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Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0305239M / (U)RQ-21A
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	0.000	6.000	10.914	10.853	-	10.853	11.304	10.529	10.747	10.963	Continuing	Continuing
3192: <i>RQ-21 BLACKJACK</i>	0.000	6.000	10.914	10.853	-	10.853	11.304	10.529	10.747	10.963	Continuing	Continuing

A. Mission Description and Budget Item Justification

The RQ-21A program provides persistent maritime and land-based tactical Reconnaissance, Surveillance and Target Acquisition (RSTA) data collection and dissemination capability to the war fighter. For the United States Marine Corps (USMC), RQ-21A provides the Marine Expeditionary Force and subordinate commands (divisions and regiments) with a dedicated, organic Intelligence, Surveillance, and Reconnaissance (ISR) capability delivering intelligence products directly to the tactical commander in real time. For the United States Navy (USN) RQ-21A provides persistent RSTA support for tactical maneuver decisions and unit-level force defense/force protection for Navy Ships, Marine Corps land forces, Navy Expeditionary Combat Command forces, and Navy Special Warfare Units. This is a combined development program between Navy and Marine Corps. This submission is the Marine Corps portion of the program and has been coordinated with the Navy budget submission under PE 0305234N RQ-21A Blackjack.

B. Program Change Summary (\$ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	6.000	10.914	10.908	-	10.908
Current President's Budget	6.000	10.914	10.853	-	10.853
Total Adjustments	0.000	0.000	-0.055	-	-0.055
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	-0.055	-	-0.055

Change Summary Explanation

Schedule:

- Schedule revised to provide greater detail. Acquisition Milestones, Capability Development, Systems Deliveries, and Contract Awards sections added. Follow-on Test and Evaluation periods updated to reflect Integrated and Operational Test periods.

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy										Date: February 2020		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0305239M / (U)RQ-21A				Project (Number/Name) 3192 / RQ-21 BLACKJACK			
COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
3192: RQ-21 BLACKJACK	0.000	6.000	10.914	10.853	-	10.853	11.304	10.529	10.747	10.963	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Prior to FY 2019, this effort was funded under PU 2298: SMALL (LEVEL 0) TACTICAL UAS (STUAL0).

A. Mission Description and Budget Item Justification

The RQ-21A program provides persistent maritime and land-based tactical Reconnaissance, Surveillance and Target Acquisition (RSTA) data collection and dissemination capability to the Warfighter. For the United States Marine Corps (USMC), RQ-21A provides the Marine Expeditionary Force and subordinate commands (divisions and regiments) with a dedicated, organic Intelligence, Surveillance, and Reconnaissance (ISR) capability delivering intelligence products directly to the tactical commander in real time. For the United States Navy (USN), RQ-21A provides persistent RSTA support for tactical maneuver decisions and unit-level force defense/force protection for Navy Ships, Marine Corps land forces, Navy Expeditionary Combat Command forces, and Navy Special Warfare Units. This is a combined development program between Navy and Marine Corps. This submission is the Marine Corps portion of the program and has been coordinated with the Navy budget submission PE 0305234N RQ-21A Blackjack.

The RQ-21A system will continue to evolve addressing capability shortfalls, new requirements, obsolescence equipment, reliability, maintainability, and safety issues. Additional capabilities and/or system upgrades may include Navy Command and Control integration, Extended Range, Weapons Integration, Heavy Fuel Engine, Short Wave Infrared, Laser Designator, Frequency Agile Communications Relay, Digital Common Data link, and cyclic refresh of the Electro-optical/Infrared (EO/IR) camera.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: Product Development/Upgrades	4.597	8.012	8.064	0.000	8.064
Articles:	-	-	-	-	-
FY 2020 Plans:					
The program will perform investigations, studies, and prototype efforts for a Vertical Takeoff and Landing (VTOL) capability for RQ-21A platform. The program will improve the ability of 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, improved turret optics, and decreasing the system's expeditionary footprint. 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 2021 Base Plans:					
The program will perform investigations, studies, and continue prototype efforts for a Vertical Takeoff and Landing (VTOL) capability for RQ-21A platform. The program will improve the ability of the RQ-21A air vehicle to					

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Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305239M / (U)RQ-21A	Project (Number/Name) 3192 / RQ-21 BLACKJACK

