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

<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604216N / <i>Multi-Mission Helicopter Upgrade 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	1,653.664	52.962	54.684	62.350	-	62.350	63.851	64.302	44.098	34.800	Continuing	Continuing
1707: <i>MH-60 Development</i>	1,644.010	45.239	44.684	62.350	-	62.350	63.851	64.302	44.098	34.800	Continuing	Continuing
9999: <i>Congressional Adds</i>	9.654	7.723	10.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	27.377

**A. Mission Description and Budget Item Justification**

This Program Element funds the development and improvement of MH-60R/S systems. The MH-60R provides persistent distributed, integrated, and maneuverable capabilities in the support of the Navy's Fleet Design and Distributed Maritime Operations concepts through its primary missions: Intelligence, Surveillance, Reconnaissance & Targeting (ISR&T), Antisubmarine Warfare, Surface Warfare (SUW), Electronic Warfare, Command and Control, and Non-Combat Operations. Secondary missions include: Amphibious Warfare, Air Warfare, Health Services, Fleet Support - Operations, Logistics, and Naval Special Warfare (NSW). Primary missions of the MH-60S include Combat Logistics, SUW, NSW, Combat Search and Rescue, and Airborne Mine Countermeasures. Additional missions include ISR&T, Search and Rescue, Humanitarian Assistance and Defense Support for Civil Authorities.

**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	54.418	44.684	36.025	-	36.025
Current President's Budget	52.962	54.684	62.350	-	62.350
Total Adjustments	-1.456	10.000	26.325	-	26.325
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	10.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.456	0.000			
• Program Adjustments	0.000	0.000	26.134	-	26.134
• Rate/Misc Adjustments	0.000	0.000	0.191	-	0.191

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 9999: *Congressional Adds*

Congressional Add: *MH-60 Capability Upgrades*

	FY 2022	FY 2023
Congressional Add Subtotals for Project: 9999	7.723	10.000
Congressional Add Totals for all Projects	7.723	10.000

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**Appropriation/Budget Activity**  
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)

**R-1 Program Element (Number/Name)**  
PE 0604216N / Multi-Mission Helicopter Upgrade Dev

**Change Summary Explanation**

The FY 2024 funding request increased by a total of \$26.325M since the previous President's Budget submission for the following adjustments:

- Increase of \$26.134M for emerging critical Avionics, Mission Systems and Air Vehicle obsolescence (DMSMS) issues as well as Next Generation Joint Mission Planning System (NGNMPS).
- Increase of \$0.191 for miscellaneous rate adjustments.

Schedule: Network Enabled Weapons/TTNT Systems Development updated to reflect an end date from 4QFY2024 to 4QFY2023 due to Project plans/efforts redefined to other priorities and MIDS JTRS from 1QFY2025 to 4QFY2024 due to program acceleration. Display Obsolescence updated to reflect an end date from 2QFY2027 to 2QFY2028 due to emerging Display Glass Obsolescence (FY22-FY23) and need for redesigned display (FY23-FY28). Common ASE Test and Evaluation updated to reflect an end date from 4QFY2023 to 2QFY2024 due to additional test requirements and Radar DT from 4QFY2023 to 4QFY2024 due to software integration alignment, ALFS/Avionics Test and Evaluation updated from 4QFY2022 to 4QFY2024 due to extensive test program, Network Enabled Weapons/TTNT Test and Evaluation from 3QFY2024 to 3QFY2023 due to Project plans/efforts redefined for other priorities and MIDS JTRS from 4QFY2026 to 4QFY2024 due to program acceleration. Radar Tech Refresh in support of Minotaur updated to reflect a start date from 1QFY2025 to 3QFY2024 to align with current integration schedules and Avionics Obsolescence Solutions start date from 3QFY2022 to 1QFY2022 due to emerging obsolescence issues. Added NGNMPS schedule, Avionics DMSMS solutions, and Test and Evaluation for AFCC Obsolescence.

Technical: Not Applicable

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy										<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604216N / <i>Multi-Mission Helicopter Upgrade Dev</i>				<b>Project (Number/Name)</b> 1707 / <i>MH-60 Development</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
1707: <i>MH-60 Development</i>	1,644.010	45.239	44.684	62.350	-	62.350	63.851	64.302	44.098	34.800	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

The MH-60R/S program pursues upgrades and enhancements that pace the rapidly evolving threat and improve safety-of-flight for its pilots and aircrew. These efforts include improvements to existing sensors, network capabilities, weapon systems, avionics, communications, and navigation systems as well as integration of modern precision guided air-to-ground missiles, fixed-forward and crew-served weapons, the Sensor Operator Console, and data-fusion capability. The program is also evaluating Diminishing Manufacturing Sources and Material Shortages (DMSMS) and making incremental improvements to various airframe, flight safety, and mission-planning systems. The program will continue development of architecture to support integration of secure, over-the-horizon communications in addition to modern en route navigation and terminal approach systems. MH-60R/S research and development initiatives include the evaluation and validation of the platform's cybersecurity posture. The MH-60R/S program is pursuing capability studies on open hardware and software architectures, avionics, mission systems, and air-vehicle performance.

