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**Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Navy** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / <i>Tomahawk Mssn Planning Ctr</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	4,125.818	119.751	122.834	200.739	-	200.739	92.445	48.739	39.820	40.612	Continuing	Continuing
0545: <i>TOMAHAWK</i>	3,314.276	0.000	0.000	35.800	-	35.800	5.227	0.000	0.000	0.000	0.000	3,355.303
4032: <i>NAV/COMMS</i>	9.259	0.000	2.969	20.920	-	20.920	27.073	7.876	1.475	1.505	Continuing	Continuing
4033: <i>M-Code</i>	75.053	8.433	26.301	15.399	-	15.399	3.226	0.000	0.000	0.000	0.000	128.412
4034: <i>Maritime Strike</i>	541.595	73.783	54.371	82.145	-	82.145	29.562	19.072	19.597	19.988	Continuing	Continuing
4035: <i>JMEWS</i>	125.271	21.086	22.012	28.352	-	28.352	9.248	3.149	0.000	0.000	0.000	209.118
4036: <i>TTWCS TMPC PPPI</i>	60.364	16.449	17.181	18.123	-	18.123	18.109	18.642	18.748	19.119	Continuing	Continuing

**Program MDAP/MAIS Code:**  
**Project MDAP/MAIS Code(s):** 289

**Note**  
 Project 0545 Tomahawk is a FY 2025 new start.

**A. Mission Description and Budget Item Justification**  
 Funds support development of the Tomahawk Weapons System (TWS) encompassing Tactical Tomahawk upgrades including baseline improvements into the Block V missile All-Up Round (AUR), Tactical Tomahawk Weapons Controls System (TTWCS), Theater Mission Planning Center (TMPC) upgrades and other missile system improvements to maintain pace with threats. The TWS provides a long range cruise missile attack capability against fixed, mobile, and maritime targets. Tomahawk is capable of being deployed from both submarines and surface ships and increases the total capability of joint forces.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under Operational Systems Development because it includes development efforts to upgrade systems that have been fielded or have received approval for Full Rate Production (FRP) and anticipate funding in the current or subsequent fiscal year.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Navy** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319: Research, Development, Test & Evaluation, Navy / BA 7: Operational Systems Development	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
Previous President's Budget	122.719	122.834	160.049	-	160.049
Current President's Budget	119.751	122.834	200.739	-	200.739
Total Adjustments	-2.968	0.000	40.690	-	40.690
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.968	0.000			
• Program Adjustments	0.000	0.000	40.790	-	40.790
• Rate/Misc Adjustments	0.000	0.000	-0.100	-	-0.100

**Change Summary Explanation**

Financial: The FY 2025 increase of \$40.69M is driven by an increase of \$18.8M for JMEWS to continue the EMD and post Critical Design Review testing, an increase of \$11.059M for M-Code to support cost increases, an increase of \$12.351M for Efforts include increase in rotatable pool recertifications, Thrust Vector Controller (TVC) redesign, Digital Imagery Exploitation Engine (DIEE) integration into TMPC software, Hardware in the Loop (HIL) obsolescence upgrades, and ISBS components redesign, and a decrease of \$1.52M for minor economic adjustments for items such as civilian pay, inflation, and fuel pricing.

Overall funding increase from FY 2024 to FY 2025 is driven by multiple factors. Increased FY 2025 funding for PU 0545 Tomahawk (+\$35.8M) to begin Guidance Electronics Unit - Redesign effort in order to avoid a future break in Tomahawk production. Increased FY 2025 funding for PU 4032 NAV/COMMs (+\$17.951M) for test platform equipment, capabilities development and integration testing. Increased FY 2025 funding to PU 4034 Maritime Strike (+\$27.774M) due to contractor delays requiring a contract extension to finish software integration efforts and deliver initial capability to the fleet. Increased FY 2025 funding to PU 4035 JMEWS (+\$6.340M) due to prior year testing results driving a need to continue EMD and post Critical Design Review testing in order to satisfy Insensitive Munitions (IM) requirements, Hazard Classification (HC) testing, fuse and warhead qualification, systems engineering reviews, Safety Review Board, and maintain Q4 FY 2027 Fleet Release.

