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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 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605500N / <i>Multi-Mission Maritime Aircraft (MMA) (P-8A)</i>
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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	7,927.602	32.998	21.472	24.424	-	24.424	28.416	30.229	32.624	44.149	Continuing	Continuing
2696: <i>Multi-Mission Maritime Aircraft</i>	7,919.288	7.195	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7,926.483
3368: <i>P-8 Improvements</i>	8.314	25.803	21.472	24.424	-	24.424	28.416	30.229	32.624	44.149	Continuing	Continuing

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): 334

A. Mission Description and Budget Item Justification

The P-8A Multi-mission Maritime Aircraft (MMA) will replace the aging P-3 aircraft. The P-8A program was initiated in response to the Joint Requirements Oversight Council (JROC) validated Mission Needs Statement, "Broad Area Maritime and Littoral Armed Intelligence, Surveillance and Reconnaissance" and the requirements for the program are defined in the P-8A Capability Production Document #791-88-09, validated and approved on 22 June 2009. A successful Critical Design Review was completed in June 2007. In August 2007 the Design Readiness Review was conducted and resulted in approval to obligate funding for the fabrication of the Stage II flight test aircraft. The first flight of P-8A occurred on 25 Apr 2009. Milestone C was successfully completed on 11 August 2010. The program completed Initial Operational Test and Evaluation (IOT&E) in March 2013 and achieved Initial Operational Capability (IOC) in November 2013. The Acquisition Decision Memorandum approved entry into Full Rate Production on January 3, 2014.

The primary objectives of Systems Development and Demonstration (SDD) are to perform the system detailed design, develop and produce Systems Integration Labs, develop and build ground and flight test articles, and conduct ground and flight tests to successfully achieve program milestones. Ground testing includes the conduct of static testing, fatigue testing and Live Fire Test and Evaluation. Six flight test aircraft have been built during SDD (PU 2696). These test aircraft are grouped into two stages based on which phase of the test program the aircraft will support. SDD Stage I flight test aircraft (FY06/Qty-3) support Integrated Test and Evaluation (IT&E). SDD Stage II flight test aircraft (FY09/Qty-3) supported the completion of IT&E and IOT&E after being updated to the production configuration. The SDD contract includes the development and initial building of training devices to support IOT&E. The scope of SDD includes activities necessary to facilitate an efficient transition of the fleet to achieve the P-8A IOC of SDD (PU 2696) in CY13. The scope of SDD also includes the engineering and verification of corrected deficiencies identified in testing and Fleet operational use. P-8A entered Production and Deployment phase in the 4th quarter of FY10 and entered Full Rate Production in 2nd quarter of FY14.

The P-8A MMA program's Assured Maritime Dominance Anti-Submarine Warfare (ASW), Anti-Surface Warfare (ASuW), and Intelligence, Surveillance, and Reconnaissance (ISR) activities include a sequence of Rapid Capability Insertions (RCI) and rapid development efforts to respond to evolving threats and adversary capabilities, which will retain cost effectiveness for winning major combat operations. In order to pace the threat, these efforts will incorporate incremental software and/or hardware improvements to existing sensor capabilities, communications systems, mission systems, weapons capabilities, training systems and Tactical Operations Center (TOC) /Tacmobile support to build on the P-8A capability baseline. These planned and emergent requirements will be prioritized through either the Navy Integration and Interoperability (I&I) aligned Capability Prioritization Process (CPP), P-8A Tier 3 Capability Roadmap and/or through Fleet identification of an Urgent Operational Need. The CPP process is supported by detailed analysis and the maturations of developing technologies.

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Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605500N / <i>Multi-Mission Maritime Aircraft (MMA) (P-8A)</i>
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Assured Maritime Dominance activities include principle mission lethality, survivability against kinetic and non-kinetic threats, and capability persistence in high-level threat environments. Rapid Development efforts increase lethality through optimization of kill-chain software systems, employment of Long Range Anti-Ship Missile (LRASM) and other weapon systems and Airborne Weapon Simulator capabilities. RCI4 capabilities include kill-chain/gap analysis, ASW Enhancements, common weapons synchronization, and Airborne Weapon Simulator continuation. RCI5 capabilities increase P-8A survivability through end of the platform and its capabilities through Radio Frequency Counter Measure (RFCM) prototype, P-8A Survivability Assurance and distributed sensor network improvements.

