paused starting in FY 2020. Funds for this effort in FY 2020 through the FYDP have been removed from this budget exhibit. FY 2019 funding remaining in this OSIP was executed for support for the effort prior to the pause.

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 4 / Aerial Refueling (008-18)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	
Models of Systems Affected: V-22 Series	**Modification Type:** Performance, Capability	**Related RDT&E PEs:** 0604262N

Financial Plan (*) Indicates the modification is being installed organically and no installation funds are required.	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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												
1.1.1) Electric/Hydraulic A Kits - Organic(*)	10 / 2.550	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 2.550
1.1.2) FMU Ugrade - Organic(*)	10 / 0.560	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 0.560
1.2.1) Installation Kits N/R - Organic(*)	- / 0.130	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.130
2.1.1) Reel Mission Kits - Organic(*)	2 / 3.836	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 3.836
2.1.2) Mat Mod - Organic(*)	10 / 1.020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 1.020
Subtotal: Procurement	*- / 8.096*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / 0.000*	*- / 8.096*
Support												
3.1) Data	- / 1.410	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.410
3.2) Training Equipment	- / 0.100	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.100
3.3) Support Equipment	- / 3.150	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 3.150
3.4) ILS	- / 0.135	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.135
3.5) Other Support	- / 1.315	- / 1.076	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2.391
Subtotal: Support	*- / 6.110*	*- / 1.076*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / 0.000*	*- / 7.186*
Installation												
Subtotal: Installation	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*
Total												
Total Cost (Procurement + Support + Installation)	**14.206**	**1.076**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**15.282**

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	P-1 Line Item Number / Title: 0590 / V-22 (Tilt/Rotor Acft) Osprey	Modification Number / Title: 5 / Avionics Improvements (009-19)
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	45.792	60.149	45.876	0.000	45.876	48.016	66.823	73.309	60.603	699.847	1,100.415
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	45.792	60.149	45.876	0.000	45.876	48.016	66.823	73.309	60.603	699.847	1,100.415
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**45.792**	**60.149**	**45.876**	**0.000**	**45.876**	**48.016**	**66.823**	**73.309**	**60.603**	**699.847**	**1,100.415**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Dollars)*	-	-	-	-	-	-	-	-	-	-	-	-

Description:

OSIP 009-19 is established to incorporate changes to V-22 Avionics systems, working in concert with the Technical Insertion (TI) schedule to reduce cost, improve coordination, yield common configurations, and improve ready based aircraft. Improvements to safety of flight, maintenance, obsolescence (Diminishing Manufacturing Sources/Material Shortages), and readiness degrader items will yield a more interoperable and survivable V-22 force to sustain warfighter capability in support of worldwide operations.

Current/Active ECPs:

Funds will be utilized to manage, process and incorporate ECPs and implement changes to sustain and improve MV-22 retrofit aircraft readiness, safety, mission availability, structural integrity and components reliability, maintainability and obsolescence conditions.

Funds are used to incorporate ECPs for Avionics Improvements.

AVIONICS: Avionics modifications to the V-22 will improve display reliability, eliminate communication security issues and alleviate parts obsolescence/vendor problems. Changes to the V-22 avionics will include: Display System upgrade, Cockpit Inter Communication System modification, upgraded Mission Computer, updated Data Transfer Module, Control Display Unit/Engine Instrument Caution Advisory System upgrade, Control Display Unit Keyboard upgrade, and Avionics Interface Units upgrades. As well as Mission System Upgrade and Midwing Processing Unit obsolescence replacement. Software modifications are controlled by the functional requirements document (FRD) and introduced to the fleet for release every two years, or as needed based on emerging fleet requirements. Modifications to the various avionics software configuration items being incorporated into the fleet aircraft also require updates to the Collaborative Automated Maintenance Environment Optimized (CAMEO), Integrated Electronic Technical Manuals (IETMs); and mission planning. Specifically for the mission planning system, the V-22 Unique Planning Component (UPC) for the Joint Mission Planning System (JMPS) must implement frequent software updates in conjunction with production aircraft performance and software changes. Changes to the JMPS UPC in accordance with the FRD must include mission planning specific software regression tests to ensure proper operation and integration with other aircraft UPCs within JMPS.

Multifunction Display (MFD) and Advanced MFD (ECP migrated from OSIP 22-01): Upgrades flight displays in cockpit, thirty lb. weight savings, less cooling and power requirements, significant obsolescence avoided, greater pilot display capabilities.

V-22 Integrated Aircraft Survivability Equipment (IASE) (ECP previously in OSIP 22-01): Will correct deficiencies of the current RADAR warning system, replace the existing Missile Warning System, implement an active Infra-red countermeasure system, upgrade current countermeasures dispenser and provide integrated threat information on current aircraft main flight displays.