FY 2024 budget request funds the following:

1. System Configuration (SC) capability increases, including fuel management and safety, Advanced Offboard Electronic Warfare (AOEW), Modernized Tactical Networks (to include Network Enabled Weapons, Concurrent Multi-netting, and Tactical Targeting Network Technology messages), Common Aircraft Survivability Equipment (ASE), Radar Hardware and Software enhancements in support of Minotaur Family of Systems (MFOs), and Air Vehicle, Mission Systems and Avionics DMSMS solutions, to include MH-60 Displays, Embedded Global Positioning System(GPS)/Inertial Navigation System (INS), Radar technical refresh, and Advanced Flight Control Computer obsolescence redesign. Obsolescence issues are expected to impact MH-60R readiness/availability beginning in FY27. FY24 also commences development of Next Generation Naval Mission Planning System (NGNMPS) Mission Planning tool development and integration for enhanced MH-60 Mission Planning.
2. Development of critical aircraft survivability equipment upgrades, including the platform design for the integration of Common ASE/Distributed Aperture Infrared Counter Measures (DAIRCM) and initial investigation of a Passive Detection modern Radar Warning Receiver (RWR). Common ASE substantially improves the survivability of MH-60 aircraft, significantly enhancing the defense of high value units and enabling operations in high threat scenarios. Passive Detection/modern RWR will provide increased survivability and enable the MH-60 aircraft to be an Electronic Warfare Support Measures (ESM) node to provide threat awareness and targeting data to the Fleet.
3. Integration of Tactical Networking to enable over-the-horizon targeting, enhance target sorting, and serve as a force multiplier in network enabled weapon engagements.
4. DMSMS engineering, replacement part development, and qualification testing for known and forecasted Avionics, Mission Systems, Air Vehicle systems and other obsolete parts. These DMSMS solutions will provide considerations for cost reduction and improvement in reliability and performance. The obsolescence solutions will align with the Future Capabilities Roadmap to minimize duplication and align the mid-life upgrade configuration changes with the needed solutions. Major DMSMS/Obsolescence items include Pilot, Co-pilot, and Aircrew Displays and Automatic Flight Control Computer.
5. Radar Hardware and Software refreshment will enable the MH-60R to input into MFOs capabilities and integrated third-party applications will provide enhanced Battlespace Awareness and enriched over-the-horizon targeting support through improved national and tactical sensor integration via common data exchanges via enhanced Tactical Data Networks in support of Distributed Maritime Operations concepts.

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- 6. Developmental activities including capability studies, interoperability studies, and open hardware and software architectures definition in support of MH-60 mid life upgrades.
- 7. Development and integration of the MH-60 Next Generation Mission Planning System.

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<b>Title:</b> Avionics H/W and S/W Development	34.627	34.884	52.234	0.000	52.234
<b>Articles:</b>	-	-	-	-	-
<p><b>Description:</b> Development efforts support aircraft integration, problem investigation, lab management and upgrades, and repairs in support of the test program. Individual Avionics and Mission Systems hardware and software upgrades are integrated, tested and fielded as part of an overall MH-60 System Configuration (e.g. SC24, SC26, etc.). System Configuration fleet releases are planned for every two years to meet fleet requirements, add new capabilities, pace the threat, address obsolescence, and incorporate technology insertion. Avionics hardware and software development and integration efforts include: Pre-planned Product Improvements, new System Configurations, Radar enhancements, development of Network Enabled Weapons capability which includes the integration of Tactical Data Network modernization efforts, to include J11 and J12.6 series messages into the MH-60R/S Link-16 architecture and enhancements of the network architecture to include MIDS JTRS CMN-4 and TTNT, development of critical ASE upgrades, cyber evaluations/validations, Diminishing Manufacturing Sources and Material Shortages (DMSMS) solutions (to include Air Vehicle Systems, ALFS, Automatic Flight Control Computer (AFCC), Mission Systems and Avionics with emphasis on displays, Radar upgrades in support of Minotaur Family of Systems (MFoS)/Enhanced Data Correlation integration.</p> <p><b>FY 2023 Plans:</b> Continue MIDS JTRS CMN-4 and Tactical Targeting Network Technology integration in support of Net Enabled Weapons efforts. Continue System Configuration development and integration efforts. Continue activities for System Configuration development including integration of the Common ASE/DAIRCM and initial investigation of a Passive Detection modern RWR system to improve the battlespace awareness of the Fleet, survivability and Radar upgrades in support of MFoS capabilities, integration and third-party applications. Continue development efforts for MH-60 Air Vehicle, Avionics with emphasis on displays and Mission Systems DMSMS solutions.</p> <p><b>FY 2024 Base Plans:</b> Continue activities for System Configuration development including integration of the Common ASE/DAIRCM and initial investigation of a Passive Detection modern Radar Warning Receiver system to improve the battlespace awareness of the Fleet, survivability and MFoS capabilities and third-party applications. Continue development efforts for MH-60 Air Vehicle, Avionics and Mission Systems DMSMS solutions to include Radar,</p>					