Budget Activity 5.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

B. Program Change Summary (\$ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	34.196	21.472	10.310	-	10.310
Current President's Budget	32.998	21.472	24.424	-	24.424
Total Adjustments	-1.198	0.000	14.114	-	14.114
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.198	0.000			
• Program Adjustments	0.000	0.000	14.120	-	14.120
• Rate/Misc Adjustments	0.000	0.000	-0.006	-	-0.006

Change Summary Explanation

Technical: Not applicable.

Schedule: PU 3368 Schedule revised to incorporate further detail and the inclusion of RCI5.

PU 3368:

FY 2021 includes a \$18.4M increase for LRASM ASuW Weapons integration and a reduction of \$4.300M to account for the availability of prior year execution balances.

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy										Date: February 2020		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0605500N / <i>Multi-Mission Maritime Aircraft (MMA) (P-8A)</i>				Project (Number/Name) 2696 / <i>Multi-Mission Maritime Aircraft</i>			
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
2696: <i>Multi-Mission Maritime Aircraft</i>	7,919.288	7.195	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7,926.483
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 334												

A. Mission Description and Budget Item Justification

The P-8A Multi-mission Maritime Aircraft (MMA) will replace the aging P-3 aircraft. The P-8A program was initiated in response to the Joint Requirements Oversight Council validated Mission Needs Statement, "Broad Area Maritime and Littoral Armed Intelligence, Surveillance and Reconnaissance" and the requirements for the program are defined in the P-8A Capability Production Document (CPD) #791-88-09, validated and approved on 22 June 2009. A successful Critical Design Review was completed in June 2007. In August 2007 the Design Readiness Review was conducted and resulted in approval to obligate funding for the fabrication of the Stage II flight test aircraft. The first flight of P-8A occurred on 25 Apr 2009. Milestone C was successfully completed on 11 August 2010. The program completed Initial Operational Test and Evaluation (IOT&E) in March 2013 and achieved Initial Operational Capability (IOC) in November 2013. The Acquisition Decision Memorandum approved entry into Full Rate Production on January 3, 2014.

The primary objectives of Systems Development and Demonstration (SDD) are to perform the system detailed design, develop and produce Systems Integration Labs, develop and build ground and flight test articles, and conduct ground and flight tests to successfully achieve program milestones. Ground testing includes the conduct of static testing, fatigue testing and Live Fire Test and Evaluation. Six flight test aircraft have been built during SDD. These test aircraft are grouped into two stages based on which phase of the test program the aircraft will support. SDD Stage I flight test aircraft (FY06/Qty-3) support Integrated Test and Evaluation (IT&E). SDD Stage II flight test aircraft (FY09/Qty-3) supported the completion of IT&E and IOT&E after being updated to the production configuration. The SDD contract includes the development and initial building of training devices to support IOT&E. The scope of SDD includes activities necessary to facilitate an efficient transition of the fleet to achieve the P-8A IOC of SDD (PU 2696) in CY13. The scope of SDD also includes the engineering and verification of corrected deficiencies identified in testing and Fleet operational use and the baseline air to air refueling. P-8A entered Production and Deployment phase in the 4th quarter of FY10 and entered Full Rate Production in 2nd quarter of FY14.

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

	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: Continue System Development & Demonstration	6.825	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2020 Plans: N/A					
OCO:					

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605500N / <i>Multi-Mission Maritime Aircraft (MMA) (P-8A)</i>	Project (Number/Name) 2696 / <i>Multi-Mission Maritime Aircraft</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Not applicable. FY 2021 Base Plans: N/A FY 2021 OCO Plans: N/A					
Title: Continue Engineering and Technical Development and Test for Sys Dev & Demonstration contracts Articles:	0.370 -	0.000 -	0.000 -	0.000 -	0.000 -
FY 2020 Plans: Not applicable.OCO:Not applicable. FY 2021 Base Plans: N/A FY 2021 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	7.195	0.000	0.000	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021 Base</u>	<u>FY 2021 OCO</u>	<u>FY 2021 Total</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• APN1/0193: <i>P-8A MMA</i>	1,898.853	1,668.073	80.134	-	80.134	0.000	0.000	0.000	0.000	0.000	24,465.607
• APN6/0605: <i>P-8A Initial Spares</i>	3.066	0.010	0.295	-	0.295	0.000	0.000	0.000	0.000	0.000	104.559