Schedule:

PU 4033 M-Code:

Increment I Fleet Release updated name to Initial Operating Capability (IOC) and date moved from 2Q FY 2026 to 1Q FY 2027.

Milestone C moved from 2Q FY 2025 to 4Q FY 2025.

IT-C moved from 4Q FY 2025- 2Q FY 2026 to 4Q FY 2025 - 1Q FY 2027.

Added M-Code LRIP Contract Award.

Changed M-Code FRP Lot-1 Contract Award from 2Q FY 2025 to 2Q FY 2026.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2025 Navy		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy I BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / <i>Tomahawk Mssn Planning Ctr</i>	
<p>Changed M-Code FRP Lot-2 Contract Award from 2Q FY 2026 to 2Q FY 2027. Changed M-Code FRP Lot-3 Contract Award from 2Q FY 2027 to 2Q FY 2028. Changed Test and Evaluation OT(v5.6.1) to FT(v5.6.1). Moved TTWCS v5.6.0/v5.6.1 Testing from 2Q FY 2025 - 3Q FY 2025 to 4Q FY 2025 - 2Q FY 2026. Moved Combat &amp; Control Systems GTS Testing from 2Q FY 2025 - 4Q FY 2025 to 4Q FY 2025 - 1Q FY 2026.</p> <p>PU 4034 Maritime Strike: Milestone names updated to reflect MST transition from an RDC to an ACAT IC sub-program. IOC moved from 1Q FY 2025 to 4Q FY 2027. Added Early Operational Capability (EOC) in 4Q FY 2025. Added FRP-DR 4Q FY 2027. Added Deliveries for Software and Simulations. Added Integration. Removed Test &amp; Evaluation and Reviews/CDR/Engineering/Dev. Moved LRP 1/2 deliveries from 1Q FY 2024 - 4Q 2024 to 3Q FY 2024 - 3Q FY 2025. Moved LRP 3 deliveries from 4Q FY 2024 - 4Q FY 2025 to 1Q FY 2025 - 1Q FY 2026. Moved LRP 4 deliveries from 4Q FY 2025 - 4Q FY 2026 to 4Q FY 2025 - 4Q FY 2026. Renamed LRP5 to Lot 5. Renamed FRP 1 to Lot 6 and moved deliveries from 4Q FY 2027 - 4Q FY 2028 to 1Q FY 2028 - 1Q FY 2029. Renamed FRP 2 to Lot 7 and moved deliveries from 4Q FY 2028 - 4Q FY 2028 to 1Q FY 2029 - 4Q FY 2029. Added TTWCS.</p> <p>PU 4035 JMEWS: TTWCS v7.x Development/Testing moved from 1Q FY 2023-4Q FY 2026 to 3Q FY 2023-2Q FY 2026. Moved Transition to Production from 2Q FY 2024-2Q FY 2025 to 1Q FY 2025-1Q FY 2026. Added Delta CDR 3Q FY 2024. Long Lead Energetics renamed LRIP Long Lead Energetics and moved from 1Q FY 2023-3Q FY 2024 to 3Q FY 2023-1Q FY 2025. Added FRP Long Lead Energetics. Contract Award Transition to Production (CA TTP) moved from 1Q FY 2025 to 2Q FY 2025. PRR moved from 1Q FY 2025 to 3Q FY 2025. Milestone C moved from 2Q FY 2025 to 3Q FY 2025. Added Delta Design Review 1Q FY 2024.</p> <p>PU 4036 TTWCS/TMPC:</p>		

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2025 Navy		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / <i>Tomahawk Mssn Planning Ctr</i>	
<p>Added TMPC Preplanned Product Improvement 1Q FY 2025 - 4Q FY 2029 Added TMPC 7.X Product Acceptance Testing Land Attack (PAT) &amp; DT/OT 1Q FY 2023 - 2Q FY 2024 TMPC 8.X SW Dev &amp; Integration moved from 1Q FY 2023-2Q FY 2025 to 1Q FY 2023-2Q FY 2026 TMPC 7.X Product Acceptance Testing MST (PAT) &amp; DT/OT moved from 3Q FY 2023-1Q FY 2025 to 3Q FY 2023-1Q FY 2026 TTWCS v5.6.1.X Fleet Release (MST) moved from 1Q FY 2025 to 3Q FY 2026</p>		

