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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 0604212N / <i>Other Helicopter Development</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	150.972	47.802	66.010	2.604	-	2.604	2.389	2.436	2.473	2.524	Continuing	Continuing
1109: <i>CH/MH-53</i>	110.495	2.838	3.657	2.604	-	2.604	2.389	2.436	2.473	2.524	Continuing	Continuing
3406: <i>Attack and Utility Replacement Aircraft</i>	40.477	44.964	62.353	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	147.794

A. Mission Description and Budget Item Justification

This Program Element includes funding for the development support for improvements to current systems for CH/MH-53 and development of USMC Vertical Take-Off and Landing (VTOL) Family of Systems (FoS) formerly Attack and Utility Replacement Aircraft (AURA) capability. The H-53 is the premier heavy lift helicopter for the Marine Corps and the only operational airborne mine sweeping platform for the Navy. H-53 RDT&E efforts focus on trade studies and risk reduction measures to identify candidate survivability, safety, avionics, cargo handling, cockpit and other airframe specific improvements to extend the service life. VTOL FoS is a USMC initiative to address vertical lift capability requirements and determine feasible and affordable solutions in support of the Warfighter.

B. Program Change Summary (\$ in Millions)

	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>
Previous President's Budget	49.312	66.010	111.464	-	111.464
Current President's Budget	47.802	66.010	2.604	-	2.604
Total Adjustments	-1.510	0.000	-108.860	-	-108.860
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.510	0.000			
• Program Adjustments	0.000	0.000	-108.860	-	-108.860
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000

Change Summary Explanation

Cost/Technical/Schedule:

1109:

FY 2024 funding increased since the previous President's Budget submission due to inflationary and working capital fund rate adjustments.

3406:

Cost: Funds decrease from FY 2023 to FY 2024 due to transfer of effort to new PE 0604212M beginning in FY 2024.

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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 0604212N / <i>Other Helicopter Development</i>	

Schedule: Concept Development and Tech Maturation start date moves from Q3 FY 2023 to Q1 FY 2023 to align with anticipated contract award.

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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 0604212N / Other Helicopter Development	Project (Number/Name) 1109 / CH/MH-53
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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
1109: CH/MH-53	110.495	2.838	3.657	2.604	-	2.604	2.389	2.436	2.473	2.524	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The H-53 helicopter is the premier heavy lift helicopter for the Marine Corps and the only operational airborne mine sweeping platform for the Navy. H-53 efforts will continue to develop and qualify components, prior to production and approval decisions, in order to replace obsolete system components. Emphasis will be placed on supportability improvement modifications that will sustain the H-53 aircraft until the transition of the H-53K is complete. These efforts combined, will significantly improve the readiness of the H-53 fleet while reducing long term operational and supportability costs. Survivability efforts to address improved situational awareness to pilots will include improved Digital Interoperability and improve Degraded Visual Environment Awareness. Modeling and simulation will be used to the maximum practical extent throughout this effort. Manned Flight Simulator will be utilized to develop, install and test interim modifications to existing H-53 legacy avionics, while maintaining the original basic system footprint and functionality. As a part of this effort, a complete Electro Magnetic Vulnerability assessment will be required for the affected and/or modified systems.

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: H-53 Avionics	1.317	1.695	1.173	0.000	1.173
Articles:	-	-	-	-	-
FY 2023 Plans:					
Continue to integrate software applications for cockpit and avionics improvements, to include the development of new sensors. Develop flight control computer and test set design modifications to address anticipated obsolescence issues. Conduct Business Case Analyses to determine impact of high Operation and Support cost drivers and address alternatives to mitigate identified issues. Investigate solutions for improved Degraded Visual Environmental to include coupled flight control capability.					
FY 2024 Base Plans:					
Continue to integrate software applications for cockpit and avionics improvements, to include the development of new sensors. Develop flight control computer and test set design modifications to address anticipated obsolescence issues. Conduct Business Case Analyses to determine impact of high Operation and Support cost drivers and address alternatives to mitigate identified issues. Investigate solutions for improved Degraded Visual Environmental to include coupled flight control capability.					
FY 2024 OCO Plans:					