Remarks

D. Acquisition Strategy

The MMA Milestone 0 was approved 22 March 2000 and the resulting Acquisition Decision Memorandum directed P-8A to begin the Concept Exploration phase consisting of an Analysis of Alternatives and industry concept studies. These activities began 3Q/01 and were funded under Program Element 0702207N Project Unit W2737. Approval to enter Component Advance Development (CAD) was attained from the Overarching Integrated Product Team on 18 Jan 2002 and the Milestone Decision Authority Under Secretary of Defense for Acquisition, Technology, & Logistics approved the program Acquisition Strategy on 8 Feb 2002. The CAD was a competitive award to multiple contractors to define alternative MMA concept system architectures and evaluate associated risks and proposed mitigations. Selection of MMA concept and approval to enter SDD phase occurred at MS B decision review on 28 May 2004. The contract was awarded to Boeing on 14 June 2004. The SDD phase is being used to design, develop and test the P-8A system. The P-8A program was initiated in response to the Joint Requirements Oversight Council validated

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605500N / <i>Multi-Mission Maritime Aircraft (MMA) (P-8A)</i>	Project (Number/Name) 2696 / <i>Multi-Mission Maritime Aircraft</i>
<p>Mission Needs Statement, "Broad Area Maritime and Littoral Armed Intelligence, Surveillance and Reconnaissance" and the requirements for the program are defined in the Capability Production Document. MS C was successfully completed on 11 August 2010 approving entry into the Production and Deployment Phase. P-8A Initial Operational Capability achieved in November 2013. Entry into Full Rate Production was approved on 3 January 2014.</p>		

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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 / 5				PE 0605500N / Multi-Mission Maritime Aircraft (MMA) (P-8A)				2696 / Multi-Mission Maritime Aircraft							
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
Primary HW Dev - Boeing	C/CPAF	Boeing : Seattle, WA	7,001.423	6.675	Dec 2018	0.000		0.000		-		0.000	0.000	7,008.098	7,008.369
Sys Eng (gov)	WR	NAWC AD : Pax River, MD	85.816	0.150	Nov 2018	0.000		0.000		-		0.000	0.000	85.966	-
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various : Various	319.530	0.000		0.000		0.000		-		0.000	0.000	319.530	-
Subtotal			7,406.769	6.825		0.000		0.000		-		0.000	0.000	7,413.594	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
Int. Log Gov	WR	NAWC AD : Pax River, MD	43.918	0.000		0.000		0.000		-		0.000	0.000	43.918	-
Tech Dev Gov	WR	NAWC AD : Pax River, MD	77.928	0.160	Nov 2018	0.000		0.000		-		0.000	0.000	78.088	-
Prior year Support cost no longer funded in the FYDP	Various	Various : Various	31.369	0.000		0.000		0.000		-		0.000	0.000	31.369	-
Subtotal			153.215	0.160		0.000		0.000		-		0.000	0.000	153.375	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
Dev T&E - Gov	WR	NAWC AD : Pax River, MD	100.210	0.000		0.000		0.000		-		0.000	0.000	100.210	-
GFE & GFI	WR	NAWC AD : Pax River, MD	89.688	0.000		0.000		0.000		-		0.000	0.000	89.688	-
Oper Test & Eval	WR	NAWC AD : Pax River, MD	6.642	0.000		0.000		0.000		-		0.000	0.000	6.642	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605500N / <i>Multi-Mission Maritime Aircraft (MMA) (P-8A)</i>	Project (Number/Name) 2696 / <i>Multi-Mission Maritime Aircraft</i>
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Test and Evaluation (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prior year T&E cost no longer funded in the FYDP	Various	Various : Various	39.471	0.000		0.000		0.000		-		0.000	0.000	39.471	-
Subtotal			236.011	0.000		0.000		0.000		-		0.000	0.000	236.011	N/A

