Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy	Date: March 2019
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305234N *I (U)SMALL (LEVEL 0) TACTICAL UAS (STUASL0)*

COST ($ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	79.040	4.827	5.265	11.545	-	11.545	8.895	6.126	6.083	6.203	Continuing	Continuing
3192: *RQ-21 BLACKJACK*	79.040	4.827	5.265	11.545	-	11.545	8.895	6.126	6.083	6.203	Continuing	Continuing

A. Mission Description and Budget Item Justification

The RQ-21A BLACKJACK (formerly known as The Small Tactical Unmanned Aircraft System (STUAS)) is a combined United States Navy (USN) and United States Marine Corps (USMC) program that provides persistent maritime and land-based tactical Intelligence, Surveillance, and Reconnaissance/Target Acquisition support for tactical level maneuver decisions and unit level force defense/force protection for Naval amphibious assault ships (multi-ship classes) and Navy and Marine land forces. This system will support Naval Missions such as building the Recognized Maritime Picture, Maritime Security Operations, Maritime Interdiction Operations, and provide support for Naval Units operating from sea/shore in Overseas Contingency Operations. This submission is the USNs portion of the program and has been coordinated with the USMC budget submission PE 0305239M (RQ-21A).

The RQ-21A BLACKJACK system will continue to evolve and upgrade capabilities to satisfy capabilities shortfalls, new requirements, and reliability, maintainability and safety issues. Upgraded capabilities may include Navy Command and Control integration, Weapons Integration, Heavy Fuel Engine, Laser Designator, Frequency Agile Communications Relay, Digital Common Data Link, and cyclic refresh of the Electro-Optical/Infrared camera. RQ-21A BLACKJACK will also continue to expand its shipboard capability across new ship classes.

This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it includes development efforts to upgrade systems that have been fielded or have received approval for full-rate production and anticipate funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	4.835	5.360	5.103	-	5.103
Current President's Budget	4.827	5.265	11.545	-	11.545
Total Adjustments	-0.008	-0.095	6.442	-	6.442
• Congressional General Reductions	-	-0.095			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.008	0.000			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	6.494	-	6.494
• Rate/Misc Adjustments	0.000	0.000	-0.052	-	-0.052

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy	Date: March 2019
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305234N *I (U)SMALL (LEVEL 0) TACTICAL UAS (STUASL0)*

Change Summary Explanation

The FY 2020 funding request was reduced by $0.458M to account for the availability of prior year execution balances.

FY 2020 increase of $6.1 million in funding for the development of the vertical takeoff and landing (VTOL) kit for the RQ-21A.

Note 1: FOT&E periods updated with additional details and events added in FY 2023 and FY 2024.
Note 2: IDIQ Contract Award schedule milestone added to the schedule.
Note 3: Correction of Deficiencies Modifications added to the schedule.
Note 4: Capability Upgrade Development added to the schedule.

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305234N / *(U)SMALL (LEVEL 0) TACTICAL UAS (STUASL0)*	Project (Number/Name) 3192 / *RQ-21 BLACKJACK*	

COST ($ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
3192: *RQ-21 BLACKJACK*	79.040	4.827	5.265	11.545	-	11.545	8.895	6.126	6.083	6.203	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The RQ-21A BLACKJACK (formerly known as The Small Tactical Unmanned Aircraft System (STUAS)) is a combined United States Navy (USN) and United States Marine Corps (USMC) program that provides persistent maritime and land-based tactical Intelligence, Surveillance, and Reconnaissance/Target Acquisition support for tactical level maneuver decisions and unit level force defense/force protection for Naval amphibious assault ships (multi-ship classes) and Navy and Marine land forces. This system will support Naval Missions such as building the Recognized Maritime Picture, Maritime Security Operations, Maritime Interdiction Operations, and provide support for Naval Units operating from sea/shore in Overseas Contingency Operations. This submission is the USNs portion of the program and has been coordinated with the USMC budget submission PE 0305239M (RQ-21A).