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
AFCC and Display obsolescence efforts. Commence Next Generation Naval Mission Planning System (NGNMPS) development and integration.  <b>FY 2024 OCO Plans:</b> N/A  <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase of \$17.350M from FY 2023 to FY 2024 to commence development and integration of Next Generation Mission Planning System for MH-60 application, continue Radar upgrade in support of Minotaur Family of Systems, and continue emergent and critical obsolescence redesign efforts for Air Vehicle (AFCC), Mission Systems (Radar and ALFS) and Avionics (EGI and Displays).					
<b>Title:</b> Engineering and Logistics  <b>Articles:</b>	4.236	3.550	3.689	0.000	3.689
<b>FY 2023 Plans:</b> Continue to provide MH-60 engineering support, integrated logistics support, government furnished equipment, support equipment, program management, contract support services, and travel to support Radar corrections, System Configuration activities, Common ASE, and Tactical Data Links, to include data review, deficiency identification and correction, and capability fielding plans. Continue requirements definition and solution analysis for ALFS, Avionics Displays and Air Vehicle obsolescence mitigation efforts and Radar Upgrades in support of Minotaur FoS capabilities and third-party applications. Continue MH-60 Cyber Engineering and Mid-Life Upgrade Architectural analyses. Continue Systems Engineering and Logistics support of MIDS JTRS CMN-4 and future System Configuration efforts.  <b>FY 2024 Base Plans:</b> Continue to provide MH-60 engineering support, integrated logistics support, government furnished equipment, support equipment, program management, contract support services, and travel to support Radar corrections, System Configuration activities, Common ASE, and Tactical Data Links, to include data review, deficiency identification and correction, and capability fielding plans. Continue requirements definition and solution analysis for Mission Systems, Avionics and Air Vehicle obsolescence mitigation efforts and Radar upgrades in support of MFoS capabilities and third-party applications. Continue MH-60 Cyber Engineering and Mid-Life Upgrade Architectural analyses. Provide requirements decomposition and Systems Engineering and Logistics support in	-	-	-	-	-

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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
support of MIDS JTRS CMN-4 and future System Configuration efforts. Commence requirements development and integration activities for Next Generation Mission Planning System.  <b>FY 2024 OCO Plans:</b> N/A  <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase of \$0.139M from FY 2023 to FY 2024 due to Engineering and Logistics support for Radar Development activities.					
<b>Title:</b> Test and Evaluation  <b>Articles:</b>	6.376	6.250	6.427	0.000	6.427
<b>FY 2023 Plans:</b> Continue System Configuration, ALFS/Avionics Obsolescence, and Radar test and evaluation activities. Continue Common ASE and Tactical Data Link modernization test and evaluation and Obsolescence Solution test and evaluation planning.  <b>FY 2024 Base Plans:</b> Continue System Configuration testing (SC24 and SC26), ALFS/ Avionics Obsolescence, MIDS JTRS, and Radar test and evaluation activities. Continue Common ASE and Tactical Data Link modernization test and evaluation, Obsolescence Solution test and evaluation planning. Commence Radar Tech Refresh in support of Minotaur.  <b>FY 2024 OCO Plans:</b> N/A  <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase of \$0.177M from FY 2023 to FY 2024 for Avionics Obsolescence Solutions.	-	-	-	-	-
<b>Accomplishments/Planned Programs Subtotals</b>	45.239	44.684	62.350	0.000	62.350

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

Line Item	FY 2022	FY 2023	FY 2024	FY 2024	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	Cost To	
			Base	OCO	Total					Complete	Total Cost
• APN/0530: <i>SH60 Series</i>	94.708	136.238	106.495	-	106.495	114.762	133.229	151.338	167.519	Continuing	Continuing

**Remarks**

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604216N / <i>Multi-Mission Helicopter Upgrade Dev</i>	<b>Project (Number/Name)</b> 1707 / <i>MH-60 Development</i>

**D. Acquisition Strategy**

MH-60 research and development efforts will be developed using cost plus incentive fee type and cost plus fixed fee contracts.

