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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604214M / <i>AV-8B Aircraft - Engine Dev</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	568.457	10.037	9.205	8.263	-	8.263	8.789	9.079	9.829	10.027	Continuing	Continuing
0652: <i>AV-8B</i>	568.457	10.037	9.205	8.263	-	8.263	8.789	9.079	9.829	10.027	Continuing	Continuing

A. Mission Description and Budget Item Justification

The program provides for AV-8B Design, Development, Integration, and Test of various platform improvements such as: Engine Life Management Program (ELMP), Escape Systems, Joint Mission Planning System (JMPS), and Block upgrades to various mission systems and software Operational Flight Programs (OFPs) to include JMPS integration, avionics and communications systems, navigation equipment, weapons carriage and countermeasures, and studies and analyses of future capability expansion and unique flight testing. The program also provides for addressing obsolescence and readiness of avionics structural, hydraulic, electrical, environmental and mechanical systems to include engineering activities for development and design to support aircraft safety flight clearances, concept explorations, responses to evolving threats and developments to support Program Objective Memorandum.

The program's Evolutionary Acquisition Strategy includes Design, Development, Integration, and Test activities under the consolidated effort of Block Developments which includes H7.0, H7.2, H7.3, H7.4 and follow-on block upgrades. The H7.0 block upgrade implemented full Link 16 capability, provided weapon improvements and integrated AIM-9X and Joint Standoff Weapon (JSOW). Link 16 is a Top 10 item in the Operational Advisory and Systems Safety Groups. Continued AV-8B combat relevance and ability to respond to evolving and emergent threats through end of service is critical to the Marine Air-Ground Task Force's ability to generate aviation combat power throughout the transition to F-35B. J-series, K-series, Tactical Targeting Network Technology, and other emerging datalink technology messages, as well as compliance with crypto modernization requirements and ability to use GPS-modernized weapons, are required to support current and future mission threats. Linked performance on par with current tactical platforms as well as design to communicate with F-35 is required for the AV-8B to remain tactically relevant to transition. H7.0 also included integration and test of weapons and sensors such as, but not limited to, AIM-9X, JSOW and Litening OFP V4. H7.2, H7.3, and H7.4 will continue to build upon the evolutionary acquisition strategy for OFPs and will improve pilot situational awareness, make pilot interface and weapon selection, and Link16 functionality improvements via OFP and Mission Planning updates, and will integrate required Display Computer processing improvements to enable these functionalities. OFP and integration improvements, to include continued use of current weapons as they are upgraded to modernized GPS capability, is vital to the Harrier's continued combat relevance to the Marine Expeditionary Unit and Global Response Force Combatant Commanders.

Additionally, software integration and stores expansion testing will be required for systems to include) Unique Weapons, survivability and Countermeasures, Second Generation Anti-jam Tactical UHF Radio for NATO (SATURN) communication waveform and associated radio and communication systems upgrades, Advanced Precision Kill Weapons System (APKWS), JDAM, AIM-9X, AIM-120, ALE-43, survivability upgrades, standoff weapons such as JSOW and Joint Air-to-Ground Missile (JAGM) as well as test of emergent tactical requirements, and test of crypto modernization compliance. AV-8B funding also supports peculiar flight test requirements to include weapons integration/carriage and avionics, software/firmware upgrades, and avionics hardware component redesign activity. Studies and analyses will be conducted on systems such as survivability systems, SATURN Communications and associated radio and communication systems upgrades, and Beyond Line of Sight (BLOS) to assess feasibility of integrating on the AV-8B. The program also provides for the AV-8B air vehicle's sustained mission availability, and safe and reliable operational readiness until end of service. Sustainment of the aircraft structure, subsystems and software requires component and system analyses, technical planning, identification, prioritization and diagnosis of emergent problems and the allocation of resources for the development, testing, and flight clearance of engineering solutions