The RQ-21A BLACKJACK system will continue to evolve and upgrade capabilities to satisfy capabilities shortfalls, new requirements, and reliability, maintainability and safety issues. Upgraded capabilities may include Navy Command and Control integration, Weapons Integration, Heavy Fuel Engine, Laser Designator, Frequency Agile Communications Relay, Digital Common Data Link, new launch and recovery methods, parts durability and manufacturability, and cyclic refresh of the Electro-Optical/ Infrared (EO/IR) camera. RQ-21A BLACKJACK will also continue to expand its shipboard capability across new ship classes.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Upgrade Efforts	1.523	2.157	8.152	0.000	8.152
Articles:	-	-	-	-	-
FY 2019 Plans: RQ-21A Blackjack Corrective Action Program will continue the correction of deficiencies from the IOT&E Report. The program will continue software engineering and development for block software updates. The program will continue to assess improvements to the fuel tank, maximum gross takeoff weight, launch and recovery systems, parts durability and manufacturability, avionics module, and other components. Begin implementation of block upgrade plan for the RQ-21A system.					
FY 2020 Base Plans: The program will perform investigations, studies, and prototype efforts for a Vertical Takeoff and Landing (VTOL) capability for RQ-21A platform, which will eliminate the requirement for large and costly launch and recovery equipment and allow for expeditionary employment, not including maritime applications. Development of a VTOL kit for RQ-21A supports combat operations with the required expeditionary capability to support remote operations and maintain a minimal physical and manpower footprint. The program will improve the ability of					

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305234N / *(U)SMALL (LEVEL 0) TACTICAL UAS (STUASL0)*	**Project (Number/Name)** 3192 / *RQ-21 BLACKJACK*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
the RQ-21A air vehicle to recover in a GPS denied environment and continue upgrades to reduce recovery damage, increase Propulsion Module Unit performance and reliability, and improved turret optics. The program will perform software development to correct deficiencies from test as well as enable additional capabilities such as VTOL and enable a block upgrade of multiple system components at a time. ***FY 2020 OCO Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** FY 2020 funding increase supports increase in development costs for the VTOL baseline efforts.					
Title: Engineering Support ***Articles:*** ***FY 2019 Plans:*** Continue Government Engineering Technical Support, Test and Evaluation, other Government Support, Contract Support Services, Program Management Support, and program related travel in support of correction of deficiencies and upgrade efforts. ***FY 2020 Base Plans:*** Continue Government Engineering Technical Support, Test and Evaluation, other Government Support, Contract Support Services, Program Management Support, and program related travel in support of correction of deficiencies and upgrade efforts. ***FY 2020 OCO Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** Increase in Operational Test & Evaluation (OT&E) efforts related to the completion of correction of deficiencies.	3.304 -	3.108 -	3.393 -	0.000 -	3.393 -
Accomplishments/Planned Programs Subtotals	4.827	5.265	11.545	0.000	11.545

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• APN/0444: *STUASLO*	9.980	46.931	43.819	7.921	51.740	33.939	31.350	30.421	29.107	0.000	426.922
• RDTEN/0305239M: *(U)RQ-21A*	10.500	6.000	10.914	-	10.914	10.908	11.303	10.527	10.737	Continuing	Continuing
• PMC/4737: *RQ-21 UAS*	82.641	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	397.038

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305234N / *(U)SMALL (LEVEL 0) TACTICAL UAS (STUASL0)*	**Project (Number/Name)** 3192 / *RQ-21 BLACKJACK*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• PMC/7000: *Spares and Repair Parts*	11.027	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	37.401

Remarks

D. Acquisition Strategy

The program office has utilized a competitive acquisition approach for award of the Engineering and Manufacturing Development effort to field a capability that meets threshold requirements. Low Rate Initial Production (LRIP) test article was utilized to successfully complete Initial Operational Test and Evaluation (IOT&E). LRIP continues through Future payload upgrades and development shall be competitively sourced or procured via Government Laboratories with Insitu, the prime contractor, performing integration efforts as required.

E. Performance Metrics

Attainment of Full Rate Production, correction of deficiencies from the IOT&E Report, and attainment of United States Marine Corps and United States Navy Full Operational Capability in accordance with the approved schedule.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305234N / *(U)SMALL (LEVEL 0) TACTICAL UAS (STUASL0)*	**Project (Number/Name)** 3192 / *RQ-21 BLACKJACK*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Upgrade Efforts/Correction of Deficiencies	C/BOA	Insitu, Inc : Bingen, WA	6.534	1.523	Jul 2018	2.157	Jul 2019	8.152	Mar 2020	-		8.152	Continuing	Continuing	Continuing
Prior year Prod Devt no longer funded in the FYDP	Various	Various : Various	29.125	0.000		0.000		0.000		-		0.000	0.000	29.125	-
		Subtotal	35.659	1.523		2.157		8.152		-		8.152	Continuing	Continuing	N/A