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

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604216N / <i>Multi-Mission Helicopter U pgrade Dev</i>	<b>Project (Number/Name)</b> 1707 / <i>MH-60 Development</i>
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<b>Product Development (\$ in Millions)</b>				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			
Network Enabled Weapons/Data Link Enhancement	SS/CPIF	Lockheed Martin : Owego, NY	20.789	3.000	Nov 2021	2.694	Nov 2022	0.000		-		0.000	0.000	26.483	26.483
Cyber Evaluation/Validation	C/CPFF	JHU/APL : Laurel, MD	3.861	0.250	Jan 2022	0.250	Jan 2023	0.200	Jan 2024	-		0.200	0.400	4.961	4.961
Common ASE Architecture	SS/CPFF	Lockheed Martin : Owego, NY	2.800	2.500	Jan 2022	0.500	Dec 2022	0.000		-		0.000	0.000	5.800	5.800
Radar Development	C/CPFF	Lockheed Martin : Owego, NY	3.033	1.450	Feb 2022	1.250	Jan 2023	0.000		-		0.000	0.000	5.733	5.733
MH-60 DMSMS Solutions/Tech Insertion	SS/IDIQ	Various : Various	5.346	5.506	Dec 2021	14.000	Dec 2022	0.700	Mar 2024	-		0.700	0.000	25.552	24.852
Minotaur Development	SS/CPFF	Lockheed Martin : Owego, NY	2.100	4.971	Apr 2022	5.000	Dec 2022	13.125	Dec 2023	-		13.125	30.700	55.896	56.771
System Configuration Releases	SS/CPFF	Lockheed Martin : Owego, NY	7.464	5.000	Dec 2021	5.000	Dec 2022	6.000	Dec 2023	-		6.000	20.000	43.464	43.964
Mid-Life Upgrade	SS/CPFF	Lockheed Martin : Owego, NY	0.250	0.250	May 2022	0.250	May 2023	0.300	May 2024	-		0.300	0.400	1.450	1.450
MIDS JTRS CMN-4	SS/CPIF	Lockheed Martin : Owego, NY	0.000	11.700	Feb 2022	5.940	Dec 2022	1.500	Dec 2023	-		1.500	0.000	19.140	19.140
NextGen JMPS (NGNMPS)	SS/CPIF	Various : Various	0.000	0.000		0.000		9.784	Jan 2024	-		9.784	66.500	76.284	76.600
Avionics Obsolescence Efforts	TBD	Various : Various	0.000	0.000		0.000		0.800	Jan 2024	-		0.800	9.250	10.050	10.250
Air Vehicle AFCC Obsolesecnce	SS/CPIF	Lockheed Martin : Owego, NY	0.000	0.000		0.000		10.625	Jan 2024	-		10.625	34.300	44.925	46.300
Display Obsolescence	SS/CPIF	Lockheed Martin : Owego, NY	0.000	0.000		0.000		9.200	Jan 2024	-		9.200	6.739	15.939	15.939
Prior year Product Dev Cost no longer funded in the FYDP	Various	Various : Various	1,176.887	0.000		0.000		0.000		-		0.000	0.000	1,176.887	1,176.887
<b>Subtotal</b>			1,222.530	34.627		34.884		52.234		-		52.234	168.289	1,512.564	N/A

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<b>Product Development (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>		<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>				

**Remarks**  
 1. MH-60 DMSMS Solutions/Tech Insert has been further defined for FY24 as Avionics Obsolescence Efforts, Air Vehicle AFCC Obsolescence and Display Obsolescence.  
 2. Increase from FY23 to FY24 reflects the addition of NextGen NMPS and increase in Obsolescence requirements.

<b>Support (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>		<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>				
Government Eng Support, Mid-Life Upgrade	Various	Various : Various	1.394	0.050	Nov 2021	0.049	Nov 2022	0.200	Nov 2023	-		0.200	Continuing	Continuing	Continuing	
Government Eng Support, Net Enabled Weapons/ Data Link Enhancement	Various	Various : Various	1.574	0.400	Nov 2021	0.287	Nov 2022	0.000		-		0.000	0.000	2.261	-	
Government Eng Support, Common ASE Architecture	Various	Various : Various	1.050	0.300	Nov 2021	0.296	Nov 2022	0.100	Nov 2023	-		0.100	0.000	1.746	-	
Government Eng Support, Radar Dev	Various	Various : Various	2.055	0.300	Nov 2021	0.296	Nov 2022	0.281	Nov 2023	-		0.281	0.000	2.932	-	
Government Eng Support, DMSMS	WR	NAWC AD : Patuxent River, MD	0.318	0.636	Nov 2021	1.090	Nov 2022	0.200	Nov 2023	-		0.200	Continuing	Continuing	Continuing	
Government Eng Support, System Configuration Releases	Various	Various : Various	0.870	0.300	Nov 2021	0.296	Nov 2022	0.350	Nov 2023	-		0.350	Continuing	Continuing	Continuing	
Government Eng Support, Cyber Evaluation	Various	Various : Various	0.200	0.200	Nov 2021	0.198	Nov 2022	0.050	Nov 2023	-		0.050	Continuing	Continuing	Continuing	
Government Eng Support, Minotaur	Various	Various : Various	0.000	0.250	Nov 2021	0.494	Nov 2022	1.000	Nov 2023	-		1.000	4.050	5.794	-	
Government Eng Support, MIDS JTRS CMN-4	Various	Various : Various	0.000	0.500	Nov 2021	0.494	Nov 2022	0.200	Nov 2023	-		0.200	0.000	1.194	-	
Government Eng Support, ALFS	Various	Various : Various	0.000	1.250	Nov 2021	0.000		0.000		-		0.000	0.000	1.250	-	

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<b>Support (\$ in Millions)</b>				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			
Government Eng Support, NextGen JMPS (NGNMPS)	Various	Various : Various	0.000	0.000		0.000		0.500	Nov 2023	-		0.500	2.800	3.300	-
Government Eng Support, Air Vehicle AFCC Obsolescence	Various	Various : Various	0.000	0.000		0.000		0.379	Nov 2023	-		0.379	2.000	2.379	-
Government Eng Support, Display Obsolescence	Various	Various : Various	0.000	0.000		0.000		0.379	Nov 2023	-		0.379	2.000	2.379	-
Prior year support cost no longer funded in the FYDP	Various	Various : Various	167.296	0.000		0.000		0.000		-		0.000	0.000	167.296	-
<b>Subtotal</b>			174.757	4.186		3.500		3.639		-		3.639	Continuing	Continuing	N/A

**Remarks**  
Increase from FY23 to FY24 to provide increased Engineering and Logistics support for Radar Development activities.