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in the areas of flight, crew safety and escape systems and structural integrity, obsolescence, systems reliability and maintainability, inventory preservation, alternative mission development or other emergent material or equipment conditions affecting AV-8B systems readiness. Activities include research/analysis for system safety deficiency corrections, fuel system safety improvements, structural analyses, monitoring and integrity analysis, component compatibility, component and materials obsolescence analyses and mitigation development, explorations for aging equipment, reliability improvement analyses and design developments. The ELMP is a comprehensive plan to increase and maintain safety of flight and operational readiness of the AV-8B F402-RR-408 Engine and accessories. The program will accomplish this mission by conducting Engineering Project Description investigations to develop engineering solutions that address emergent safety, obsolescence, foreign object debris detection and prevention, fatigue life and maintenance issues.

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	10.146	9.205	8.358	-	8.358
Current President's Budget	10.037	9.205	8.263	-	8.263
Total Adjustments	-0.109	0.000	-0.095	-	-0.095
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.109	0.000			
• Program Adjustments	0.000	0.000	-0.167	-	-0.167
• Rate/Misc Adjustments	0.000	0.000	0.072	-	0.072

Change Summary Explanation

The decrease in FY24 funding is due to decreased requirement for Engine Component Improvement Program (CIP) efforts.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604214M / AV-8B Aircraft - Engine Dev				Project (Number/Name) 0652 / AV-8B			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
0652: AV-8B	568.457	10.037	9.205	8.263	-	8.263	8.789	9.079	9.829	10.027	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program provides for AV-8B Design, Development, Integration and Test of the following improvements: Engine Life Management Program (ELMP), Operational Flight Programs (OFPs) and Avionics/Weapons Integration, Escape System, readiness and obsolescence management. The ELMP is a comprehensive plan to increase safety of flight and operational readiness of the AV-8B F402-RR-408 Engine and Gas Turbine Starter (GTS), as well as other critical engine components. The Program Office will accomplish this mission through the Component Improvement Program (CIP), which entails Engineering Project Description investigations to derive safety and reliability improvements to the engine and engine components. H7.2, H7.3, and H7.4 will continue to build upon the evolutionary acquisition strategy for OFPs and will improve pilot situational awareness, make pilot interface and weapon selection, and Link16 functionality improvements via OFP and Mission Planning updates, and will integrate required Display Computer processing improvements to enable these functionalities. OFP and integration improvements, to include continued use of current weapons as they are upgraded to modernized GPS capability, is vital to the Harrier's continued combat relevance to the Marine Expeditionary Unit and Global Response Force Combatant Commanders. Other efforts include compliance with crypto modernization requirements, testing compatibility with GPS-modernized weapons, peculiar integration and flight test requirements such as weapons and countermeasures OFP updates, weapons integration and testing, sensors, and countermeasures integration and stores expansion to include APKWS, , Beyond-Line-of-Sight (BLOS) communications, SATURN Communication Waveform and any associated radio/communication systems upgrades, AIM-9X, ALE-43, standoff weapons such as JSOW, and unique flight test, study and component redesign efforts of other avionics, sensors, structural components, aircraft subsystems, weapons systems, or emergent tactical requirements as they arise. Efforts also include engineering activities for development, design and test to support aircraft safety, flight clearance and concept exploration for resolution of emergent safety, service life, escape systems, compatibility, obsolescence, and readiness issues as well as response to fleet urgent operational requirements.