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
<p>recover in a GPS denied environment and continue upgrades to reduce recovery damage, increase Propulsion Module Unit performance and reliability, improved turret optics and target acquisition capability, and decreasing the system's expeditionary footprint. The program will perform software development to correct deficiencies from test as well as enable additional capabilities such as an improved communications suite, Extended Range and enable a block upgrade of multiple system components at a time.</p> <p>FY 2021 OCO Plans: N/A</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Increase of \$0.052M due to the addition of extended range capability development efforts.</p>					
<p>Title: Engineering Support</p> <p align="right">Articles:</p> <p>FY 2020 Plans: Continue Government Engineering Technical Support, other Government Support, Contract Support Services, Program Management Support, and program related travel in support of correction of deficiencies and upgrade efforts.</p> <p>FY 2021 Base Plans: The program will perform software development to correct deficiencies from test. Continue Government Engineering Technical Support, other Government Support, Contract Support Services, Program Management Support, and program related travel in support of correction of deficiencies and upgrade efforts. The program will perform trade studies to correct deficiencies and improve capabilities such as an improved communications suite and enable a block upgrade of multiple system components at a time.</p> <p>FY 2021 OCO Plans: N/A</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Decrease of \$0.126M due to reduced engineering costs as follow-on test events continue.</p>	0.778	0.752	0.626	0.000	0.626
	-	-	-	-	-
<p>Title: Test and Evaluation</p> <p align="right">Articles:</p> <p>FY 2020 Plans: Continue follow-on cybersecurity test and evaluation Initiate follow on test and evaluation to evaluate reliability improvements</p>	0.625	2.150	2.163	0.000	2.163
	-	-	-	-	-

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Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305239M / (U)RQ-21A	Project (Number/Name) 3192 / RQ-21 BLACKJACK

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Continue follow-on test and evaluation for Propulsion Module Unit upgrades and reliability improvements Conduct follow-on test and evaluation on special intel payloads					
<i>FY 2021 Base Plans:</i> Continue follow-on cybersecurity test and evaluation Continue follow on test and evaluation to evaluate reliability improvements Continue follow-on test and evaluation for Propulsion Module Unit upgrades and reliability improvements Conduct follow-on test and evaluation for the integration of special intel payloads on the RQ-21.					
<i>FY 2021 OCO Plans:</i> N/A					
<i>FY 2020 to FY 2021 Increase/Decrease Statement:</i> Increase of \$0.013 due to inflation associated with test and evaluation events.					
Accomplishments/Planned Programs Subtotals	6.000	10.914	10.853	0.000	10.853

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
• APN/0444: STUASLO	52.131	40.740	30.930	7.921	38.851	31.313	30.381	29.069	29.651	0.000	455.570
• RDTE/0305234N: (U)Small (Level 0) Tactical UAS (STUASLO)	5.265	9.410	8.773	-	8.773	6.039	6.420	6.242	6.367	Continuing	Continuing
• APN/0598: RQ-21 Series	21.019	61.032	18.550	-	18.550	32.512	31.456	27.969	28.779	0.000	221.317

Remarks

D. Acquisition Strategy

The program office utilized a competitive acquisition approach to award the Engineering and Manufacturing Development effort to field a capability that meets threshold requirements. Full rate production decision was successfully achieved in 4Q FY 2016. Attrition Air Vehicles procurement from FY 2019 on will be done via sole source contracts with Insitu, the prime contractor. Future payload upgrades and development shall be competitively sourced or procured via Government Laboratories with Insitu performing integration efforts as required.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy												Date: February 2020				
Appropriation/Budget Activity				R-1 Program Element (Number/Name)					Project (Number/Name)							
1319 / 7				PE 0305239M / (U)RQ-21A					3192 / RQ-21 BLACKJACK							
Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Upgrade Efforts/Correction of Deficiencies	C/BOA	Insitu, Inc : Bingen, WA	0.000	4.597	Jul 2019	5.000	Apr 2020	5.005	Apr 2021	-		5.005	Continuing	Continuing	Continuing	
Alternative recovery and landing	WR	NAWC-AD : Patuxent River, MD	0.000	0.000		3.012	Apr 2020	3.059	Apr 2021	-		3.059	Continuing	Continuing	Continuing	
Subtotal			0.000	4.597		8.012		8.064		-		8.064	Continuing	Continuing	N/A	
Support (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Government Engineering Support	WR	NAWC-AD : Patuxent River, MD	0.000	0.556	Dec 2018	0.752	Dec 2019	0.626	Dec 2020	-		0.626	Continuing	Continuing	Continuing	
Software Engineering Support	WR	NAWC-WD : China Lake, Ca	0.000	0.222	Dec 2018	0.000		0.000		-		0.000	0.000	0.222	-	
Subtotal			0.000	0.778		0.752		0.626		-		0.626	Continuing	Continuing	N/A	
Test and Evaluation (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Development Test & Evaluation	TBD	OPTEVFOR : Norfolk, VA	0.000	0.226	Jul 2019	0.400	Jul 2020	0.404	Jul 2021	-		0.404	Continuing	Continuing	Continuing	
Operational Test & Evaluation	WR	OPTEVFOR : Norfolk, VA	0.000	0.399	Dec 2018	0.000		0.000		-		0.000	0.000	0.399	-	
Development Test & Evaluation	WR	NAWC_AD : Patuxent River, MD	0.000	0.000		1.200	Jul 2020	1.206	Jul 2021	-		1.206	Continuing	Continuing	Continuing	
Operational Test & Evaluation	C/BA	VMX-1 : Yuma, AZ	0.000	0.000		0.550	Jul 2020	0.553	Jul 2021	-		0.553	Continuing	Continuing	Continuing	
Subtotal			0.000	0.625		2.150		2.163		-		2.163	Continuing	Continuing	N/A	