FLIR (ECP migrated from OSIP 22-01): Upgrade the Forward Looking Infrared (FLIR) System Electronics Unit (SEU) with an Enhanced Local Area Processing (ELAP) card to improve visibility for the pilot. The SEU provides digital signal processing of the image obtained via the FLIR optics in the current FLIR unit, and passes the image data to the MV-22 mission computer.

Traffic Collision Avoidance System (TCAS) (ECP migrated from OSIP 22-01): Procurement of kits and installations of the Honeywell MILACAS-XR TCAS into MCOI-equipped MV-22 Block B and C aircraft. MILACAS-XR is identical to the TCAS system already in use aboard the CV-22, and will advise MV-22 pilots of other air traffic in proximity to the MV-22, as well as resolution advisories of what course to fly to avoid colliding with the threat aircraft.

Flight Control System replaces obsolescent flight control computers with upgraded hardware with capability for future improved flight control laws. This critical effort is integral to operational readiness and safety due to limited replacement component availability for current hardware and will have the processing capability to handle additional flight control laws to improve aircraft handling qualities.

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 5 / Avionics Improvements (009-19)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

ECP-Training Equipment: Aircraft Maintenance Trainer (AMT): #4, Improves training and pilot proficiency by incorporating modifications to the AMT to reflect most current Block aircraft configuration.
ECP-Training Equipment: Full Fidelity Simulator (FFS) UPGRADES: Improves training and pilot proficiency by incorporating modifications to the FFS #1-4 to reflect most current aircraft configuration as directed by Blue Ribbon Panel.
ECP-Training Equipment: FTD UPGRADES: Improves training and pilot proficiency by incorporating modifications to the FTD #1-14 to reflect most current aircraft configuration as directed by Blue Ribbon Panel.
Mission Computer Obsolesence Iniative (MCOI) Retrofit for BLK C (ECP migrated from OSIP 28-12): MCOI replaces several components and allows planned capabilities to operate without memory processing power or memory storage.

Future ECPs:
Digital Interoperability: Provides situational awareness, enhanced command and control, remote and operation of payloads, and tracking of Marines and cargo. It also allows for collaboration and cooperation in a Joint environment.
Joint Avionics Reconfigurable Virtual Information System (JARVIS): Upgraded Open System Architecture

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	P-1 Line Item Number / Title: 0590 / V-22 (Tilt/Rotor Acft) Osprey	Modification Number / Title: 5 / Avionics Improvements (009-19)
ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:	
Models of Systems Affected: V-22 Series	Modification Type: Safety, Reliability, Increased Service Life, Improved Mission Capability	Related RDT&E PEs: 0604262N