<b>Test and Evaluation (\$ in Millions)</b>				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	NAWC AD : Patuxent River, MD	8.139	6.376	Nov 2021	6.250	Nov 2022	6.427	Nov 2023	-		6.427	Continuing	Continuing	Continuing
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	Various	Various : Various	199.163	0.000		0.000		0.000		-		0.000	0.000	199.163	-
<b>Subtotal</b>			207.302	6.376		6.250		6.427		-		6.427	Continuing	Continuing	N/A

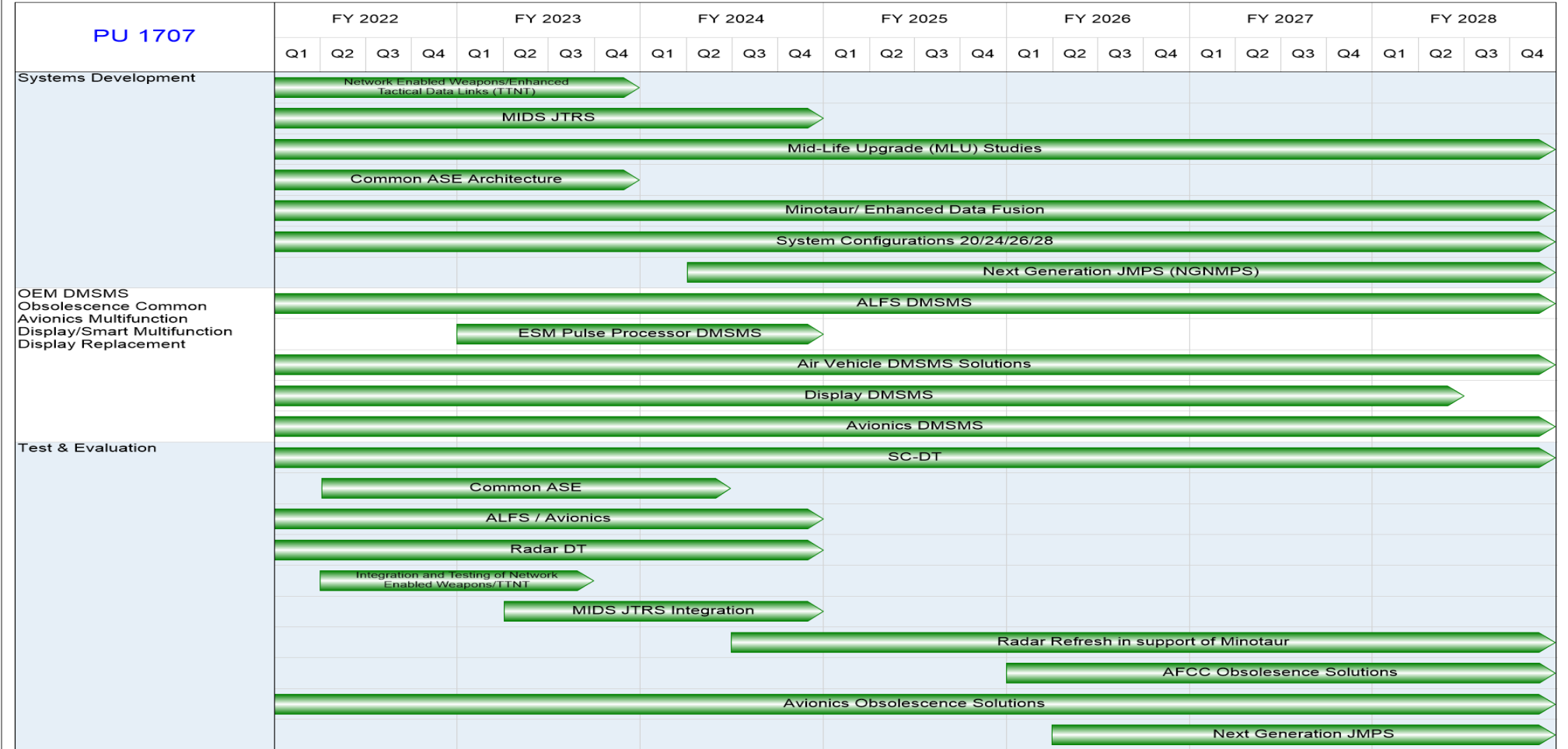
<b>Management Services (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Travel	WR	NAWC AD : Patuxent River, MD	5.165	0.050	Oct 2021	0.050	Oct 2022	0.050	Oct 2023	-		0.050	0.200	5.515	-



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

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604216N / <i>Multi-Mission Helicopter U pgrade Dev</i>	<b>Project (Number/Name)</b> 1707 / <i>MH-60 Development</i>
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Budget Schedule 06-15-22\_KH.mpp Snapshot Date: 6/16/2022 Created in OnePager® Pro