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**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Navy **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319 / 7					<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr				<b>Project (Number/Name)</b> 0545 / TOMAHAWK			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
0545: TOMAHAWK	3,314.276	0.000	0.000	35.800	-	35.800	5.227	0.000	0.000	0.000	0.000	3,355.303
Quantity of RDT&E Articles		-	-	15	-	15	-	-	-	-		

**Project MDAP/MAIS Code:** 289

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

The Tomahawk Weapons System (TWS) provides an all-weather, long-range, deep strike offensive capability against fixed, mobile and maritime targets, and can be launched from surface ships and ground platforms (RGM) and submarines (UGM) via the Tactical Tomahawk Weapons Control System (TTWCS). The Guidance Electronics Unit - Redesign (GEU-R) will improve capability and increase missions supported by increasing the GEU-R's computer power and speed. The redesign will centralize the housing of the electronic cards for navigation, guidance, flight control, pyro & power control, mission control (MC) and secondary power.

The GEU-R manages all missile monitoring and control functions (navigation, communications, guidance, speed, attitude, health, component power application timing/activation of discrete events).

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

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<b>Title:</b> Guidance Electronics Unit - Redesign (GEU-R)	0.000	0.000	35.800	0.000	35.800
<b>Articles:</b>	-	-	15	-	15
<b>FY 2024 Plans:</b> N/A					
<b>FY 2025 Base Plans:</b> FY 2025 funding will start the re-design of the GEU-R in support of the 2026 PDR and CDR. Begin design and procurement of EDM and integration units that will be delivered in 2026.					
<b>FY 2025 OCO Plans:</b> N/A					
<b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> Increase from FY 2024 to FY 2025 is to begin the GEU-R redesign effort, in order to avoid a future break in TACTOM production.					
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	0.000	35.800	0.000	35.800

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Navy		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / <i>Tomahawk Mssn Planning Ctr</i>	<b>Project (Number/Name)</b> 0545 / TOMAHAWK

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

Line Item	FY 2023	FY 2024	FY 2025	FY 2025	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cost To	
			Base	OCO	Total					Complete	Total Cost
• WPN 2101: <i>Tomahawk</i>	174.137	72.908	32.677	-	32.677	45.350	60.571	127.551	267.160	191.689	16,009.769
• PMC 2101: <i>Tomahawk</i>	33.858	79.889	54.308	-	54.308	61.201	6.369	2.586	2.635	0.000	240.846
• WPN 6120: <i>Spares and Repair Parts</i>	0.607	0.622	0.635	-	0.635	0.640	0.645	0.658	0.672	0.000	4.479

**Remarks**

**D. Acquisition Strategy**

The acquisition strategy includes development, integration, test and qualification of the completely redesigned GEU-R which provides centralized housing of the electronic cards for navigation, guidance, flight control, pyro & power control, mission control (MC), and secondary power and manages all missile monitoring and control functions (navigation, communications, guidance, speed, attitude, health, component power application timing/activation of discrete events).

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy												Date: March 2024			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 7				PE 0204229N / Tomahawk Mssn Planning Ctr				0545 / TOMAHAWK							
Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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
GEU-R Redesign	C/CPIF	Raytheon : Tuscon, AZ	2,826.563	0.000		0.000		31.876	Apr 2025	-		31.876	5.227	2,863.666	-
<b>Subtotal</b>			2,826.563	0.000		0.000		31.876		-		31.876	5.227	2,863.666	N/A
Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	WR	NAWC-AD : Patuxent River, MD	403.056	0.000		0.000		2.600	Apr 2025	-		2.600	0.000	405.656	-
Development Support	WR	NSWC-IH : Indian Head, MD	0.000	0.000		0.000		0.724	Apr 2025	-		0.724	0.000	0.724	-
<b>Subtotal</b>			403.056	0.000		0.000		3.324		-		3.324	0.000	406.380	N/A
Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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	NAWC-AD : Patuxent River, MD	84.256	0.000		0.000		0.350	Apr 2025	-		0.350	0.000	84.606	-
<b>Subtotal</b>			84.256	0.000		0.000		0.350		-		0.350	0.000	84.606	N/A
Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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
Program Management Support	WR	Various : Various	0.401	0.000		0.000		0.250	Apr 2025	-		0.250	0.000	0.651	-
<b>Subtotal</b>			0.401	0.000		0.000		0.250		-		0.250	0.000	0.651	N/A