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Operational Flight Program (OFP) and Aircraft/Avionics/Subsystem/Weapons Systems Development and Integration	9.219	7.542	7.463	0.000	7.463
Articles:	-	-	-	-	-
Description: Develop, integrate, and test aircraft OFP updates, weapons and countermeasures systems OFP updates, mission planning updates, Litening Pod software updates/capability expansions, support aircraft avionics development efforts, integrate and test unique weapons systems, sensors, and countermeasures such as AIM-120C, AIM-9X variants, APKWS, BLOS Communications, Crypto Modernization activities, SATURN communication waveform capabilities and associated radio/communication systems upgrades, avionics component obsolescence redesign efforts, survivability upgrades, ALE-43, standoff weapons such as JSOW and other weapons/avionics and sensor systems, avionics component redesign efforts and emergent tactical requirements as they arise, perform stores expansion testing, crypto modernization compatibility testing/					

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Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604214M / AV-8B Aircraft - Engine Dev	Project (Number/Name) 0652 / AV-8B

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

integration, GPS-modernization compatibility testing/integration and conduct Digital Interoperability (to include Link 16) integration, and test efforts. Develop solutions to obsolescence concerns to improve safety, readiness, structural integrity and systems reliability of the AV-8B aircraft.

FY 2023 Plans:

Extension of AV-8B end of service date to 2028 requires continued testing and integration efforts, as well as research and innovation studies for airframe, avionics, and subsystem engineering efforts to improve safety and reliability, and mitigate obsolescence issues. Funds will provide for efforts on the follow-on OFP software upgrade (H7.2/H7.3 and beyond), future capability studies and analysis efforts, efforts required to respond to evolving and emerging threats, peculiar flight test requirements to include various required weapons/ sensors/ countermeasures/crypto modernization/GPS modernization compatibility testing/stores expansion integration and testing such weapons/stores updates, ALE-43, SATURN, associated radio and communication system upgrades and other weapons/avionics systems as they arise. Additionally, funds will provide for continued research and innovation studies for airframe and subsystem safety and reliability improvements and engineering change proposals (ECPs). The program will continue to address known, predicted, and emergent obsolescence issues, and will continue fatigue life tracking analyses and algorithm update development. Fuselage fatigue life assessment will continue to ensure safe operation of the aircraft through the end of service. Systems engineering efforts will support ongoing and emergent analysis and design/development/test efforts required to address systems safety, structural integrity, obsolescence, performance and readiness issues, including efforts required to respond to evolving and emergent threats, mission systems, communication systems, navigation equipment, weapons carriage and countermeasures, structural, hydraulic, electrical, environmental, and mechanical systems.

FY 2024 Base Plans:

Extension of AV-8B end of service date to 2028 requires continued testing and integration efforts, as well as research and innovation studies for airframe, avionics, and subsystem engineering efforts to improve safety and reliability, and mitigate obsolescence issues. Funds will provide for efforts on the follow-on OFP software upgrade (H7.2/H7.3), future capability studies and analysis efforts, efforts required to respond to evolving and emerging threats, peculiar flight test requirements to include various required weapons/ sensors/ countermeasures/crypto modernization/GPS modernization compatibility testing/stores expansion integration and testing such weapons/stores updates, associated radio and communication system upgrades and other weapons/avionics systems as they arise. The program will continue to address known, predicted, and emergent obsolescence issues, and will continue fatigue life tracking analyses and algorithm update development. Fuselage fatigue life assessment will continue to ensure safe operation of the aircraft through the end of

FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<p>service. Systems engineering efforts will support ongoing and emergent analysis and design/development/ test efforts required to address systems safety, structural integrity, obsolescence, performance and readiness issues, including efforts required to respond to evolving and emergent threats, mission systems, communication systems, navigation equipment, weapons carriage and countermeasures, structural, hydraulic, electrical, environmental, and mechanical systems.</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Decrease from FY23 to FY24 due to decreased requirement for Government engineering support.</p>					
<p>Title: F402-RR-408 Engine Safety and Reliability Enhancements</p> <p align="right">Articles:</p> <p>Description: Improve Safety and Reliability of the F402-RR-408 Engine and accessories for the AV-8B Harrier.</p> <p>FY 2023 Plans: The engineering CIP will conduct engineering investigations to develop ECPs for improvements and design solutions to correct deficiencies resulting from safety, obsolescence and structural fatigue for the engine and engine accessories, to maintain readiness and to meet mission requirements. Conduct research and innovation studies for FOD mitigation and other operational environment changes to improve engine safety and reliability.</p> <p>FY 2024 Base Plans: The engineering CIP will conduct engineering investigations to develop ECPs for improvements and design solutions to correct deficiencies resulting from safety, obsolescence and structural fatigue for the engine and engine accessories, to maintain readiness and to meet mission requirements. Conduct research and innovation studies for FOD mitigation and other operational environment changes to improve engine safety and reliability.</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Decrease from FY23 to FY24 due to fewer Component Improvement Program (CIP) upgrades required.</p>	0.818 -	1.663 -	0.800 -	0.000 -	0.800 -
Accomplishments/Planned Programs Subtotals	10.037	9.205	8.263	0.000	8.263