Management Services (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Mgmt Suppt Serv (NON-FFRDC)	C/CPFF	RBC INC : Alexandria, VA	33.537	0.000		0.000		0.000		-		0.000	0.000	33.537	33.537
Eng Tech Serv (NON-FFRDC)	C/CPFF	ASEC : Lexington Park MD	11.453	0.000		0.000		0.000		-		0.000	0.000	11.453	11.453
Program Mgmt Support	WR	NAWC AD : Pax River, MD	53.591	0.160	Nov 2018	0.000		0.000		-		0.000	0.000	53.751	-
Travel	Allot	NAWC AD : Pax River, MD	4.354	0.050	Oct 2018	0.000		0.000		-		0.000	0.000	4.404	-
Prior year Mgmt cost no longer funded in the FYDP	Various	Various : Various	20.358	0.000		0.000		0.000		-		0.000	0.000	20.358	-
Subtotal			123.293	0.210		0.000		0.000		-		0.000	0.000	123.503	N/A

	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		7,919.288	7.195	0.000	0.000	0.000	0.000	7,926.483	N/A

Remarks

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

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605500N / <i>Multi-Mission Maritime Aircraft (MMA) (P-8A)</i>	Project (Number/Name) 2696 / <i>Multi-Mission Maritime Aircraft</i>
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Multi-Mission Maritime Aircraft	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Systems Development																												
Hardware/Software Development																												
Test & Evaluation																												
Testing																												
Technical Evaluation	Fatigue Analysis																											
Production Milestones																												
	FRP																											
Deliveries																												
LRIP/FRP Aircraft (APN)																												
FRP 1		1																										
FRP 3	5	1																										
FRP 4		1	4	2	3	1																						
FRP 5						1	5	3	1																			
FRP 6									2	3	4	1																
FRP 7															1	2	1	2			2	1						

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605500N / <i>Multi-Mission Maritime Aircraft (MMA) (P-8A)</i>	Project (Number/Name) 2696 / <i>Multi-Mission Maritime Aircraft</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Multi-Mission Maritime Aircraft				
Test & Evaluation: Technical Evaluation: Fatigue Analysis	1	2019	4	2020
Production Milestones: Full Rate Production (FRP)	1	2019	1	2024
Deliveries: FRP 1: FRP Aircraft (APN) Q2 2019	2	2019	2	2019
Deliveries: FRP 3: FRP Aircraft (APN) Q1 2019	1	2019	1	2019
Deliveries: FRP 3: FRP Aircraft (APN) Q2 2019	2	2019	2	2019
Deliveries: FRP 4: FRP Aircraft (APN) Q2 2019	2	2019	2	2019
Deliveries: FRP 4: FRP Aircraft (APN) Q3 2019	3	2019	3	2019
Deliveries: FRP 4: FRP Aircraft (APN) Q4 2019	4	2019	4	2019
Deliveries: FRP 4: FRP Aircraft (APN) Q1 2020	1	2020	1	2020
Deliveries: FRP 4: FRP Aircraft (APN) Q2 2020	2	2020	2	2020
Deliveries: FRP 5: FRP Aircraft (APN) Q2 2020	2	2020	2	2020
Deliveries: FRP 5: FRP Aircraft (APN) Q3 2020	3	2020	3	2020
Deliveries: FRP 5: FRP Aircraft (APN) Q4 2020	4	2020	4	2020
Deliveries: FRP 5: FRP Aircraft (APN) Q1 2021	1	2021	1	2021
Deliveries: FRP 6: FRP Aircraft (APN) Q1 2021	1	2021	1	2021
Deliveries: FRP 6: FRP Aircraft (APN) Q2 2021	2	2021	2	2021
Deliveries: FRP 6: FRP Aircraft (APN) Q3 2021	3	2021	3	2021
Deliveries: FRP 6: FRP Aircraft (APN) Q4 2021	4	2021	4	2021
Deliveries: FRP 7: FRP Aircraft (APN) Q3 2022	3	2022	3	2022
Deliveries: FRP 7: FRP Aircraft (APN) Q4 2022	4	2022	4	2022
Deliveries: FRP 7: FRP Aircraft (APN) Q1 2023	1	2023	1	2023