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**Exhibit R-4, RDT&E Schedule Profile: PB 2025 Navy** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr	<b>Project (Number/Name)</b> 0545 / TOMAHAWK
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GEU-R	FY25				FY26				FY27	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Major Milestones	EDM units delivered				Integration units delivered				Production Cut-in	
Contracting	Contract Award									
Engineering Analyses	PDR				CDR				<div style="background-color: #4a7ebb; color: white; padding: 5px; display: inline-block;">GEU-R H/W Redesign</div>	
Test & Evaluation							<div style="background-color: #4a7ebb; color: white; padding: 5px; display: inline-block;">Ground Test</div> Flight Test Window <div style="background-color: #4a7ebb; width: 100px; height: 15px; display: inline-block;"></div>			

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2025 Navy		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / <i>Tomahawk Mssn Planning Ctr</i>	<b>Project (Number/Name)</b> 0545 / TOMAHAWK

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>GEU-R</b>				
Major Milestones: Production Cut-in	2	2027	2	2027
Major Milestones: Delivery of EDM units	2	2026	2	2026
Major Milestones: Delivery of Integration units	4	2026	4	2026
Contracting: Contract Award	3	2025	3	2025
Engineering: GEU-R H/W Redesign	3	2025	2	2026
Engineering: PDR	1	2026	1	2026
Engineering: CDR	3	2026	3	2026
Test & Evaluation: Ground Test	3	2026	2	2027
Test & Evaluation: Flight Test Window	1	2027	2	2027

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**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Navy **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319 / 7					<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr				<b>Project (Number/Name)</b> 4032 / NAV/COMMS			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
4032: NAV/COMMS	9.259	0.000	2.969	20.920	-	20.920	27.073	7.876	1.475	1.505	Continuing	Continuing
Quantity of RDT&E Articles		-	-	8	-	8	-	-	-	-		

**Project MDAP/MAIS Code:** 289

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

TACTOM missile Navigation and Communications (NAV/COMMS) capability consists of a government furnished TACTOM radio, a government furnished crypto unit, and NAV/COMM specific test equipment. This capability enables the Tomahawk Weapon System (TWS) to utilize an Advanced Communications Architecture (ACA) network for secure tactical communications. The Tomahawk Weapons System (TWS) provides a deep strike land attack capability (Tomahawk Land Attack Missile (TLAM)) and can be launched from both surface ships (RGM) and submarines (UGM) via the Tactical Tomahawk Weapons Control System (TTWCS). The ACA Phase II will provide additional capability. Details available at a higher classification. The TACTOM Block V Integrated Single Box Solution (ISBS) radio redesign provides improved Communication (Comms) through the use of an improved software that will expand the platform's capabilities and avoids component obsolescence. The ISBS radio is utilized to send in-flight retargeting commands, employ "loiter" tactic, and transmit health and status.

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

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<b>Title:</b> NAV/COMMS	0.000	2.969	20.920	0.000	20.920
<b>Articles:</b>	-	-	8	-	8
<b>FY 2024 Plans:</b> NAV/COMMS planned activities for Phase II include procurement of equipment needed for research, development and testing. Additionally, funds will be used to plan and prepare for developmental and operational testing needed in FY 2025 - FY 2028. Radio redesign will allow for improved software that will expand the platform's capabilities, and design out obsolescent parts.					
<b>FY 2025 Base Plans:</b> NAV/COMMS planned activities include procurement of short lead-time equipment, development of capabilities to a higher technical readiness level, and conduct and support testing at different levels of integration. New test platforms and assets will be developed and procured.					
<b>FY 2025 OCO Plans:</b> N/A					
<b>FY 2024 to FY 2025 Increase/Decrease Statement:</b>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Navy		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / <i>Tomahawk Mssn Planning Ctr</i>	<b>Project (Number/Name)</b> 4032 / NAV/COMMS