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604216N / <i>Multi-Mission Helicopter Upgrade Dev</i>	<b>Project (Number/Name)</b> 1707 / <i>MH-60 Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>PE 0604216N: Multi-Mission Helicopter Upgrade Development</i></b>				
Systems Development: Network Enabled Weapons/Enhanced Tactical Data Links (TTNT)	1	2022	4	2023
Systems Development: MIDS JTRS	1	2022	4	2024
Systems Development: MLU Studies	1	2022	4	2028
Systems Development: Common ASE Architecture	1	2022	4	2023
Systems Development: Minotaur/Enhanced Data Correlation	1	2022	4	2028
Systems Development: System Configurations 20 /24 / 26 / 28	1	2022	4	2028
Systems Development: Systems Development: Next Generation JMPS (NGNMPS)	2	2024	4	2028
OEM DMSMS Obsolescence: ALFS DMSMS	1	2022	4	2028
OEM DMSMS Obsolescence: ESM Pulse Processor DMSMS	1	2023	4	2024
OEM DMSMS Obsolescence: Air Vehicle DMSMS Solutions	1	2022	4	2028
OEM DMSMS Obsolescence: Display DMSMS	1	2022	2	2028
OEM DMSMS Obsolescence: Avionics obsolescence	1	2022	4	2028
Test and Evaluation: System Configurations DT	1	2022	4	2028
Test and Evaluation: Common ASE	2	2022	2	2024
Test and Evaluation: ALFS / Avionics	1	2022	4	2024
Test and Evaluation: Radar DT	1	2022	4	2024
Test and Evaluation: Integration and Testing of Network Enabled Weapons/TTNT	2	2022	3	2023
Test and Evaluation: MIDS JTRS Integration	2	2023	4	2024
Test and Evaluation: Radar Tech Refresh in support of Minotaur	3	2024	4	2028
Test and Evaluation: Avionics Obsolescence Solutions	1	2022	4	2028

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

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604216N / <i>Multi-Mission Helicopter Upgrade Dev</i>	<b>Project (Number/Name)</b> 1707 / <i>MH-60 Development</i>
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<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
Test and Evaluation: AFCC Obsolescence Solutions	1	2026	4	2028
Test and Evaluation: Next Generation JMPS (NGNMPS)	2	2026	4	2028

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

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604216N / <i>Multi-Mission Helicopter Upgrade Dev</i>	<b>Project (Number/Name)</b> 9999 / <i>Congressional Adds</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
9999: <i>Congressional Adds</i>	9.654	7.723	10.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	27.377
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

FY 2023 Congressional Capability Upgrade funding of \$10.0 million will fund initial analysis and development of enhanced Electronic Support Measures, Lab and Ground Test Vehicle upgrades, continued studies in support of Avionics and Mission Systems obsolescence upgrades, Integration and Test of the MH-60R Digital Magnetic Anomaly Detection System, and updates to MH-60 training certificates.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2022	FY 2023
<b>Congressional Add:</b> MH-60 Capability Upgrades	7.723	10.000
<b>FY 2022 Accomplishments:</b> FY 2022 funding supports initial analysis and development of Improved Radar hardware and software, enhanced flight control software to improve Airborne Low Frequency Sonar operations, air vehicle subsystem enhancements, avionics improvements, MH-60 trainer improvements, and Anti-Submarine Warfare and Data Link demonstrations and certifications.		
<b>FY 2023 Plans:</b> FY 2023 funding supports initial analysis and development of enhanced Electronic Support Measures, Lab and Ground Test Vehicle upgrades, continued studies in support of Avionics and Mission Systems obsolescence upgrades, Integration and Test of the MH-60R Digital Magnetic Anomaly Detection System, and updates to MH-60 training certificates.		
<b>Congressional Adds Subtotals</b>	7.723	10.000