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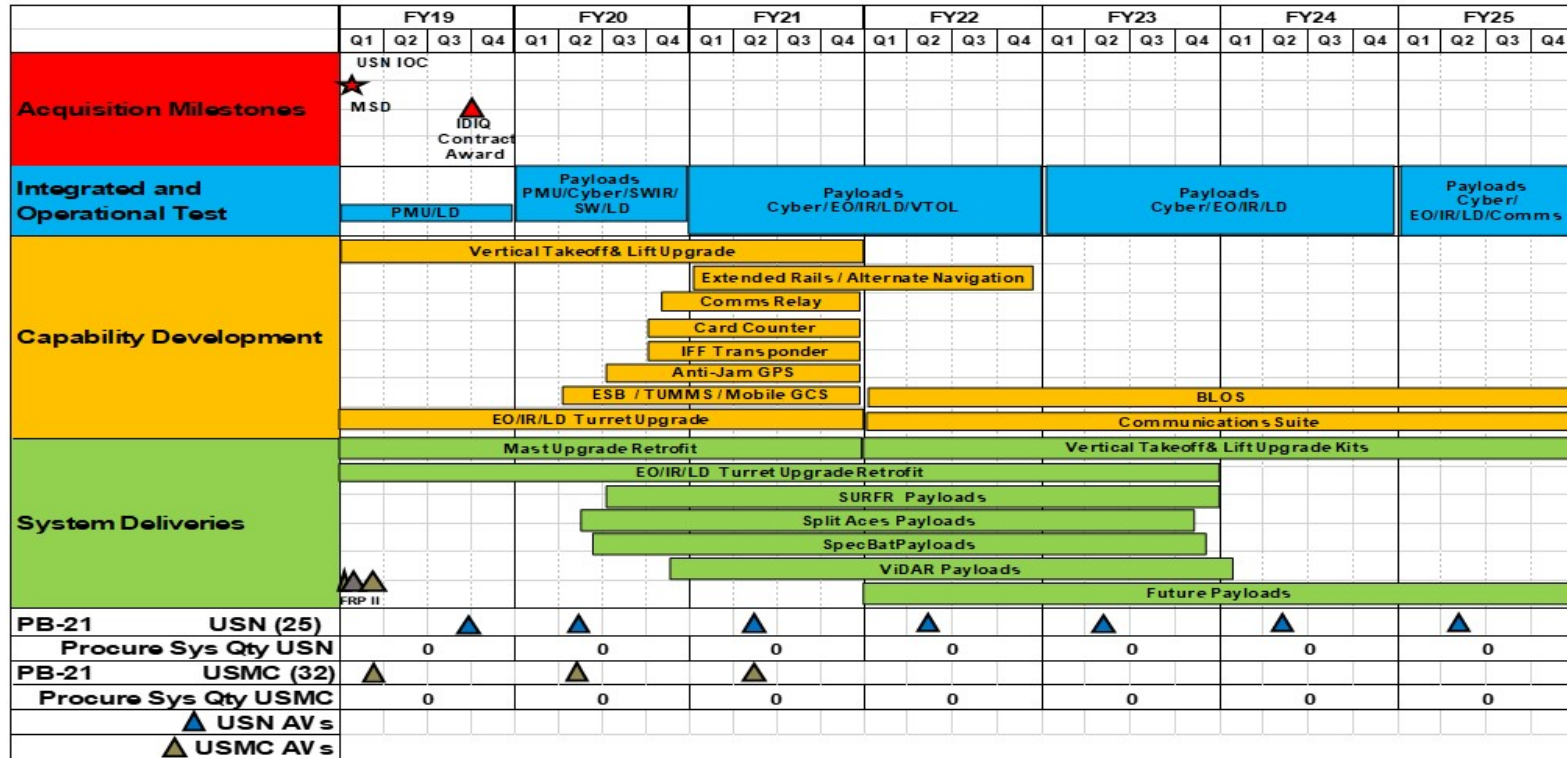
Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy