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
Increase in FY 2025 funding due to test platform equipment procurement, capabilities development and integration testing for Phase II.					
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	2.969	20.920	0.000	20.920

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• WPN 2301: <i>Tomahawk Mods</i>	59.672	97.268	24.155	-	24.155	100.008	96.904	57.923	121.308	175.623	806.484

**Remarks**  
Other Program Funding Summary for WPN BLI 2301 does not include funding for the Tomahawk Recertification program as there is no RD TEN funding associated with that program.

**D. Acquisition Strategy**  
The Advanced Communication Architecture acquisition strategy will increase the new Phase II technology readiness level, redesign the ISBS radio, integrate it within the platform, and plan developmental/operational tests.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy													Date: March 2024		
Appropriation/Budget Activity				R-1 Program Element (Number/Name)					Project (Number/Name)						
1319 / 7				PE 0204229N / Tomahawk Mssn Planning Ctr					4032 / NAV/COMMS						
Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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	Cost To Complete	Total Cost	Target Value of Contract
Product Development Prior Year Activity	Various	Various : Various	1.773	0.000		0.000		0.000		-		0.000	0.000	1.773	-
NAV/COMMs Improvements	C/CPFF	Raytheon : Tuscon, AZ	0.000	0.000		1.419	Jun 2024	14.860	Jun 2025	-		14.860	Continuing	Continuing	Continuing
NAV/COMMs Improvements	C/FFP	GCI : Reston, VA	0.000	0.000		0.900	Jun 2024	2.825	Jan 2025	-		2.825	Continuing	Continuing	Continuing
NAV/COMMs Improvements	C/FFP	TBD : TBD	0.000	0.000		0.450	Jun 2024	2.000	Jan 2025	-		2.000	Continuing	Continuing	Continuing
NAV/COMMs Improvements	WR	NAWC-AD : Patuxent River, MD	0.000	0.000		0.200	Mar 2024	0.650	Jan 2025	-		0.650	0.000	0.850	-
<b>Subtotal</b>			1.773	0.000		2.969		20.335		-		20.335	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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	Cost To Complete	Total Cost	Target Value of Contract
Support Prior Year Activity	Various	Various : Various	5.614	0.000		0.000		0.000		-		0.000	0.000	5.614	-
NAV/COMMs Improvements	WR	NAWC-AD : Patuxent River, MD	0.000	0.000		0.000		0.450	Nov 2024	-		0.450	0.000	0.450	-
<b>Subtotal</b>			5.614	0.000		0.000		0.450		-		0.450	0.000	6.064	N/A
Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Evaluation (OT&E)	Various	Various : Various	1.872	0.000		0.000		0.000		-		0.000	0.000	1.872	-
<b>Subtotal</b>			1.872	0.000		0.000		0.000		-		0.000	0.000	1.872	N/A



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**Exhibit R-4, RDT&E Schedule Profile: PB 2025 Navy** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr	<b>Project (Number/Name)</b> 4032 / NAV/COMMS
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NAVCOMMS	FY 23				FY 24				FY 25				FY 26				FY 27				FY 28				FY 29			
	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
Major Milestones									◇ PDR								Fleet Release ☆											
Contract									◇ Development Contract Award								◇ Production Contract Award											
Radio Redesign									<div style="background-color: #0070C0; color: white; padding: 2px; display: inline-block;">Radio Redesign</div> ◇ CDR																			
Qualification									Delivery of EDM Units ◇ <div style="background-color: #0070C0; color: white; padding: 2px; display: inline-block;">Qualification</div>																			
Integration									Delivery of Integration Units ◇ <div style="background-color: #0070C0; color: white; padding: 2px; display: inline-block;">Integration and Test</div>																			
ACA Phase II									<div style="background-color: #0070C0; color: white; padding: 2px; display: inline-block;">ACA Phase II Planning Efforts</div>								<div style="background-color: #0070C0; color: white; padding: 2px; display: inline-block;">ACA Phase II Field Services Support</div>											