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

N/A

**Remarks**

**D. Acquisition Strategy**

N/A

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

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604216N / <i>Multi-Mission Helicopter Upgrade Dev</i>	<b>Project (Number/Name)</b> 9999 / <i>Congressional Adds</i>
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<b>Product Development (\$ in Millions)</b>				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			
Avionics SC24 IFF Mode 5 SW	SS/CPAF	Lockheed Martin : Owego, NY	0.733	0.000		0.000		0.000		-		0.000	0.000	0.733	-
Common ASE	SS/CPFF	Lockheed Martin : Owego, NY	0.786	0.000		0.000		0.000		-		0.000	0.000	0.786	-
System Configuration Releases	SS/CPFF	Lockheed Martin : Owego, NY	0.583	0.000		0.000		0.000		-		0.000	0.000	0.583	-
Tactical Targeting Network Technology	C/CPFF	ViaSat, Inc. : Carlsbad, CA	0.902	0.000		0.000		0.000		-		0.000	0.000	0.902	-
Digital ESM	C/CPIF	Various : Various	0.700	0.000		0.000		0.000		-		0.000	0.000	0.700	-
AFCC Control Laws for ALFS	C/CPIF	Lockheed Martin : Owego, NY	0.780	0.000		0.000		0.000		-		0.000	0.000	0.780	-
AMCM Trade Study	C/CPIF	Lockheed Martin : Owego, NY	1.750	0.000		0.000		0.000		-		0.000	0.000	1.750	-
Display Trade Study	C/CPIF	Lockheed Martin : Owego, NY	2.500	0.000		0.000		0.000		-		0.000	0.000	2.500	-
AFCS Control Laws	SS/CPFF	Lockheed Martin : Owego, NY	0.000	1.000	Jul 2022	0.000		0.000		-		0.000	0.000	1.000	-
Radar Tech Refresh	SS/CPFF	Lockheed Martin : Owego, NY	0.000	1.000	Jun 2022	0.000		0.000		-		0.000	0.000	1.000	-
AV Improvements: Pitch Rate Gyro	SS/CPFF	Lockheed Martin : Owego, NY	0.000	0.500	Aug 2022	0.000		0.000		-		0.000	0.000	0.500	-
Radar Interim Level Maintenance Enhancements	C/CPFF	Various : Various	0.000	1.000	Jun 2022	0.000		0.000		-		0.000	0.000	1.000	-
Net Ready Certification	C/CPFF	Various : Various	0.000	0.500	Jun 2022	0.000		0.000		-		0.000	0.000	0.500	-
Enhanced Electronic Support Measures Demo	SS/CPFF	Lockheed Martin : Owego, NY	0.000	0.300	Aug 2022	0.000		0.000		-		0.000	0.000	0.300	-
Commercial Off The Shelf Trainer Improvements	SS/CPFF	Lockheed Martin : Owego, NY	0.000	1.000	Aug 2022	0.000		0.000		-		0.000	0.000	1.000	-
Advanced Anti Submarine Warfare Analysis of Alternatives	C/CPFF	Various : Various	0.000	0.100	Jun 2022	0.000		0.000		-		0.000	0.000	0.100	-

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

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604216N / <i>Multi-Mission Helicopter Upgrade Dev</i>	<b>Project (Number/Name)</b> 9999 / <i>Congressional Adds</i>
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<b>Product Development (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
SC24 Improvements	SS/CPFF	Lockheed Martin : Owego, NY	0.000	1.000	Jun 2022	0.000		0.000		-		0.000	0.000	1.000	-
Electronic Support Measures Autoloader Enhancements	SS/CPFF	Lockheed Martin : Owego, NY	0.000	0.700	Jun 2022	0.000		0.000		-		0.000	0.000	0.700	-
Aircraft Test Vehicle/Lab Upgrades	C/CPFF	Lockheed Martin : Owego, NY	0.000	0.000		4.800	Jun 2023	0.000		-		0.000	0.000	4.800	-
Electronic Support Measures Upgrade	C/CPFF	General Dynamics Information Technology : Falls Church, VA	0.000	0.000		1.000	Apr 2023	0.000		-		0.000	0.000	1.000	-
Training System Upgrades	C/CPFF	Lockheed Martin : Owego, NY	0.000	0.000		1.400	Jun 2023	0.000		-		0.000	0.000	1.400	-
Training System Upgrades	WR	NAWC AD : Patuxent River, MD	0.000	0.000		0.600	Apr 2023	0.000		-		0.000	0.000	0.600	-
Organic Software Test Bench	WR	NAWC AD : Patuxent River, MD	0.000	0.000		1.200	Apr 2023	0.000		-		0.000	0.000	1.200	-
<b>Subtotal</b>			8.734	7.100		9.000		0.000		-		0.000	0.000	24.834	N/A

<b>Support (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
Government Eng Support, Obsolescence	Various	Various : Various	0.689	0.000		0.000		0.000		-		0.000	0.000	0.689	-
Government Eng Support, Capability Upgrade	WR	NAWC WD : China Lake, CA	0.170	0.000		0.000		0.000		-		0.000	0.000	0.170	-
Contractor Eng Support, Obsolescence	Various	Various : Various	0.061	0.000		0.000		0.000		-		0.000	0.000	0.061	-
Government Eng Support, Capability Upgrade	WR	NAWC AD : Patuxent River, MD	0.000	0.623	Apr 2022	0.500	Apr 2023	0.000		-		0.000	0.000	1.123	-
<b>Subtotal</b>			0.920	0.623		0.500		0.000		-		0.000	0.000	2.043	N/A



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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy