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

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APN/0514: AV-8 Series	14.626	26.657	22.829	-	22.829	23.580	11.096	12.027	12.552	0.000	1,636.169

Remarks

D. Acquisition Strategy

Engineering efforts focused on obsolescence mitigation and readiness improvements ensure the maximum reliability and readiness levels for the AV-8B Type/ Model/Series by maintaining post production engineering and logistic support with the Original Equipment Manufacturers (OEMs). The program tracks readiness degraders, identifies and addresses obsolescence for all aircraft and avionics systems and subsystems, and identifies and addresses emerging in-service material developments related to ease of maintenance, safety, airframe life management and improved performance. The multi-disciplined team of program management, engineering, logistics, and financial personnel develop Engineering Change Proposals (ECPs), Rapid Action Minor Engineering Changes, Interim Rapid Action Changes to publications, trainer and support equipment modifications necessary to maintain aircraft reliability, readiness, and safety. The program also supports the constant improvement and analysis of fleet Fatigue Life Expended data to maximize aircraft structural life and to support the NAVAIR annual Structural Appraisal of Fatigue Effects report required by the Office of the Chief of Naval Operations (OPNAV), and structural fatigue life assessments to assure continued safe operation of the aircraft through the end of service date. Funding for the ELMP will be placed on a cost-type contract to Rolls-Royce to address safety of flight issues, top readiness degraders, engine removal and mission failure drivers in order to improve Fleet readiness and reduce cost of ownership of the F402-RR-408 and accessories. It is also developed to assess life management program issues and design fixes for any service revealed deficiencies. The program's Evolutionary Acquisition Strategy includes Design, Development, Integration, and Test activity under the consolidated effort of Block Developments: H2.0, H4.0, H5.0, H6.0, H6.1., H6.2, H7.0, and following OFPs (H7.3/ H7.4 and beyond). H7.0 OFP will provide the AV-8B integration of additional required Link 16 J-series messages, integration of AIM-9X and JSOW weapons, and APKWS integration updates. H7.0 will also be accomplished in conjunction with the Common Avionics Program and will integrate ADS-B (out), Mode 5, and Mode S capabilities. Follow on OFPs will address software improvements to enhance performance and usability of the aircraft software, and improvements to the display computer processing. Peculiar flight test efforts to include weapons, subsystem, avionics, survivability, and sensor integration such as AIM-120, AIM-9X, APKWS, ALE-43, ALR-67, standoff weapons such as JSOW, crypto modernization compliance integration/testing, GPS modernization compatibility, SATURN communication waveform and associated radio/communication systems upgrades, and other avionics/weapons and sensor systems and emergent tactical requirements and avionics component redesign actions as they arise. Studies and analyses will be accomplished to assess future capability expansion feasibility and integration concepts to include weapons expansion, BLOS communications, SATURN communication waveform and associated radio/ communication systems upgrades, survivability upgrades, and other potential avionics, subsystem, weapons, or software capabilities as they arise.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604214M / AV-8B Aircraft - Engine Dev	Project (Number/Name) 0652 / AV-8B
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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 Hardware Development - ELMP	C/CPFF	Rolls-Royce PLC : Bristol, GB	40.805	0.747	Dec 2021	1.113	Dec 2022	0.800	Dec 2023	-		0.800	Continuing	Continuing	Continuing
Primary Hardware Development - ELMP	WR	FRC E : Cherry Point, NC	0.116	0.071	Dec 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Primary Hardware Development - OFP	WR	NAWCWD : China Lake, CA	100.751	2.767	Dec 2021	0.000		0.000		-		0.000	0.000	103.518	103.518
Systems Engineering - OFP	C/CPFF	Boeing : St. Louis, MO	39.108	0.135	Apr 2022	0.000		0.000		-		0.000	0.000	39.243	39.243
Systems Engineering - OFP	WR	NAWCWD : China Lake, CA	4.189	0.091	Nov 2021	0.750	Nov 2022	0.789	Nov 2023	-		0.789	Continuing	Continuing	Continuing
Systems Engineering - OFP	WR	NAWCAD : Patuxent River, MD	13.305	0.400	Nov 2021	0.135	Nov 2022	0.000		-		0.000	0.000	13.840	13.840
Systems Engineering - OFP	WR	NAWCWD : Point Mugu	0.952	0.000		0.053	Nov 2022	0.054	Nov 2023	-		0.054	Continuing	Continuing	Continuing
Systems Engineering - OFP	C/CPFF	Wyle Labs : Patuxent River, MD	0.384	0.101	May 2022	0.000		0.000		-		0.000	0.000	0.485	0.485
Systems Engineering - OFP	C/CPFF	TBD : TBD	0.000	0.000		0.100	Apr 2023	0.100	Apr 2024	-		0.100	Continuing	Continuing	Continuing
Prior year cost no longer funded in the FYDP	Various	Various : Various	72.931	0.000		0.000		0.000		-		0.000	0.000	72.931	72.931
Subtotal			272.541	4.312		2.151		1.743		-		1.743	Continuing	Continuing	N/A