Financial Plan (*) Indicates the modification is being installed organically and no installation funds are required.	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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												
1.1.1) Advanced MFD - Organic(*) (11)	- / -	- / -	30 / 0.135	30 / 0.137	- / -	30 / 0.137	48 / 0.223	60 / 0.284	30 / 0.144	- / -	- / -	198 / 0.923
1.1.2) FLIR ELAP - Organic(*)	- / -	100 / 2.405	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	100 / 2.405
1.1.3) MCOI BLK C A-Kit - NonOrganic *Installation 1 of 6*	- / -	24 / 1.940	35 / 2.877	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	59 / 4.817
1.1.4) Traffic Collision Avoidance System - NonOrganic (12) *Installation 2 of 6*	- / -	- / -	- / -	28 / 2.352	- / -	28 / 2.352	15 / 1.281	30 / 2.563	15 / 1.303	5 / 0.442	32 / 2.875	125 / 10.816
1.1.5) V-22 Integrated Aircraft Survivability Equip DV2 Config A-C - NonOrganic (13) *Installation 3 of 6*	- / -	12 / 9.614	24 / 19.555	12 / 9.944	- / -	12 / 9.944	12 / 10.113	12 / 10.285	12 / 10.459	12 / 10.637	142 / 128.014	238 / 208.621
1.1.6) V-22 Integrated Aircraft Survivability Equip DV2 Config B-C - NonOrganic *Installation 4 of 6*	- / -	12 / 1.043	36 / 3.185	12 / 1.080	- / -	12 / 1.080	- / -	- / -	- / -	- / -	- / -	60 / 5.308
1.1.7) V-22 Integrated Aircraft Survivability LSPR Config D - NonOrganic *Installation 5 of 6*	- / -	- / -	- / -	- / -	- / -	- / -	12 / 2.448	24 / 4.979	12 / 2.532	12 / 2.575	273 / 59.577	333 / 72.111
1.1.8) Flight Control System - Organic(*)	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	24 / 20.400	26 / 22.476	283 / 248.798	333 / 291.674
1.1.9) JARVIS - NonOrganic *Installation 6 of 6*	- / -	- / -	- / -	- / -	- / -	- / -	- / -	24 / 0.408	12 / 0.207	12 / 0.211	285 / 5.509	333 / 6.335
1.2.1) Installation Kits N/R - Organic(*) (14)	- / -	- / -	- / 1.189	- / 1.726	- / -	- / 1.726	- / 0.928	- / 5.541	- / -	- / -	- / -	- / 9.384
2.1.1) JARVIS - Organic(*)	- / -	- / -	- / -	- / -	- / -	- / -	- / -	24 / 4.800	12 / 2.441	12 / 2.482	285 / 59.957	333 / 69.680
2.1.2) Advanced MFD - Organic(*)	- / -	- / -	30 / 0.420	30 / 0.427	- / -	30 / 0.427	48 / 0.695	60 / 0.884	30 / 0.449	- / -	- / -	198 / 2.875
2.1.3) MCOI BLK C - DTS B-Kits - Organic(*)	- / -	20 / 0.905	15 / 0.690	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	35 / 1.595
2.1.4) MCOI BLK C - IAP B-Kits - Organic(*)	- / -	44 / 12.041	15 / 4.127	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	59 / 16.168
2.2.1) B Kit NRE - Organic(*)	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2.407	- / -	- / -	- / -	- / 2.407
Subtotal: Procurement	*- / 0.000*	*- / 27.948*	*- / 32.178*	*- / 15.666*	*- / -*	*- / 15.666*	*- / 15.688*	*- / 32.151*	*- / 37.935*	*- / 38.823*	*- / 504.730*	*- / 705.119*
Support												
3.1) Other Support	- / -	- / 3.574	- / 4.375	- / 4.250	- / -	- / 4.250	- / 6.359	- / 9.414	- / 9.229	- / 8.234	- / 9.136	- / 54.571
3.2) Training Equipment (15)	- / -	- / 5.613	- / 7.853	- / 8.444	- / -	- / 8.444	- / 9.845	- / 9.652	- / 7.344	- / 4.574	- / 48.415	- / 101.740
3.3) Support Equipment (16)	- / -	- / 0.550	- / 0.656	- / 0.669	- / -	- / 0.669	- / 0.328	- / 0.746	- / 0.758	- / 0.770	- / -	- / 4.477
3.4) Software Modifications (17)	- / -	- / 8.107	- / 7.973	- / 5.881	- / -	- / 5.881	- / 8.609	- / 9.269	- / 8.593	- / 1.245	- / -	- / 49.677
Subtotal: Support	*- / 0.000*	*- / 17.844*	*- / 20.857*	*- / 19.244*	*- / -*	*- / 19.244*	*- / 25.141*	*- / 29.081*	*- / 25.924*	*- / 14.823*	*- / 57.551*	*- / 210.465*

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 5 / Avionics Improvements (009-19)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	
Models of Systems Affected: V-22 Series	**Modification Type:** Safety, Reliability, Increased Service Life, Improved Mission Capability	**Related RDT&E PEs:** 0604262N

Financial Plan (*) Indicates the modification is being installed organically and no installation funds are required.	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*
Installation												
Installation 1 of 6: MCOI BLK C A-Kit	- / -	- / -	- / 2.766	- / 4.102	- / 0.000	- / 4.102	- / -	- / -	- / -	- / -	- / 0.000	- / 6.868
Installation 2 of 6: Traffic Collision Avoidance System	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.854	- / 0.465	- / 0.947	- / 0.481	- / 1.367	- / 4.114
Installation 3 of 6: V-22 Integrated Aircraft Survivability Equip DV2 Config A-C	- / -	- / -	- / 3.432	- / 6.864	- / 0.000	- / 6.864	- / 3.491	- / 3.550	- / 3.610	- / 3.671	- / 62.790	- / 87.408
Installation 4 of 6: V-22 Integrated Aircraft Survivability Equip DV2 Config B-C	- / -	- / -	- / 0.916	- / -	- / -	- / -	- / 2.842	- / 0.964	- / -	- / -	- / 0.000	- / 4.722
Installation 5 of 6: V-22 Integrated Aircraft Survivability LSPR Config D	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.612	- / 0.622	- / 0.633	- / 16.566	- / 18.433
Installation 6 of 6: JARVIS	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 4.271	- / 2.172	- / 56.843	- / 63.286
Subtotal: Installation	*- / 0.000*	*- / -*	*- / 7.114*	*- / 10.966*	*- / -*	*- / 10.966*	*- / 7.187*	*- / 5.591*	*- / 9.450*	*- / 6.957*	*- / 137.566*	*- / 184.831*
Total												
Total Cost (Procurement + Support + Installation)	**0.000**	**45.792**	**60.149**	**45.876**	**0.000**	**45.876**	**48.016**	**66.823**	**73.309**	**60.603**	**699.847**	**1,100.415**

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 5 / Avionics Improvements (009-19)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Installation 1 of 6: MCOI BLK C A-Kit

Manufacturer Information

Manufacturer Name: MCOI Retrofit BLK C	Manufacturer Location: Redstone, AL
Administrative Leadtime *(in Months)*: 6	Production Leadtime *(in Months)*: 7