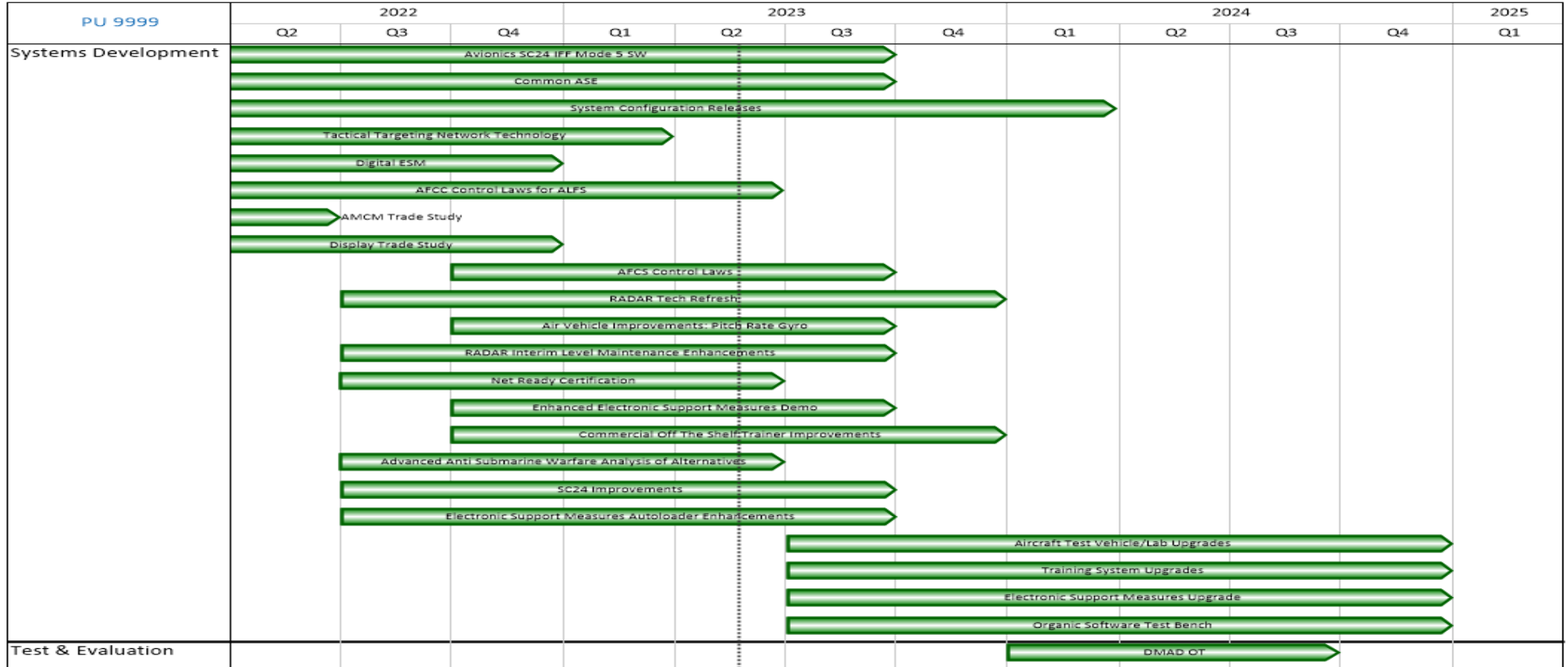
Date: March 2023

Appropriation/Budget Activity  
1319 / 5

R-1 Program Element (Number/Name)  
PE 0604216N / Multi-Mission Helicopter U  
pgrade Dev

Project (Number/Name)  
9999 / Congressional Adds

## Congressional Schedule PB24



Congressional Schedule PB24\_PU 9999

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Status Date: 3/8/2022

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2024 Navy</b>		<b>Date: March 2023</b>
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604216N / <i>Multi-Mission Helicopter Upgrade Dev</i>	<b>Project (Number/Name)</b> 9999 / <i>Congressional Adds</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 9999</b>				
Systems Development: Avionics SC24 IFF Mode 5 Software	1	2022	3	2023
Systems Development: Common ASE	1	2022	3	2023
Systems Development: System Configuration Releases	1	2022	1	2024
Systems Development: Tactical Targeting Network Technology	1	2022	1	2023
Systems Development: Digital ESM	1	2022	4	2022
Systems Development: AFCC Control Laws for ALFS	1	2022	2	2023
Systems Development: AMCM Trade Study	1	2022	2	2022
Systems Development: Display Trade Study	1	2022	4	2022
Systems Development: AFCS Control Laws	4	2022	3	2023
Systems Development: Radar Tech Refresh	3	2022	4	2023
Systems Development: Air Vehicle Improvements: Pitch Rate Gyro	4	2022	3	2023
Systems Development: Radar Interim Level Maintenance Enhancements	3	2022	3	2023
Systems Development: Net Ready Certification	3	2022	2	2023
Systems Development: Enhanced Electronic Support Measures Demo	4	2022	3	2023
Systems Development: Commercial Off The Shelf Trainer Improvements	4	2022	4	2023
Systems Development: Advanced Anti Submarine Warfare Analysis of Alternatives	3	2022	2	2023
Systems Development: SC24 Improvements	3	2022	3	2023
Systems Development: Electronic Support Measures Autoloader Enhancements	3	2022	3	2023
Systems Development: Aircraft Test Vehicle/Lab Upgrades	3	2023	4	2024
Systems Development: Electronic Support Measures Upgrade	3	2023	4	2024
Systems Development: Training Systems Upgrades	3	2023	4	2024

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

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604216N / <i>Multi-Mission Helicopter Upgrade Dev</i>	<b>Project (Number/Name)</b> 9999 / <i>Congressional Adds</i>
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<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
Systems Development: Organic Software Test Bench	3	2023	4	2024
Test and Evaluation: DMAD OT	1	2024	3	2024