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2025 Navy</b>		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / <i>Tomahawk Mssn Planning Ctr</i>	<b>Project (Number/Name)</b> 4032 / NAV/COMMS

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>NAV/COMMs</b>				
Acquisition Milestones: Fleet Release	4	2028	4	2028
Acquisition Milestones: Development Contract Award	3	2024	3	2024
Acquisition Milestones: Production Contract Award	2	2027	2	2027
Acquisition Milestones: Delivery of EDM units	1	2026	1	2026
Acquisition Milestones: Delivery of Integration Units	1	2027	1	2027
Engineering Milestones: PDR	3	2025	3	2025
Engineering Milestones: CDR	1	2026	1	2026

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**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Navy **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr	<b>Project (Number/Name)</b> 4033 / M-Code
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
4033: M-Code	75.053	8.433	26.301	15.399	-	15.399	3.226	0.000	0.000	0.000	0.000	128.412
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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

The M-Code (ACAT IVT) Increment I program upgrades the Tactical Tomahawk to the next generation Global Positioning System (GPS) satellite constellation required to maintain GPS-provided position, navigation, and timing (PNT) for the missiles and is planned for Milestone C production decision in FY 2025 and Initial Operating Capability (IOC) in FY 2027. M-Code required a replan due to delayed delivery of the Application Specific Integrated Circuit (ASIC) chip development by the USAF Small Diameter Bomb (SDB) II Program Office. This action resulted in a schedule breach to the TACTOM M-Code APB Milestone C original threshold of August 2023. The M-Code mandate and Public Law restricts the purchase of only M-Code-capable GPS User Equipment (MGUE) after FY 2017 unless a waiver is granted by the Secretary of Defense.

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

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<b>Title:</b> M-Code	8.433	26.301	15.399	0.000	15.399
<b>Articles:</b>	-	-	-	-	-
<b>FY 2024 Plans:</b> M-Code planned activities include continuation of EMD. EMD efforts include hardware and software integration, testing, qualification, and achieve Security Approval of an M-Code capable Tactical Tomahawk (TACTOM) Anti-Jam GPS Receiver (AGR).					
<b>FY 2025 Base Plans:</b> M-Code planned activities include completion of EMD. EMD efforts include rephased work from FY 2024, hardware and software qualification, integration, testing and conduct of Functional Ground Test of an M-Code capable TACTOM missile.					
<b>FY 2025 OCO Plans:</b> N/A					
<b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> Decrease from FY 2024 to FY 2025 due to completion of EMD efforts.					
<b>Accomplishments/Planned Programs Subtotals</b>	8.433	26.301	15.399	0.000	15.399

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Navy		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / <i>Tomahawk Mssn Planning Ctr</i>	<b>Project (Number/Name)</b> 4033 / <i>M-Code</i>

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

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2025</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	
• WPN 2301: <i>Tomahawk Mods</i>	0.000	0.000	12.178	-	12.178	27.282	25.988	13.609	28.520	24.645	132.222

**Remarks**

Other Program Funding Summary for WPN BLI 2301 does not include funding for the Tomahawk Recertification program as there is no RDTEN funding associated with that program.

**D. Acquisition Strategy**

The M-Code (ACAT IVT) Increment I acquisition strategy includes the development, integration, test, qualification and production of a new GPS receiver which will satisfy Public Law 111-383, sec 913 compliance. Development includes the Tactical Tomahawk M-Code program co-developing the Common Architecture for Assured PNT (CAAP) high anti-jam M-Code ASIC with USAF SDB-II Program Office. M-Code capability enables the missile to maintain GPS integrity in an enhanced spoofing environment. M-Code Milestone B occurred in FY 2019, Milestone C is planned for FY 2025, and the capability will IOC in FY 2027. The M-Code program includes upgrades to the All-Up Round (AUR) missile, Tactical Tomahawk Weapons Control System (TTWCS) v5.x, Submarine Combat & Control System (CCS), and also requires upgrade to the Theater Mission Planning Center (TMPC) program (under PU 4036).