Remarks

Product development corresponds to R-2A Upgrade Efforts.
Increased costs associated with Upgrade Efforts/Correction of Deficiencies is due to initiating VTOL development efforts.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Engineering Support	WR	NAWC-WD : China Lake, CA	11.516	1.600	Dec 2017	1.416	Dec 2018	1.385	Dec 2019	-		1.385	Continuing	Continuing	Continuing
Government Engineering Support	WR	NAWC-AD : Patuxent River, MD	13.183	0.545	Dec 2017	0.554	Dec 2018	0.865	Dec 2019	-		0.865	Continuing	Continuing	Continuing
Prior year Support no longer funded in the FYDP	Various	Various : Various	8.482	0.000		0.000		0.000		-		0.000	0.000	8.482	-
		Subtotal	33.181	2.145		1.970		2.250		-		2.250	Continuing	Continuing	N/A

Remarks

Support is included within R-2A Engineering Support.
Increased costs associated with Government Engineering Support is due to increased engineering efforts associated with the development of the VTOL capability.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	OPTEVFOR : Norfolk, VA	2.912	0.391	Jul 2018	0.400	Jul 2019	0.408	Jul 2020	-		0.408	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305234N / *(U)SMALL (LEVEL 0) TACTICAL UAS (STUASL0)*	Project (Number/Name) 3192 / *RQ-21 BLACKJACK*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Evaluation	WR	OPTEVFOR : Norfolk, VA	0.267	0.040	Dec 2017	0.040	Dec 2018	0.040	Dec 2019	-		0.040	Continuing	Continuing	Continuing
		Subtotal	3.179	0.431		0.440		0.448		-		0.448	Continuing	Continuing	N/A

Remarks

Test and Evaluation is included within R-2A Engineering Support.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	MIPR	DTIC : FT. Belvoir, VA	2.902	0.235	Mar 2018	0.235	Mar 2019	0.235	Mar 2020	-		0.235	Continuing	Continuing	Continuing
Program Management Support	C/CPFF	Bowhead : Patuxent River, MD	1.371	0.443	Jan 2018	0.415	Jan 2019	0.410	Jan 2020	-		0.410	Continuing	Continuing	Continuing
Travel	WR	Various : Various	0.399	0.050	Oct 2017	0.048	Oct 2018	0.050	Oct 2019	-		0.050	Continuing	Continuing	Continuing
Prior Year Mgmt Svcs no longer funded in the FYDP	Various	Various : Various	2.349	0.000		0.000		0.000		-		0.000	0.000	2.349	Continuing
		Subtotal	7.021	0.728		0.698		0.695		-		0.695	Continuing	Continuing	N/A

Remarks

Management Services is included within R-2A Engineering Support.

	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	79.040	4.827		5.265		11.545		-		11.545	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305234N / *(U)SMALL (LEVEL 0) TACTICAL UAS (STUASL0)*	**Project (Number/Name)** 3192 / *RQ-21 BLACKJACK*