Date: February 2020

Appropriation/Budget Activity
1319 / 7

R-1 Program Element (Number/Name)
PE 0305239M / (U)RQ-21A

Project (Number/Name)
3192 / RQ-21 BLACKJACK



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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305239M / (U)RQ-21A	Project (Number/Name) 3192 / RQ-21 BLACKJACK
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
RQ-21A				
Acquisition Milestones: USN IOC/MSD	1	2019	1	2019
Acquisition Milestones: IDIQ Contract Award	3	2019	3	2019
Integrated and Operational Test: Integrated and Operational Test - Propulsion Module Unit, Laser Designator	1	2019	4	2019
Integrated and Operational Test: Integrated and Operational Test - Propulsion Module Unit, Payloads, Laser Designator. Reliability Improvements, Cybersecurity	1	2020	4	2020
Integrated and Operational Test: Integrated and Operational Test - Payloads, Laser Designator, Cybersecurity, EO/IR, VTOL	1	2021	4	2022
Integrated and Operational Test: Integrated and Operational Test - Payloads, Laser Designator, Cybersecurity, EO/IR	1	2023	4	2024
Integrated and Operational Test: Integrated and Operational Test - Payloads, Cybersecurity, EO/IR, Laser Designator, Communication Suite	1	2025	4	2025
Capability Development: Vertical Takeoff and Lift Upgrade	1	2019	4	2021
Capability Development: Extended Rails/Alternative Navigation	1	2021	4	2022
Capability Development: Communication Relay	4	2020	4	2021
Capability Development: Card Counter	4	2020	4	2021
Capability Development: Identification Friend or Foe (IFF) Transponder	4	2020	4	2021
Capability Development: Anti-Jam GPS	3	2020	4	2021
Capability Development: Mobile Ground Control Station (GCS)	2	2020	4	2021
Capability Development: EO/IR/Laser Designator (LD) Turret Upgrade	1	2019	4	2021
Capability Development: Extended Range/Beyond Line of Sight (BLOS) Upgrade	1	2022	4	2025
Capability Development: Communication Suite	1	2022	4	2025
System Deliveries: Mast Upgrade	1	2019	4	2021

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305239M / (U)RQ-21A	Project (Number/Name) 3192 / RQ-21 BLACKJACK
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
System Deliveries: EO/IR Laser Designator Upgrade	1	2019	4	2023
System Deliveries: VTOL Upgrade	1	2022	4	2025
System Deliveries: SURFR Payloads	3	2020	4	2023
System Deliveries: Split Aces Payloads	2	2020	4	2023
System Deliveries: SpecBat Payloads	2	2020	4	2023
System Deliveries: VIDAR Payloads	4	2020	1	2024
System Deliveries: Future Payloads	1	2022	4	2025
System Deliveries: System Component Air Vehicles: FY19 Contract Award - Navy (22)	3	2019	3	2019
System Deliveries: System Component Air Vehicles: FY20 Contract Award - Navy (10)	2	2020	2	2020
System Deliveries: System Component Air Vehicles: FY21 Contract Award - Navy (13)	2	2021	2	2021
System Deliveries: System Component Air Vehicles: FY22 Contract Award - Navy (12)	2	2022	2	2022
System Deliveries: System Component Air Vehicles: FY23 Contract Award - Navy (12)	2	2023	2	2023
System Deliveries: System Component Air Vehicles: FY24 Contract Award - Navy (12)	2	2024	2	2024
System Deliveries: System Component Air Vehicles: FY25 Contract Award - Navy (12)	2	2025	2	2025
System Deliveries: System Component Air Vehicles: FY19 Contract Award - USMC (2)	1	2019	1	2019
System Deliveries: System Component Air Vehicles: FY20 Contract Award - USMC (5)	2	2020	2	2020
System Deliveries: System Component Air Vehicles: FY21 Contract Award - USMC (5)	2	2021	2	2021