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Deliveries: FRP 7: FRP Aircraft (APN) Q2 2023	2	2023	2	2023
Deliveries: FRP 7: FRP Aircraft (APN) Q4 2023	4	2023	4	2023
Deliveries: FRP 7: FRP Aircraft (APN) Q1 2024	1	2024	1	2024

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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
3368: <i>P-8 Improvements</i>	8.314	25.803	21.472	24.424	-	24.424	28.416	30.229	32.624	44.149	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 334												

A. Mission Description and Budget Item Justification

The P-8A Multi-mission Maritime Aircraft (MMA) program's Assured Maritime Dominance ASW, ASuW, and ISR activities include a sequence of Rapid Capability Insertions (RCI) and rapid development efforts to respond to evolving threats and adversary capabilities, which will retain cost effectiveness for winning major combat operations. In order to pace the threat, these efforts will incorporate incremental software and/or hardware improvements to existing sensor capabilities, communications systems, mission systems, weapons capabilities, training systems and Tactical Operations Center (TOC) /Tacmobile support to build on the P-8A capability baseline. These planned and emergent requirements will be prioritized through either the Navy Integration and Interoperability (I&I) aligned Capability Prioritization Process (CPP), P-8A Tier 3 Capability Roadmap and/or through Fleet identification of an Urgent Operational Need. The CPP process is supported by detailed analysis and the maturation of developing technologies.

Assured Maritime Dominance activities include principle mission lethality, survivability against kinetic and non-kinetic threats, and capability persistence in high-level threat environments. Rapid Development efforts increase lethality through optimization of kill-chain software systems, employment of LRASM and other weapon systems and Airborne Weapon Simulator capabilities. RCI4 capabilities include kill-chain/gap analysis, ASW Enhancements, common weapons synchronization, and Airborne Weapon Simulator continuation. RCI5 capabilities increase P-8A survivability through end of the platform and its capabilities through Radio Frequency Counter Measure (RFCM) prototype, P-8A Survivability Assurance and distributed sensor network improvements.

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

	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: Perform technology demonstrations and analyses of proposed new capabilities	24.999	20.589	23.625	0.000	23.625
Articles:	-	-	-	-	-
FY 2020 Plans: Continue to develop RCI packages and rapid development efforts to incrementally incorporate software and hardware capability improvements, building on the P-8A Baseline to ensure ongoing relevance of the P-8A capability. Continue full scale development and integration of AWS capability and RCI4 to include MAC, Acoustics, Non-Acoustic enhancements and Theatre ASW interoperability improvements.					
FY 2021 Base Plans: Continue to develop RCI packages and rapid development efforts to incrementally incorporate software and hardware capability improvements, building on the P-8A Baseline to ensure ongoing relevance of the P-8A capability. Begin development of ASW weapon airworthiness and aircraft integration, Continue development and					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
integration of AWS capability and RCI4 to include MAC, Acoustics, Non-Acoustic enhancements and Theatre ASW interoperability improvements. FY 2021 OCO Plans: N/A FY 2020 to FY 2021 Increase/Decrease Statement: The increase is the net value of a \$18.4M increase for LRASM ASuW Weapons integration offset by a decrease of \$10.8M due to major development and integration efforts related to AWS completion and a decrease for \$4.3M to account for the availability of prior year execution balances.					
Title: Conduct technical, cost, risk and logistics analysis of proposed technologies Articles:	0.804 -	0.883 -	0.799 -	0.000 -	0.799 -
FY 2020 Plans: Conduct technical, cost, risk and logistics analysis of proposed technologies. Evaluate system requirements through cost/performance trade-off analysis. Provide technical and management support for the development of acquisition documentation. Provide engineering and management of technical development effort. Increase in government led prototyping. FY 2021 Base Plans: Conduct technical, cost, risk and logistics analysis of proposed technologies. Evaluate system requirements through cost/performance trade-off analysis. Provide technical and management support for the development of acquisition documentation. Provide engineering and management of technical development effort. Increase in government led prototyping. FY 2021 OCO Plans: N/A FY 2020 to FY 2021 Increase/Decrease Statement: Decrease due to major development and integration efforts related to AWS coming to an end in FY20.					
Accomplishments/Planned Programs Subtotals	25.803	21.472	24.424	0.000	24.424