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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 0604212N / <i>Other Helicopter Development</i>		Project (Number/Name) 1109 / CH/MH-53	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
N/A					
FY 2023 to FY 2024 Increase/Decrease Statement: Decrease of \$0.522 million from FY 2023 to FY 2024 due to decreased H-53 avionics obsolescence upgrades.					
Title: H-53 Survivability					
Articles:					
FY 2023 Plans: Continue to perform trade studies, risk reduction, design, development, model, integration and test activities for H-53 safety and survivability to include increased situational awareness via digital interoperability.					
FY 2024 Base Plans: Continue to perform trade studies, risk reduction, design, development, model, integration and test activities for H-53 safety and survivability to include increased situational awareness via digital interoperability.					
FY 2024 OCO Plans: N/A					
FY 2023 to FY 2024 Increase/Decrease Statement: Decrease of \$0.335 million from FY 2023 to FY 2024 due to decreased survivability analysis requirements.					
Title: Project Management Support					
Articles:					
FY 2023 Plans: Continue to provide in-house, field activity, and contractor support of IPTs to allow for studies and analyses, preparation of acquisition documentation and examination of equipment and avionics for the H-53. Efforts include, but are not limited to, government development support, engineering support, product management support, system engineering and logistics support, and travel for the H-53 program.					
FY 2024 Base Plans: Continue to provide in-house, field activity, and contractor support of IPTs to allow for studies and analyses, preparation of acquisition documentation and examination of equipment and avionics for the H-53. Efforts include, but are not limited to, government development support, engineering support, product management support, system engineering and logistics support, and travel for the H-53 program.					
FY 2024 OCO Plans:					

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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 0604212N / <i>Other Helicopter Development</i>	Project (Number/Name) 1109 / CH/MH-53

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A					
<i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> Decrease of \$0.196 million from FY 2023 to FY 2024 due to decreased avionics and survivability activities.					
Accomplishments/Planned Programs Subtotals	2.838	3.657	2.604	0.000	2.604

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/0528: <i>H-53 Series</i>	108.415	40.151	41.414	-	41.414	44.637	44.903	163.170	169.676	Continuing	Continuing

Remarks
APN-5 funding profile does not include funding designated for the CH-53K aircraft (OSIP 007-19).

D. Acquisition Strategy
This is a non-ACAT program. H-53 RDT&E efforts will focus on trade studies and risk reduction measures to identify candidate survivability, interoperability, safety, avionics, cargo handling, cockpit and other airframe specific improvements to extend the service life.

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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 0604212N / Other Helicopter Development	Project (Number/Name) 1109 / CH/MH-53
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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
Systems Engineering	WR	NAWC AD : Patuxent River, MD	10.118	0.383	Nov 2021	0.495	Nov 2022	0.490	Nov 2023	-		0.490	Continuing	Continuing	Continuing
Systems Engineering Contract	C/CPFF	Various : Various	4.161	0.310	Feb 2022	0.398	Feb 2023	0.387	Feb 2024	-		0.387	0.000	5.256	4.161
Systems Engineering	WR	Various : Various	5.641	0.141	Nov 2021	0.193	Nov 2022	0.188	Nov 2023	-		0.188	Continuing	Continuing	Continuing
Design and Development	WR	Various : Various	6.518	0.097	Mar 2022	0.121	Mar 2023	0.116	Mar 2024	-		0.116	0.000	6.852	-
Prior Year Prod Dev no longer funded in the FYDP	TBD	TBD : TBD	19.475	0.000		0.000		0.000		-		0.000	0.000	19.475	-
Subtotal			45.913	0.931		1.207		1.181		-		1.181	Continuing	Continuing	N/A

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
Software Development	Various	Various : Various	19.866	0.100	Mar 2022	0.125	Mar 2023	0.092	Mar 2024	-		0.092	Continuing	Continuing	Continuing
GFE	Various	NAWC AD : Patuxent River, MD	4.421	0.100	Nov 2021	0.124	Nov 2022	0.086	Nov 2023	-		0.086	Continuing	Continuing	Continuing
Subtotal			24.287	0.200		0.249		0.178		-		0.178	Continuing	Continuing	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)	Various	Various : Various	18.604	1.307	Mar 2022	1.704	Mar 2023	0.885	Mar 2024	-		0.885	Continuing	Continuing	Continuing
Subtotal			18.604	1.307		1.704		0.885		-		0.885	Continuing	Continuing	N/A

Remarks
T&E funding is in support of Obsolescence mitigation activities, as well as survivability analyses.

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

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604212N / <i>Other Helicopter Development</i>	Project (Number/Name) 1109 / CH/MH-53
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CH/MH-53	FY 2022				FY 2023				FY 2024			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones												
Engineering Milestones												
	Obsolescence Issues/Studies											
	Survivability Analysis											
	Legacy P3I Efforts											
	Safety Upgrades											
Test & Evaluation												

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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 0604212N / <i>Other Helicopter Development</i>	Project (Number/Name) 1109 / CH/MH-53

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
CH/MH-53				
Engineering Milestones: - Obsolescence Issues/Studies	1	2022	4	2028
Engineering Milestones: - Survivability Analysis	1	2022	4	2028
Engineering Milestones: - Legacy P3I Efforts	1	2022	4	2028
Engineering Milestones: - Safety Upgrades	1	2022	4	2028

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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 0604212N / Other Helicopter Development					Project (Number/Name) 3406 / Attack and Utility Replacement Aircraft		
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
3406: Attack and Utility Replacement Aircraft	40.477	44.964	62.353	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	147.794
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