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates	Mar 2019	Mar 2020					
Delivery Dates	Oct 2019	Oct 2020					

Installation Information

Method of Implementation: Contractor Field Mod Team:: Installation Name: MCOI BLK C A-Kit

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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 2019	- / -	- / -	24 / 2.766	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	24 / 2.766
FY 2020	- / -	- / -	- / -	35 / 4.102	0 / 0.000	35 / 4.102	- / -	- / -	- / -	- / -	0 / 0.000	35 / 4.102
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	24 / 2.766	35 / 4.102	0 / 0.000	35 / 4.102	- / -	- / -	- / -	- / -	0 / 0.000	59 / 6.868

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				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	6	9	9	9	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59
Out	-	-	-	-	-	6	6	6	6	9	9	9	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 5 / Avionics Improvements (009-19)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Installation 2 of 6: Traffic Collision Avoidance System

Manufacturer Information

Manufacturer Name: FRC Various - Traffic Collision Avoidance System	Manufacturer Location: FRC - Various
Administrative Leadtime *(in Months)*: 8	Production Leadtime *(in Months)*: 5

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

Installation Information

Method of Implementation: Contractor Forced Retrofit of Components:: Installation Name: Traffic Collision Avoidance System

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	28 / 0.854	- / -	- / -	- / -	0 / 0.000	28 / 0.854
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	15 / 0.465	- / -	- / -	0 / 0.000	15 / 0.465
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	30 / 0.947	- / -	0 / 0.000	30 / 0.947
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	15 / 0.481	0 / 0.000	15 / 0.481
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 0.159	5 / 0.159
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	32 / 1.208	32 / 1.208
Total	- / -	- / -	- / -	- / -	- / -	- / -	28 / 0.854	15 / 0.465	30 / 0.947	15 / 0.481	37 / 1.367	125 / 4.114

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				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	-	-	-	-	-	-	-	-	-	-	-	-	-	7	7	7	7	4	4	4	3	8	8	7	7	4	4	4	3	37	125
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	7	7	7	4	4	4	3	8	8	7	7	4	4	4	40	125

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 5 / Avionics Improvements (009-19)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Installation 3 of 6: V-22 Integrated Aircraft Survivability Equip DV2 Config A-C

Manufacturer Information

Manufacturer Name: FRC Various - V-22 IASE Equip DV2 Config A-C	Manufacturer Location: FRC - Various
Administrative Leadtime *(in Months)*: 5	Production Leadtime *(in Months)*: 7

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates	Feb 2019	Feb 2020	Feb 2021	Feb 2022	Feb 2023	Feb 2024	Feb 2025
Delivery Dates	Oct 2019	Oct 2020	Oct 2021	Oct 2022	Oct 2023	Oct 2024	Oct 2025

Installation Information

Method of Implementation: Contractor Drive-In Modification:: Installation Name: V-22 Integrated Aircraft Survivability Equip D

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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 2019	- / -	- / -	12 / 3.432	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	12 / 3.432
FY 2020	- / -	- / -	- / -	24 / 6.864	0 / 0.000	24 / 6.864	- / -	- / -	- / -	- / -	0 / 0.000	24 / 6.864
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	12 / 3.491	- / -	- / -	- / -	0 / 0.000	12 / 3.491
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 3.550	- / -	- / -	0 / 0.000	12 / 3.550
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 3.610	- / -	0 / 0.000	12 / 3.610
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 3.671	0 / 0.000	12 / 3.671
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 3.671	12 / 3.671
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	142 / 59.119	142 / 59.119
Total	- / -	- / -	12 / 3.432	24 / 6.864	0 / 0.000	24 / 6.864	12 / 3.491	12 / 3.550	12 / 3.610	12 / 3.671	154 / 62.790	238 / 87.408

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				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	3	3	3	6	6	6	6	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	154	238
Out	-	-	-	-	-	3	3	3	3	6	6	6	6	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	154	238

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 5 / Avionics Improvements (009-19)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Installation 4 of 6: V-22 Integrated Aircraft Survivability Equip DV2 Config B-C

Manufacturer Information

Manufacturer Name: FRC Various - IASE DV2 Config B-C	Manufacturer Location: TBD
Administrative Leadtime *(in Months)*: 5	Production Leadtime *(in Months)*: 23

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

Installation Information

Method of Implementation: Contractor Drive-In Modification:: Installation Name: V-22 Integrated Aircraft Survivability Equip D

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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 2019	- / -	- / -	12 / 0.916	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	12 / 0.916
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	24 / 2.842	12 / 0.000	- / -	- / -	0 / 0.000	36 / 2.842
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 0.964	- / -	- / -	0 / 0.000	12 / 0.964
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	12 / 0.916	- / -	- / -	- / -	24 / 2.842	24 / 0.964	- / -	- / -	0 / 0.000	60 / 4.722