C. Other Program Funding Summary (\$ in Millions) N/A Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605500N / <i>Multi-Mission Maritime Aircraft (MMA) (P-8A)</i>	Project (Number/Name) 3368 / <i>P-8 Improvements</i>

D. Acquisition Strategy

The P-8A acquisition strategy is designed to deliver the required capabilities while introducing additional competition throughout the program. Government Lead Capability Integrator (LCI) control over the designs and information promote cost-effectiveness, rapid capability fielding, and reduced acquisition and life-cycle costs. Additionally, technologies for P-8 modernization improvements are compartmentalized and delivered independently of one another as a series of ECPs, without risk to the overall program schedule or procurement cost. This tailoring approach is effective in accommodating an emergent Fleet requirement and serve as an example that the flexibility inherent in this ECP-based Acquisition Strategy is responsive to Fleet customer concerns.

The P-8A Acquisition Strategy (AS), first approved by the Under Secretary of Defense for Acquisition, Technology and Logistics (USD (AT&L)) at Milestone B in 2004, establishes the strategy to deliver full P-8A capability via three increments (then Block 1, Spiral 1 and Spiral 2 and now called Increments 1, 2, and 3). Increment 1 (Block 1) provided persistent ASW, ASuW, and ISR. Increment 2 (Spiral 1) provided improved ASW capabilities via multiple ECPs. On 4 April 2016, the MDA (USD AT&L) approved the incorporation of Increment 3 (Spiral 2 - under PE 0605504N) communications, Combat Systems Architecture, ASW Signals Intelligence, ASuW Net Enabled Weapon, Wideband SATCOM, Higher than Secret security enclave and Enhanced Multi-static Active Coherent (MAC-E) as ECPs (ECP 4-7) within the existing P-8A program as defined in the approved AS. RCI, rapid development, and future emergent capabilities will continue to be developed in an evolutionary manner similar to Increments 1-3 ECPs. Work is not initiated under this incremental acquisition process until the capabilities are first approved in P-8A Joint Capabilities Integration and Development System (JCIDS) documentation or the Navy's I&I CPP, approval obtained through an OPNAV Configuration Steering Board (CSB) and the phase of work approved by the Milestone Decision Authority (MDA). On 10 May 2016, P-8A was redesignated an ACAT 1C program and the MDA assigned to the Assistant Secretary of the Navy for Research, Development and Acquisition (ASN (RDA)).

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605500N / <i>Multi-Mission Maritime Aircraft (MMA) (P-8A)</i>	Project (Number/Name) 3368 / <i>P-8 Improvements</i>
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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
Primary HW/SW Dev - P-8 Improvements/Increased Capability	Various	Various : Various	2.056	0.477	Nov 2018	0.652	Nov 2019	0.332	Nov 2020	-		0.332	0.867	4.384	-
Primary HW/SW Dev - ASW Enhancements	Various	Various : Various	1.805	1.746	Feb 2019	1.099	Feb 2020	1.473	Feb 2021	-		1.473	0.569	6.692	-
Primary SW Dev- Airborne Weapons Simulator/ Correction of Deficiencies/ RFCM	Various	Various : Various	0.000	19.238	Jul 2019	11.300	May 2020	0.531	May 2021	-		0.531	0.000	31.069	-
Primary SW Dev - ASW Sonobuoy Receiver Digitization	TBD	Boeing : Seattle, WA	0.000	0.000		3.800	Mar 2020	0.000	Mar 2021	-		0.000	0.000	3.800	6.731
Primary SW Dev -RCI4	TBD	TBD : TBD	0.000	1.400	Jun 2019	1.800	Mar 2020	0.800	Mar 2021	-		0.800	18.451	22.451	-
Primary SW Dev -LRASM	TBD	Boeing : Seattle, WA	0.000	0.000		0.000		18.400	Dec 2020	-		18.400	47.800	66.200	-
Sys Eng - Gov	WR	NAWCAD : Pax River, MD	1.796	2.029	Nov 2018	1.938	Nov 2019	2.089	Nov 2020	-		2.089	Continuing	Continuing	Continuing
Subtotal			5.657	24.890		20.589		23.625		-		23.625	Continuing	Continuing	N/A

Remarks

LRASM was added to incorporate the increase of \$18.400M for funding of ASuW weapons integration.