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2025 Navy</b>											<b>Date: March 2024</b>				
<b>Appropriation/Budget Activity</b> 1319 / 7						<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr					<b>Project (Number/Name)</b> 4033 / M-Code				

<b>Product Development (\$ in Millions)</b>				<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 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>			
M-Code-AUR	SS/CPFF	Raytheon : Tuscon, AZ	43.999	4.636	Nov 2022	22.713	Nov 2023	11.656	Nov 2024	-		11.656	0.000	83.004	-
M-Code - AUR	SS/FFP	Raytheon : Raytheon, AZ/SAS:	9.000	0.000		0.000		0.000		-		0.000	0.000	9.000	-
M-Code - TTWCS	SS/CPFF	LMVF : Valley Forge, PA	0.246	0.000		0.000		0.000		-		0.000	0.000	0.246	-
M-Code - TTWCS	SS/CPFF	LMBM : Baltimore, MD	0.371	0.000		0.000		0.000		-		0.000	0.000	0.371	-
M-Code - TTWCS	SS/CPFF	BAE Systems : San Diego, CA	0.065	0.000		0.000		0.000		-		0.000	0.000	0.065	-
M-Code - AUR	SS/CPFF	UARC APL : Laurel, MD	5.904	1.255	Oct 2022	1.045	Jan 2024	1.200	Oct 2024	-		1.200	1.005	10.409	-
<b>Subtotal</b>			59.585	5.891		23.758		12.856		-		12.856	1.005	103.095	N/A

**Remarks**  
M-Code Product Development funds to Raytheon: Tucson, AZ provide for hardware and software integration, testing, qualification, and achieve Security Approval of an M-Code capable Tactical Tomahawk (TACTOM) Anti-Jam GPS Receiver.