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	12	12	12	12	-	-	-	-	-	-	-	-	-	-	-	60
Out	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	12	12	12	12	-	-	-	-	-	-	-	-	-	-	-	60

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 5 / Avionics Improvements (009-19)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Installation 5 of 6: V-22 Integrated Aircraft Survivability LSPR Config D

Manufacturer Information

Manufacturer Name: FRC Various - V-22 IASE LSPR Config D	Manufacturer Location: FRC - Various
Administrative Leadtime *(in Months)*: 5	Production Leadtime *(in Months)*: 9

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates				Feb 2022	Feb 2023	Feb 2024	Feb 2025
Delivery Dates				Nov 2022	Nov 2023	Nov 2024	Nov 2025

Installation Information

Method of Implementation: Contractor Drive-In Modification:: Installation Name: V-22 Integrated Aircraft Survivability LSPR Co

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 0.612	- / -	- / -	0 / 0.000	12 / 0.612
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	24 / 0.622	- / -	0 / 0.000	24 / 0.622
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 0.633	0 / 0.000	12 / 0.633
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 0.633	12 / 0.633
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	273 / 15.933	273 / 15.933
Total	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 0.612	24 / 0.622	12 / 0.633	285 / 16.566	333 / 18.433

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				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	3	3	3	6	6	6	6	3	3	3	3	285	333
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	3	6	6	6	6	3	3	3	3	285	333

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 5 / Avionics Improvements (009-19)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	
Installation 6 of 6: JARVIS		

Manufacturer Information

Manufacturer Name: Physical Optics CORP - JARVIS	Manufacturer Location: Torrance, CA
Administrative Leadtime *(in Months)*: 4	Production Leadtime *(in Months)*: 10

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

Installation Information

Method of Implementation: [none specified]:: Installation Name: JARVIS

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	24 / 4.271	- / -	0 / 0.000	24 / 4.271
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 2.172	0 / 0.000	12 / 2.172
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 2.172	12 / 2.172
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	285 / 54.671	285 / 54.671
Total	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	24 / 4.271	12 / 2.172	297 / 56.843	333 / 63.286

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				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	6	3	3	3	3	297	333
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6	6	6	3	3	3	3	297	333

Footnotes:

(11) Advanced MFD moved from OSIP 022-01 in FY 2020.

(12) Traffic Collision Avoidance System migrated from OSIP 022-01 in FY 2021.

(13) IASE was previously funded under OSIP 009-19 under one cost element. Due to the nature of the effort and the timing of the installations, this has been split into three cost elements to more accurately show the procurement schedule of the effort.

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 5 / Avionics Improvements (009-19)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

(14) FY 2020 to FY 2021 Non-recurring engineering is for TCAS integration engineering.

(15) Training Equipment: Funding required to upgrade Trainers to BLK C configuration. Increase in FY2020 and 2021 is driven by MCOI, TCAS, and MFD upgrades.

(16) Support Equipment: FY20 increase is due to the V-22 Integrated Aircraft Survivability Equipment requirements.

(17) Software modifications is added to OSIP 009-19. This line funds software modifications driven by and specifically needed for the modifications under this OSIP.

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 6 / CMV Improvements 005-20
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	0.000	5.356	21.611	0.000	21.611	13.402	11.757	29.403	25.315	128.591	235.435
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	0.000	5.356	21.611	0.000	21.611	13.402	11.757	29.403	25.315	128.591	235.435
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**0.000**	**5.356**	**21.611**	**0.000**	**21.611**	**13.402**	**11.757**	**29.403**	**25.315**	**128.591**	**235.435**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Dollars)*	-	-	-	-	-	-	-	-	-	-	-	-

Description:

OSIP 005-20 is established for the modification of delivered CMV-22s for critical interoperability capabilities including Link-16 for Carrier Strike Group/Expeditionary Strike Group (CSG/ESG)interoperability and secure MILSAT connectivity through integration of Mobile Users Objective System (MUOS). Also any required modifications for compliance with FAR 121-345/347 for Beyond Line of Sight (BLOS) Air Traffic Control(ATC), Required Navigation Performance/Area Navigation (RNP/RNAV) capabilities, and Terrain Awareness and Warning System (TAWS).