USMC Vertical Take-Off and Landing (VTOL) Family of Systems (FoS) formerly Attack and Utility Replacement Aircraft (AURA) is a United States Marine Corps (USMC) Future Vertical Lift (FVL) initiative addressing vertical lift capability requirements that are feasible and affordable in support of the USMC Warfighter. This is a supporting element of the USMC's Force Design 2030 guidance. USMC VTOL FoS, will provide unmatched strategic, operational, and tactical agility to perform a multitude of missions currently unachievable by any conventionally configured rotorcraft. The USMC VTOL FoS is closely aligned to the OSD-sponsored FVL FoS initiative and will look to leverage any aspects of the Joint Service programs that may benefit the USMC through accelerated development and/or reduced life cycle costs. USMC VTOL FoS will be a force multiplier with superior performance, payload, survivability, agility, endurance, and reliability that enables warfighters to win in a future dynamic battlespace. USMC VTOL FoS will increase the Marine Air Ground Task Force's (MAGTF) capacity of long-range fires and the ability to move cargo and support dispersed expeditionary advanced bases with efforts such as a logistics connector.

USMC VTOL FoS will utilize DOTmLPF-P that will include all facets of a program with particular focus on life-cycle cost reductions through common processes, support equipment, logistic support and component commonality utilizing non-materiel solutions, such as maintenance strategies, training solutions, and infrastructure requirements. The air vehicle will include primary mechanical, electrical, pneumatic, and structural components such as drivetrain, generators, landing gear, hydraulics, controls, seats, etc. The mission subsystems will include all on and off-board components with embedded control software for those components that provide all mission functionality, cockpit displays, cockpit hardware subsystem controllers and interfaces. The architecture will include the fundamental organization of the complete system, the processing method/component(s), the platform software, the operating environment, and the on-aircraft infrastructure to facilitate integration of all subsystems and platform.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded for Design and Prototype Development leading to System Demonstration and includes conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Attack and Utility Replacement Aircraft	44.964	62.353	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2023 Plans:					
Tasks to be performed may include but are not limited to: Acquisition Program Management functions, Acquisition Documentation, Engineering modeling and analysis, Test and Evaluation planning and development,					

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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 0604212N / <i>Other Helicopter Development</i>	Project (Number/Name) 3406 / <i>Attack and Utility Replacement Aircraft</i>

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<p>a Model Based System Specification, continued concept development and technology maturation efforts in critical high-risk technology areas, culminating in design trade studies and prototyping on associated systems. Analytical approaches employed by USMC VTOL FoS will ensure a comprehensive look at USMC capability gaps, across aviation platforms, in order to quickly and efficiently address Fleet needs, agnostic to individual materiel solutions. Concept Development and Technology Maturation efforts will include but not be limited to studies, virtual simulation, conceptual design, prototyping of VTOL FoS Air Vehicles, Avionics, Propulsion and Dynamics, Communications and Navigation, Weapons and Fire Control, Human Systems Integration, Survivability and Vulnerability, Missions and Missions Systems Management, Reliability and Maintainability, Training, Logistics, Sensor, Pilotage and Targeting Systems, VMS/Flight Control, Integrated Digital Environment Development, Digital Engineering, Autonomy, Crewed/Uncrewed Systems, and Software/Hardware architecture. Support for these efforts will come from Government, Industry and academia such as Naval Research Labs, DARPA, Georgia Tech Research Institute, Johns Hopkins Applied Physics Lab, Pennsylvania State University Applied Research Lab, and various industry partners. Early collaboration with industry will advance technologies in the area of Modular Open Systems Approach (MOSA) to systems architectures, knowledge gains in the execution and adoption of Model Based Systems Engineering (MBSE) that can reduce timelines for engineering endeavors over traditional systems engineering approaches, and reduce risk in key technology areas, such as weapons carriage and employment that will be vital for the success of the USMC VTOL FoS.</p> <p>FY 2024 Base Plans: N/A</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funds decrease from FY 2023 to FY 2024 due to transfer of effort to new PE 0604212M beginning in FY 2024.</p>					
Accomplishments/Planned Programs Subtotals	44.964	62.353	0.000	0.000	0.000

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

N/A

Remarks

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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 0604212N / <i>Other Helicopter Development</i>	Project (Number/Name) 3406 / <i>Attack and Utility Replacement Aircraft</i>

D. Acquisition Strategy

The Analysis of Alternatives (AoA) was initiated in 3QFY2017 to begin the assessment of the technical feasibility, operational feasibility, technical risk, and affordability of potential solutions. The AoA was completed in FY2019 resulting in OSD Sufficiency. In FY 2021, acquisition and requirements documentation refinement continued. MBSE BAAs awarded and execution progressed, allowing the Program to gain insight alongside Industry in implementing Digital Engineering for systems design. In FY 2022, requirements analysis and document generation continued and multiple MOSA OTAs were awarded. Reductions in the technical risk associated with the Program justifies a direct Milestone B entry. In FY 2023, MOSA OTA execution will continue, multiple Weapons OTA awards will occur, a VTOL FoS CDD will be routed for MROC approval, and concept development and technology maturation efforts will continue.