Management Services (\$ 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
Eng Tech Serv (NON-FFRDC)	Various	Various : Various	0.770	0.258	Nov 2018	0.290	Nov 2019	0.200	Nov 2020	-		0.200	0.984	2.502	2.602
Mgmt Support Serv	C/CPFF	RBC : Alexandria, VA	0.569	0.356	Nov 2018	0.333	Nov 2019	0.393	Nov 2020	-		0.393	0.993	2.644	2.744
Program Mgmt Support	WR	NAWCAD : Pax River, MD	1.318	0.299	Nov 2018	0.260	Nov 2019	0.206	Nov 2020	-		0.206	Continuing	Continuing	Continuing
Subtotal			2.657	0.913		0.883		0.799		-		0.799	Continuing	Continuing	N/A

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

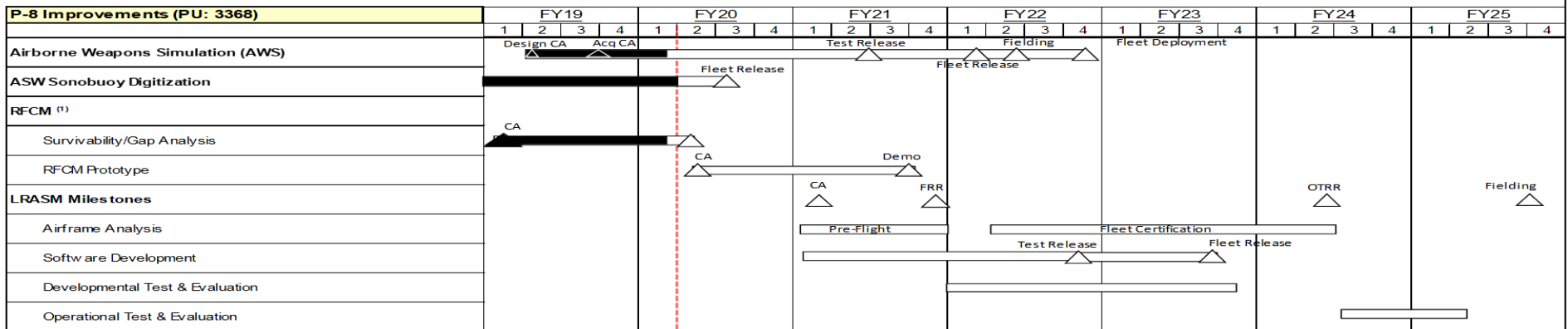
Date: February 2020

Appropriation/Budget Activity
1319 / 5

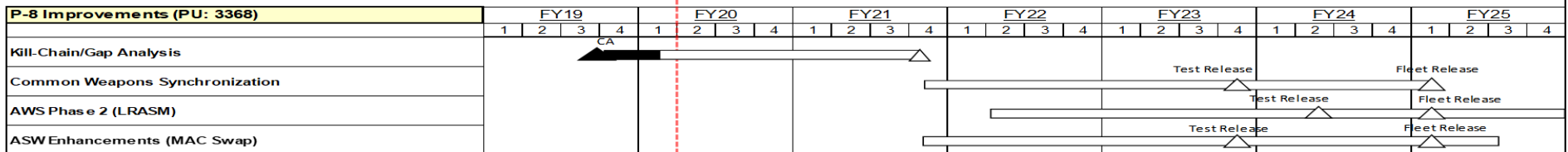
R-1 Program Element (Number/Name)
PE 0605500N / Multi-Mission Maritime
Aircraft (MMA) (P-8A)