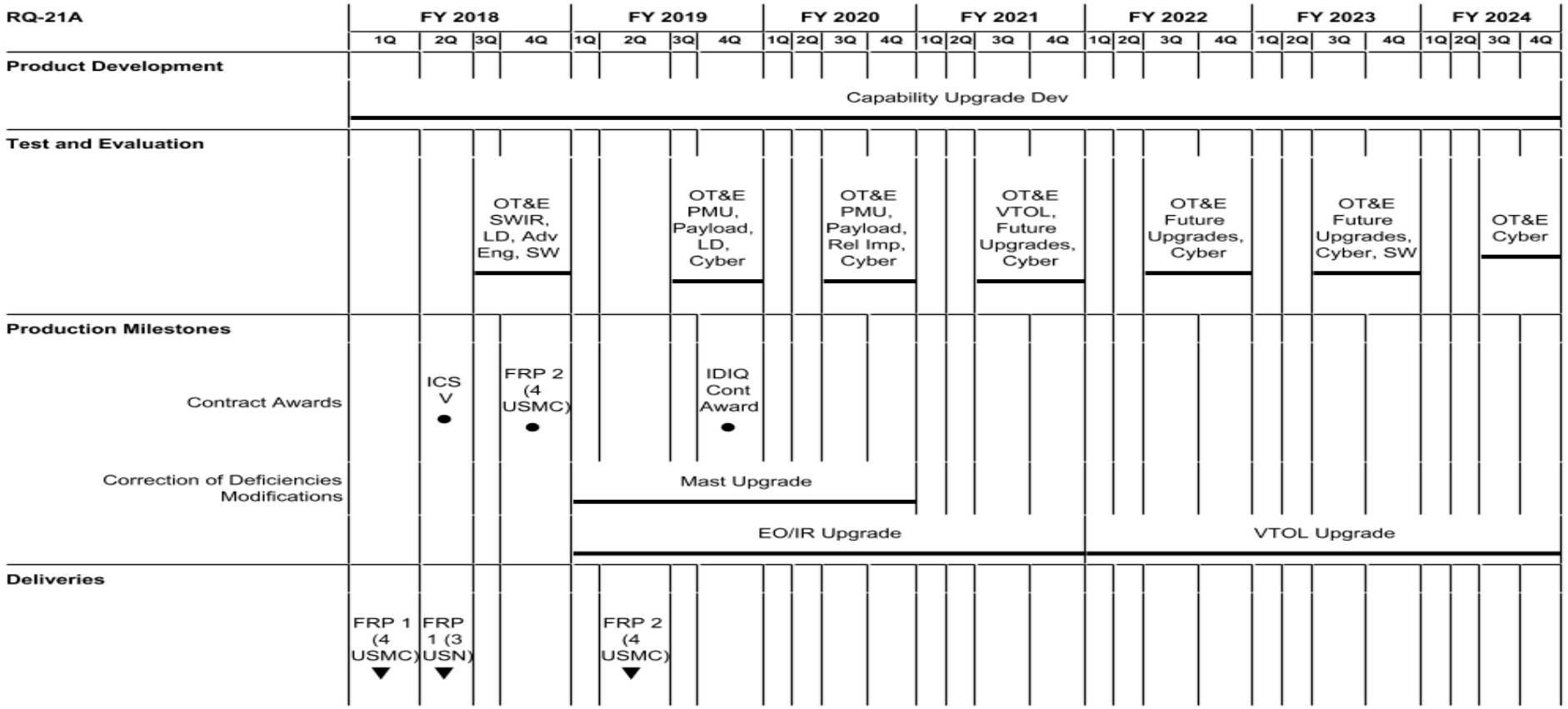

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305234N / *(U)SMALL (LEVEL 0) TACTICAL UAS (STUASL0)*	**Project (Number/Name)** 3192 / *RQ-21 BLACKJACK*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
RQ-21A				
Product Development: Capability Upgrade Development	1	2018	4	2024
Test and Evaluation: Follow-on Test and Evaluation - SWIR, LD, Adv Engine, Software upgrades	3	2018	4	2018
Test and Evaluation: Follow-on Test and Evaluation - Propulsion Module Unit, Payload, LD, Cybersecurity	3	2019	4	2019
Test and Evaluation: Follow-on Test and Evaluation - Propulsion Module Unit, Payload, Reliability Improvements, Cybersecurity	3	2020	4	2020
Test and Evaluation: Follow-on Test and Evaluation - VTOL, Future Upgrades, Cybersecurity	3	2021	4	2021
Test and Evaluation: Follow-on Test and Evaluation - Future Upgrades, Cybersecurity	3	2022	4	2022
Test and Evaluation: Follow-on Test and Evaluation - Future Upgrades, Cybersecurity, Software Upgrades	3	2023	4	2023
Test and Evaluation: Follow-on Test and Evaluation - Cybersecurity	3	2024	4	2024
Production Milestones: Contract Awards: Full-Rate Production Contract Award 2	4	2018	4	2018
Production Milestones: Contract Awards: ICS Option Award 3	2	2018	2	2018
Production Milestones: Contract Awards: IDIQ Contract Award	4	2019	4	2019
Production Milestones: Correction of Deficiencies Modifications: Mast Upgrade	1	2019	4	2020
Production Milestones: Correction of Deficiencies Modifications: EO/IR Upgrade	1	2019	4	2021
Production Milestones: Correction of Deficiencies Modifications: VTOL Upgrade	1	2022	4	2024
Deliveries: FRP Lot 1 USMC	1	2018	1	2018
Deliveries: FRP Lot 1 USN	2	2018	2	2018
Deliveries: FRP Lot 2 USMC	2	2019	2	2019