Remarks

Line 1: Decrease from FY23 to FY24 due to fewer Component Improvement Program (CIP) upgrades required.
 Line 5: Increase from FY23 to FY24 due to increased development of software updates.

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Studies & Analysis - OFP	C/CPFF	Boeing : St Louis, MO	8.857	0.000		0.102	Mar 2023	0.104	Mar 2024	-		0.104	0.000	9.063	9.063

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy												Date: March 2023				
Appropriation/Budget Activity				R-1 Program Element (Number/Name)						Project (Number/Name)						
1319 / 5				PE 0604214M / AV-8B Aircraft - Engine Dev						0652 / AV-8B						
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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	
Prior year cost no longer funded in the FYDP	Various	Various : Various	76.050	0.000		0.000		0.000		-		0.000	0.000	76.050	76.050	
Subtotal			84.907	0.000		0.102		0.104		-		0.104	0.000	85.113	N/A	
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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	
Developmental Test & Evaluation (DT&E)	WR	NAWCWD : China Lake, CA	40.267	3.515	Jan 2022	4.626	Dec 2022	4.668	Dec 2023	-		4.668	Continuing	Continuing	Continuing	
Operational Test & Evaluation (OT&E)	WR	COMOPTEVFOR : Norfolk, VA	26.021	0.358	Jan 2022	0.287	Jan 2023	0.293	Jan 2024	-		0.293	Continuing	Continuing	Continuing	
Developmental Test & Evaluation (DT&E)	WR	Eglin AFB : Eglin AFB, FL	0.080	0.008	Jan 2022	0.000		0.000		-		0.000	0.000	0.088	0.088	
Operational Test & Evaluation (OT&E)	C/CPFF	Delex Systems : Herndon, VA	0.000	0.000		0.113	Jan 2023	0.052	Jan 2024	-		0.052	0.000	0.165	0.165	
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	Various	Various : Various	69.708	0.000		0.000		0.000		-		0.000	0.000	69.708	69.708	
Subtotal			136.076	3.881		5.026		5.013		-		5.013	Continuing	Continuing	N/A	
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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 - OFP	WR	NAWCWD : China Lake	0.136	0.200	Nov 2021	0.000		0.000		-		0.000	0.000	0.336	0.336	
Government Engineering Support - OFP	WR	NAWCAD : Patuxent River, MD	9.780	1.614	Nov 2021	1.876	Nov 2022	1.353	Nov 2023	-		1.353	Continuing	Continuing	Continuing	
Travel	WR	Various : Various	2.279	0.030	Oct 2021	0.050	Oct 2022	0.050	Oct 2023	-		0.050	Continuing	Continuing	Continuing	
Prior year cost no longer funded in the FYDP	Various	Various : Various	62.738	0.000		0.000		0.000		-		0.000	0.000	62.738	62.738	