V-22 Prop Rotor Gear Box (PRGB) Input Quill/Clutch Redesign: This effort will eliminate resident issues with Input Quill and clutch and to Purge Fleet of Thin Densed Chrome.
Upper and Lower Rod Ends Redesign to prevent excessive wear from normal proprotor operation.
Link 16/Iridium/Improved intercommunication System: Air to Air Data Link which improves situational awareness and provides secure voice/Text with other Aircraft; as well as communication with Air Traffic Control.
Mobil User Objective System (MUOS): Improves satellite communications.
Conversion Area Harness: Increases reliability of the Conversion Area Harness by upgrading the harness, wire type, ribbons and connectors.
Nacelle Improvements: Kits that will improve and upgrade the Nacelle to bring it to a common configuration. Nacelle improvements is a top priority for improving MV-22 readiness. It addresses Nacelle reliability and maintainability degraders as recommended by the Osprey Independent Readiness Review. Nacelle Improvements will reduce wire harness counts, reduce wire interface assemblies, and improve structure and maintenance access ports. Overall, Nacelle Improvements will improve Mission Capable rates by 6 to 8 percent and reduce direct maintenance man-hours.
Shaft Driven Compressor (SDC): Modifies the SDC gear train to eliminate high cycle fatigue that leads to early failure of SDC impeller and incorporates improvements to gears and seals.
Coanda Valve Reliability Improvement: Improves reliability of the Coanda Valve and associated wiring harness. Intent is to reduce "false positive" fault indications while addressing a number of priority failure modes. Other component improvement objectives include improved maintenance footprint, compliance with IUID requirements, and improved harness reparability.
Joint Avionics Reconfigurable Virtual Information System (JARVIS): Upgraded Open System Architecture

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	P-1 Line Item Number / Title: 0590 / V-22 (Tilt/Rotor Acft) Osprey	Modification Number / Title: 6 / CMV Improvements 005-20
ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:	
Models of Systems Affected: CMV-22	Modification Type: Safety, Improved Mission Capability	Related RDT&E PEs:

Financial Plan (*) Indicates the modification is being installed organically and no installation funds are required.	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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												
1.1.1) Coanda Valve Reliability Improvement - NonOrganic(*)	- / -	- / -	- / -	- / -	- / -	- / -	13 / 0.356	- / -	- / -	- / -	3 / 0.807	16 / 1.163
1.1.2) Shaft Driven Compression - NonOrganic *Installation 1 of 5*	- / -	- / -	- / -	- / -	- / -	- / -	5 / 0.150	5 / 0.103	5 / 0.155	3 / 0.095	12 / 0.385	30 / 0.888
1.1.3) PRGB Input Quill/Clutch Redesign - Organic(*)	- / -	- / -	- / -	6 / 0.312	- / -	6 / 0.312	6 / 0.317	3 / 0.161	- / -	- / -	- / -	15 / 0.790
1.1.4) Upper & Lower Rod End - Organic(*)	- / -	- / -	- / -	6 / 1.159	- / -	6 / 1.159	6 / 1.178	3 / 0.599	- / -	- / -	- / -	15 / 2.936
1.1.5) Link 16/Iridium/Improved Intercommunication System - NonOrganic *Installation 2 of 5*	- / -	- / -	- / -	6 / 6.600	- / -	6 / 6.600	5 / 5.600	4 / 4.560	6 / 6.960	5 / 5.900	18 / 22.425	44 / 52.045
1.1.6) Mobil User Objective System - Organic(*)	- / -	- / -	- / -	- / -	- / -	- / -	9 / 0.927	3 / 0.314	- / -	- / -	- / -	12 / 1.241
1.1.7) Conversion Area Harness - NonOrganic *Installation 3 of 5*	- / -	- / -	- / -	3 / 0.384	- / -	3 / 0.384	3 / 0.391	- / -	- / -	- / -	- / -	6 / 0.775
1.1.8) APU K8 / K9 Improvement - Organic(*)	- / -	- / -	- / -	- / -	- / -	- / -	10 / 0.125	12 / 0.153	15 / 0.194	- / -	- / -	37 / 0.472
1.1.9) CFG / GCU UTAS - Organic(*)	- / -	- / -	- / -	- / -	- / -	- / -	25 / 1.050	19 / 0.812	- / -	- / -	- / -	44 / 1.862
1.1.10) Troop Seat Pin - Organic(*)	- / -	- / -	- / -	15 / 0.092	- / -	15 / 0.092	10 / 0.061	- / -	- / -	- / -	- / -	25 / 0.153
1.1.11) JARVIS - NonOrganic *Installation 4 of 5*	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	6 / 0.104	5 / 0.088	33 / 0.592	44 / 0.784
1.2.1) A Kits Non Recurring - Organic(*)	- / -	- / -	- / 5.100	- / 2.688	- / -	- / 2.688	- / -	- / 2.159	- / 0.804	- / -	- / -	- / 10.751
2.1.1) Nacelle Improvements - NonOrganic *Installation 5 of 5*	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 12.900	2 / 11.936	11 / 66.764	15 / 91.600
2.1.2) Link 16/Iridium/Improved Intercommunications System - Organic(*)	- / -	- / -	- / -	6 / 1.392	- / -	6 / 1.392	5 / 1.180	4 / 0.960	6 / 1.464	5 / 1.241	18 / 4.543	44 / 10.780
2.1.3) Jarvis - Organic(*)	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	6 / 1.224	5 / 1.037	33 / 6.963	44 / 9.224
Subtotal: Procurement	*- / 0.000*	*- / -*	*- / 5.100*	*- / 12.627*	*- / -*	*- / 12.627*	*- / 11.335*	*- / 9.821*	*- / 23.805*	*- / 20.297*	*- / 102.479*	*- / 185.464*
Support												
3.1) Training Equipment	- / -	- / -	- / -	- / 1.270	- / -	- / 1.270	- / -	- / -	- / 0.840	- / -	- / -	- / 2.110
3.2) Support Equipment	- / -	- / -	- / -	- / 2.272	- / -	- / 2.272	- / -	- / -	- / -	- / -	- / -	- / 2.272
3.3) ILS	- / -	- / -	- / 0.256	- / 0.402	- / -	- / 0.402	- / 0.313	- / 0.318	- / 3.560	- / 0.266	- / -	- / 5.115
3.4) Software Mods - MUOS (18)	- / -	- / -	- / -	- / 4.493	- / -	- / 4.493	- / -	- / -	- / -	- / -	- / -	- / 4.493
3.5) Other Support	- / -	- / -	- / -	- / 0.547	- / -	- / 0.547	- / 0.562	- / 0.571	- / 0.739	- / 0.972	- / -	- / 3.391
Subtotal: Support	*- / 0.000*	*- / -*	*- / 0.256*	*- / 8.984*	*- / -*	*- / 8.984*	*- / 0.875*	*- / 0.889*	*- / 5.139*	*- / 1.238*	*- / 0.000*	*- / 17.381*
Installation												