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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 0604212N / Other Helicopter Development	Project (Number/Name) 3406 / Attack and Utility Replacement Aircraft
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Product Development (\$ 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			
Industry Technology Collaboration	C/CPFF	Various : Various	0.000	19.246	Nov 2021	19.234	Dec 2022	0.000		-		0.000	0.000	38.480	38.480
Joint All Domain Operations (JADO)/TAC Demo	C/CPFF	Various : Various	0.000	7.345	Nov 2021	10.019	Nov 2022	0.000		-		0.000	0.000	17.364	17.364
Studies and Analysis	C/CPFF	Various : Various	4.677	4.866	Nov 2021	0.000		0.000		-		0.000	0.000	9.543	9.543
Concept Development and Technology Maturation (CDTM)	C/CPFF	Various : Various	0.000	0.000		22.000	Dec 2022	0.000		-		0.000	0.000	22.000	22.000
Subtotal			4.677	31.457		51.253		0.000		-		0.000	0.000	87.387	N/A

Remarks
Funds decrease from FY 2023 to FY 2024 due to transfer of effort to new PE 0604212M beginning in FY 2024.

Support (\$ 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			
Development Support	WR	NAWCAD : Patuxent River, MD	12.366	6.085	Nov 2021	6.050	Nov 2022	0.000		-		0.000	0.000	24.501	-
Development Support	WR	Various : Various	7.086	3.366	Dec 2021	2.900	Dec 2022	0.000		-		0.000	0.000	13.352	-
Subtotal			19.452	9.451		8.950		0.000		-		0.000	0.000	37.853	N/A

Remarks
Funds decrease from FY 2023 to FY 2024 due to transfer of effort to new PE 0604212M beginning in FY 2024.

Test and Evaluation (\$ 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			
Developmental Test & Evaluation (DT&E)	WR	Various : Various	0.251	0.350	Nov 2021	0.500	Nov 2022	0.000		-		0.000	0.000	1.101	-

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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 0604212N / Other Helicopter Development	Project (Number/Name) 3406 / Attack and Utility Replacement Aircraft
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Test and Evaluation (\$ 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			
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	C/CPFF	Various : Various	4.551	0.000		0.000		0.000		-		0.000	0.000	4.551	4.551
Subtotal			4.802	0.350		0.500		0.000		-		0.000	0.000	5.652	N/A

Remarks
Funds decrease from FY 2023 to FY 2024 due to transfer of effort to new PE 0604212M beginning in FY 2024.

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			
Contractor Engineering Support	C/CPIF	Various : Various	5.596	2.669	Nov 2021	0.500	Nov 2022	0.000		-		0.000	0.000	8.765	8.765
Program Management Support	WR	Various : Various	5.195	1.037	Nov 2021	1.100	Nov 2022	0.000		-		0.000	0.000	7.332	-
Travel	WR	NAVAIR : Patuxent River, MD	0.755	0.000		0.050	Oct 2022	0.000		-		0.000	0.000	0.805	-
Subtotal			11.546	3.706		1.650		0.000		-		0.000	0.000	16.902	N/A

Remarks
Funds decrease from FY 2023 to FY 2024 due to transfer of effort to new PE 0604212M beginning in FY 2024.

	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	40.477	44.964	62.353	0.000	-	0.000	0.000	147.794	N/A

Remarks

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

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Vertical Take Off and Landing Family of Systems	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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																												
Concept Development and Tech Maturation					█	█	█	█																				
MBSE BAA	█	█	█			█	█	█																				
Weapons OTA		█	█		█	█	█	█																				
MOSA OTA		█	█		█	█	█	█																				
UARC Studies and Analysis	█	█	█		█	█	█	█																				

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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 0604212N / <i>Other Helicopter Development</i>	Project (Number/Name) 3406 / <i>Attack and Utility Replacement Aircraft</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Vertical Take Off and Landing Family of Systems</i>				
Systems Development: Concept Development and Tech Maturation: Concept Development and Tech Maturation	1	2023	4	2023
Systems Development: MBSE BAA: MBSE BAA	1	2022	3	2022
Systems Development: Weapons OTA: Weapons OTA	1	2023	4	2023
Systems Development: MOSA OTA: MOSA OTA	2	2022	4	2023
Systems Development: UARC Studies and Analysis: UARC Studies and Analysis	1	2022	4	2023