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Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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			
Subtotal			74.933	1.844		1.926		1.403		-		1.403	Continuing	Continuing	N/A

Remarks
Line 21: Decrease from FY23 to FY24 due to decreased requirement for Government engineering support.

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	568.457	10.037	9.205	8.263	-	8.263	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy **Date:** March 2023

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AV-8B AIRCRAFT - ENGINE DEV	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Acquisition Milestones				H7.0 IOC ▲				H7.2 IOC ▲				H7.3 IOC ▲				H7.4 IOC ▲												
Systems Development	Obsolescence Mitigation																											
Hardware Development	Fatigue Life Expended																											
Software Development	Fatigue Life Expended																											
Software Development	H7.2 Dev																											
Software Development					H7.3 Development																							
Software Development									H7.4 Development																			
Test & Evaluation																												
Technical Evaluation	H7.0 IT																											
					H7.2 DT/OT (IT)																							
									H7.3 DT/OT (IT)																			
													H7.4 DT/OT (IT)															
Production Milestones																												
Contract Awards: Engine Life Management Program (ELMP)	■					■					■					■					■					■		
Deliveries				H7.0 SW Del ▼				H7.2 SW Del ▼				H7.3 SW Del ▼				H7.4 SW Del ▼												

- ▲ Major Milestones
- Award
- ▼ One-time Event

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
AV-8B AIRCRAFT - ENGINE DEV				
Acquisition Milestones: H7.0 IOC	1	2023	1	2023
Acquisition Milestones: H7.2 IOC	4	2023	4	2023
Acquisition Milestones: H7.3 IOC	4	2024	4	2024
Acquisition Milestones: H7.4 IOC	4	2025	4	2025
Systems Development: Hardware Development: Obsolescence Mitigation Development	1	2022	4	2028
Systems Development: Software Development: H7.2 Development	1	2022	4	2022
Systems Development: Software Development: H7.3 Development	4	2022	1	2024
Systems Development: Software Development: H7.4 Development	4	2023	4	2025
Systems Development: Software Development: Fatigue Life Expended Development	1	2022	4	2028
Test & Evaluation: Technical Evaluation: H7.0 DT/OT (IT)	1	2022	4	2022
Test & Evaluation: Technical Evaluation: H7.2 DT/OT (IT)	1	2022	3	2023
Test & Evaluation: Technical Evaluation: H7.3 DT/OT (IT)	2	2023	4	2024
Test & Evaluation: Technical Evaluation: H7.4 DT/OT (IT)	4	2023	1	2025
Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY22	1	2022	1	2022
Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY23	1	2023	1	2023
Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY24	1	2024	1	2024
Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY25	1	2025	1	2025

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604214M / AV-8B Aircraft - Engine Dev	Project (Number/Name) 0652 / AV-8B
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY26	1	2026	1	2026
Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY27	1	2027	1	2027
Deliveries: H7.0 S/W Delivery	1	2023	1	2023
Deliveries: H7.2 S/W Delivery	4	2023	4	2023
Deliveries: H7.3 S/W Delivery	4	2024	4	2024
Deliveries: H7.4 S/W Delivery	4	2025	4	2025