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 6 / CMV Improvements 005-20
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	
Models of Systems Affected: CMV-22	**Modification Type:** Safety, Improved Mission Capability	**Related RDT&E PEs:**

Financial Plan (*) Indicates the modification is being installed organically and no installation funds are required.	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*											
Installation 1 of 5: Shaft Driven Compression	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.025	- / 0.025	- / 0.025	- / 0.105	- / 0.180
Installation 2 of 5: Link 16/Iridium/Improved Intercommunication System	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.712	- / 0.534	- / 0.434	- / 0.663	- / 2.808	- / 5.151
Installation 3 of 5: Conversion Area Harness	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.480	- / 0.488	- / -	- / -	- / 0.000	- / 0.968
Installation 4 of 5: JARVIS	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.092	- / 7.944	- / 9.036
Installation 5 of 5: Nacelle Improvements	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2.000	- / 15.255	- / 17.255
Subtotal: Installation	*- / 0.000*	*- / -*	*- / -*	*- / -*	*- / -*	*- / -*	*- / 1.192*	*- / 1.047*	*- / 0.459*	*- / 3.780*	*- / 26.112*	*- / 32.590*
Total												
Total Cost (Procurement + Support + Installation)	**0.000**	**0.000**	**5.356**	**21.611**	**0.000**	**21.611**	**13.402**	**11.757**	**29.403**	**25.315**	**128.591**	**235.435**

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 6 / CMV Improvements 005-20
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Installation 1 of 5: Shaft Driven Compression

Manufacturer Information

Manufacturer Name: Bell Boeing - Shaft Driven Compressor	Manufacturer Location: Bell Boeing
Administrative Leadtime *(in Months)*: 6	Production Leadtime *(in Months)*: 12

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates				Mar 2022	Mar 2023	Mar 2024	Mar 2025
Delivery Dates				Mar 2023	Mar 2024	Mar 2025	Mar 2026

Installation Information

Method of Implementation: [none specified]:: Installation Name: Shaft Driven Compression

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 0.025	- / -	- / -	0 / 0.000	5 / 0.025
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 0.025	- / -	0 / 0.000	5 / 0.025
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 0.025	0 / 0.000	5 / 0.025
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3 / 0.016	3 / 0.016
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	12 / 0.089	12 / 0.089
Total	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 0.025	5 / 0.025	5 / 0.025	15 / 0.105	30 / 0.180

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	1	-	2	2	1	-	2	2	1	15	30
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	1	-	2	2	1	-	2	2	1	15	30

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 6 / CMV Improvements 005-20
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Installation 2 of 5: Link 16/Iridium/Improved Intercommunication System

Manufacturer Information

Manufacturer Name: Bell-Boeing - Link 16 Iridium/Improved Intercommunication System	Manufacturer Location: Bell Boeing
Administrative Leadtime *(in Months)*: 2	Production Leadtime *(in Months)*: 12

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates			Nov 2020	Nov 2021	Nov 2022	Nov 2023	Nov 2024
Delivery Dates			Nov 2021	Nov 2022	Nov 2023	Nov 2024	Nov 2025

Installation Information

Method of Implementation: Non-Organic:: Installation Name: Link 16/Iridium/Improved Intercommunication System