Project (Number/Name)
3368 / P-8 Improvements

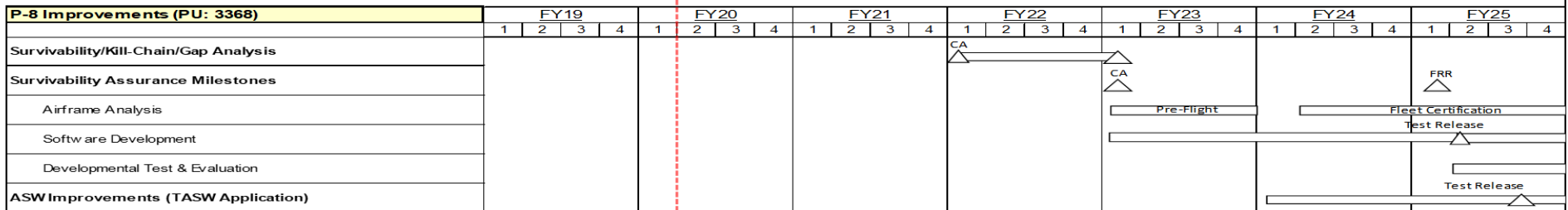
P-8A Rapid Development Schedule (PB-21)



P-8A Rapid Capability Insertion (RCI) 4 Schedule (PB-21)



P-8A Rapid Capability Insertion (RCI) 5 Schedule (PB-21)



Notes: (1) RFCM was initially part of RCI-4, but was transitioned to Rapid Development for continuity with Survivability/Gap Analysis efforts

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605500N / <i>Multi-Mission Maritime Aircraft (MMA) (P-8A)</i>	Project (Number/Name) 3368 / <i>P-8 Improvements</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>P-8 Improvements</i>				
Rapid Development: RFCM Prototype: Contract Award	2	2020	2	2020
Rapid Development: RFCM Prototype: Development	2	2020	4	2021
Rapid Development: LRASM: Contract Award	1	2021	1	2021
Rapid Development: LRASM: Pre Flight Analysis	1	2021	4	2021
Rapid Development: LRASM: FRR	4	2021	4	2021
Rapid Development: LRASM: Software Development	1	2021	4	2023
Rapid Development: LRASM: Test Release	4	2022	4	2022
Rapid Development: LRASM: Fleet Release	4	2023	4	2023
Rapid Development: LRASM: Testing	1	2022	4	2023
Rapid Development: LRASM: Fleet Certification	2	2022	2	2024
Rapid Development: LRASM: OTRR	3	2024	3	2024
Rapid Development: LRASM: OT	3	2024	2	2025
Rapid Development: Airborne Weapons Simulator: Design Contract Award	2	2019	2	2019
Rapid Development: Airborne Weapons Simulator: Acquisition Contract Award	4	2019	4	2019
Rapid Development: Airborne Weapons Simulator: Test Release	3	2021	3	2021
Rapid Development: Airborne Weapons Simulator: Fleet Release	1	2022	1	2022
Rapid Development: Airborne Weapons Simulator: Fielding	3	2022	3	2022
Rapid Development: Airborne Weapons Simulator: Fleet Deployment	4	2022	4	2022
Rapid Development: ASW Digitization: Fleet Release	3	2020	3	2020
RCI4: Common Weapons Synchronization: Development	4	2021	1	2025
RCI4: Common Weapons Synchronization: Test Release	4	2023	4	2023

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

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605500N / <i>Multi-Mission Maritime Aircraft (MMA) (P-8A)</i>	Project (Number/Name) 3368 / <i>P-8 Improvements</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
RCI4: Common Weapons Synchronization: Fleet Release	1	2025	1	2025
RCI4: ASW Phase 2: Development	2	2022	4	2025
RCI4: ASW Phase 2: Test Release	2	2024	2	2024
RCI4: ASW Enhancements: Development	4	2021	3	2025
RCI4: ASW Enhancements: Test Release	4	2023	4	2023
RCI5: Survivability Assurance: Contract Award	1	2023	1	2023
RCI5: Survivability Assurance: Pre-flight analysis	1	2023	4	2023
RCI5: Survivability Assurance: Test Release	2	2025	2	2025
RCI5: ASW Improvements: Test Release	4	2025	4	2025