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	6 / 0.712	- / -	- / -	- / -	0 / 0.000	6 / 0.712
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 0.534	- / -	- / -	0 / 0.000	5 / 0.534
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	4 / 0.434	- / -	0 / 0.000	4 / 0.434
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	6 / 0.663	0 / 0.000	6 / 0.663
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 0.562	5 / 0.562
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	18 / 2.246	18 / 2.246
Total	- / -	- / -	- / -	- / -	- / -	- / -	6 / 0.712	5 / 0.534	4 / 0.434	6 / 0.663	23 / 2.808	44 / 5.151

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	-	2	2	1	-	2	2	-	-	2	2	2	-	23	44
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	-	2	2	1	-	2	2	-	-	2	2	2	-	23	44

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 6 / CMV Improvements 005-20
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Installation 3 of 5: Conversion Area Harness

Manufacturer Information

Manufacturer Name: Bell Boeing - Conversion Area Harness	Manufacturer Location: Bell Boeing
Administrative Leadtime *(in Months)*: 2	Production Leadtime *(in Months)*: 14

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

Installation Information

Method of Implementation: [none specified]:: Installation Name: Conversion Area Harness

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	3 / 0.480	- / -	- / -	- / -	0 / 0.000	3 / 0.480
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3 / 0.488	- / -	- / -	0 / 0.000	3 / 0.488
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	- / -	- / -	- / -	- / -	3 / 0.480	3 / 0.488	- / -	- / -	0 / 0.000	6 / 0.968

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				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	-	-	-	-	-	-	-	-	-	6
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	1	1	1	-	-	-	-	-	-	-	-	-	6

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 6 / CMV Improvements 005-20
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	
Installation 4 of 5: JARVIS		

Manufacturer Information

Manufacturer Name: Physical Optics CORP - JARVIS	Manufacturer Location: Torrance, CA
Administrative Leadtime *(in Months)*: 4	Production Leadtime *(in Months)*: 10

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

Installation Information

Method of Implementation: [none specified]:: Installation Name: JARVIS

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	6 / 1.092	0 / 0.000	6 / 1.092
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 0.910	5 / 0.910
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	33 / 7.034	33 / 7.034
Total	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	6 / 1.092	38 / 7.944	44 / 9.036

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	1	1	38	44
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	1	1	38	44

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 6 / CMV Improvements 005-20
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	
Installation 5 of 5: Nacelle Improvements		

Manufacturer Information

Manufacturer Name: Bell Boeing - Nacelle Improvements	Manufacturer Location: Amarillo, Texas
Administrative Leadtime *(in Months)*: 8	Production Leadtime *(in Months)*: 12

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates						Jun 2024	Jun 2025
Delivery Dates						Jun 2025	Jun 2026

Installation Information

Method of Implementation: Contractor Drive-in Mod:: Installation Name: Nacelle Improvements

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(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 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 2.000	0 / 0.000	2 / 2.000
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 2.034	2 / 2.034
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	11 / 13.221	11 / 13.221
Total	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 2.000	13 / 15.255	15 / 17.255

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				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	-	13	15
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	13	15

Footnotes:

(18) Mobil User Objective System (MUOS) software upgrades will be made to the CMV-22 aircraft prior to the installation of the Gen 6 ARC-210 MUOS-capable Radios in order for the system to work properly once installed.

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 7 / FY 2020 Enacted Rescissions
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	19.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.000
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	19.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.000
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**19.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**19.000**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Dollars)*	-	-	-	-	-	-	-	-	-	-	-	-

Description:
The FY 2020 enacted includes congressional rescissions of $19 million to FY 2019 funding. However, these rescissions are not reflected on the P-40 and associated detail P-3a.

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 7 / FY 2020 Enacted Rescissions
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	
Models of Systems Affected: [No Model Specified]	**Modification Type:** TBD	**Related RDT&E PEs:**

Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*	Qty *(Each)* / Total Cost *($ M)*
Procurement												
Modification Item 1 of 1: N/A												
Subtotal: N/A	- / -	- / *0.000*	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / *0.000*
Subtotal: Procurement, All Modification Items	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Support *(All Modification Items)*												
3.1) FY 2020 Enacted Rescissions	- / -	- / 19.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 19.000
Subtotal: Support	- / *0.000*	- / *19.000*	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / *0.000*	- / *19.000*
Installation												
Subtotal: Installation	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total												
Total Cost (Procurement + Support + Installation)	**0.000**	**19.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**19.000**

Exhibit P-3a, Individual Modification: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1506N / 05 / 1	**P-1 Line Item Number / Title:** 0590 / V-22 (Tilt/Rotor Acft) Osprey	**Modification Number / Title:** 7 / FY 2020 Enacted Rescissions
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	
Modification Item 1 of 1: N/A		

Manufacturer Information

Manufacturer Name: N/A	Manufacturer Location: N/A
Administrative Leadtime *(in Months)*:	Production Leadtime *(in Months)*:

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

Installation Information

Method of Implementation (Organic): Support Only Installation	**Installation Quantity:** 0