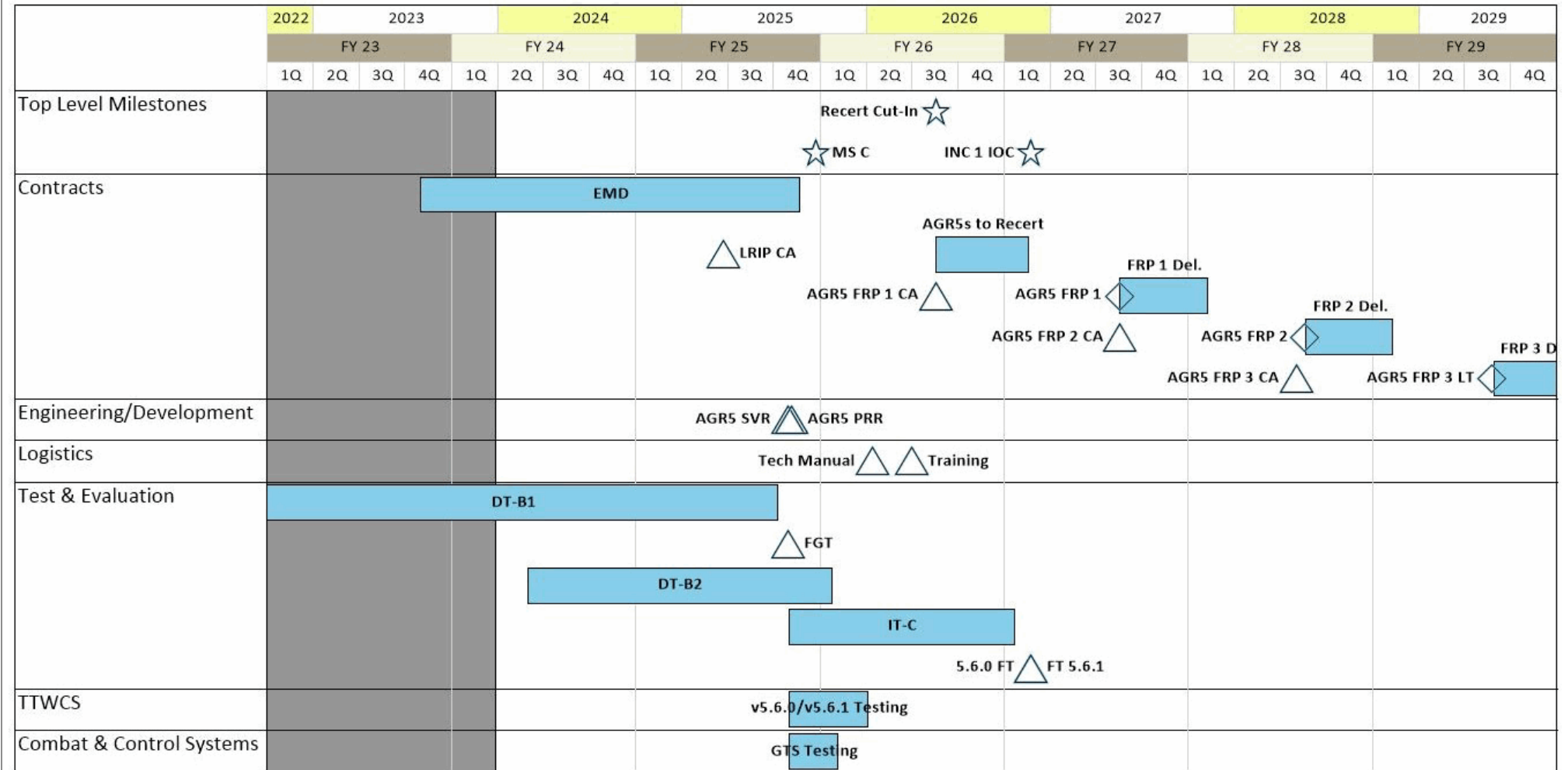
<b>Support (\$ in Millions)</b>				<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</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>			
M-Code Development Support	WR	NAWC-WD : China Lake, CA	0.689	0.262	Nov 2022	0.222	Nov 2023	0.222	Nov 2024	-		0.222	0.162	1.557	-
M-Code Development Support	WR	NAWC-AD : Patuxent River, MD	2.725	0.563	Nov 2022	0.550	Nov 2023	0.550	Nov 2024	-		0.550	0.512	4.900	-
M-Code Development Support	WR	NUWC-NPT : Newport, RI	1.076	0.257	Nov 2022	0.227	Nov 2023	0.227	Nov 2024	-		0.227	0.315	2.102	-
M-Code Development Support	WR	NSWC-IH : Indian Head, MD	1.016	0.180	Nov 2022	0.192	Nov 2023	0.192	Nov 2024	-		0.192	0.250	1.830	-
M-Code/TTWCS Development Spt	WR	NSWC-DD : Dahlgren, VA	3.892	0.785	Nov 2022	0.850	Nov 2023	0.850	Nov 2024	-		0.850	0.000	6.377	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy												Date: March 2024			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 7				PE 0204229N / Tomahawk Mssn Planning Ctr				4033 / M-Code							
<b>Support (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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
M-Code Development Support	SS/CPFF	Various : Various	0.101	0.000		0.000		0.000		-		0.000	0.000	0.101	-
M-Code NWCF Surcharge	WR	NAWC-WD : China Lake, CA	4.630	0.000		0.000		0.000		-		0.000	0.000	4.630	-
<b>Subtotal</b>			14.129	2.047		2.041		2.041		-		2.041	1.239	21.497	N/A
<b>Test and Evaluation (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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	NAWC-AD : Patuxent River	0.251	0.165	Jun 2023	0.165	Jun 2024	0.165	Jun 2025	-		0.165	0.322	1.068	-
Developmental Test & Evaluation (DT&E)	WR	NUWC-NPT : Newport, RI	0.325	0.143	Nov 2022	0.150	Nov 2023	0.150	Nov 2024	-		0.150	0.299	1.067	-
<b>Subtotal</b>			0.576	0.308		0.315		0.315		-		0.315	0.621	2.135	N/A
<b>Management Services (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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
M-Code	WR	NAWC-AD : Patuxent River	0.763	0.187	Jun 2023	0.187	Jun 2024	0.187	Jun 2025	-		0.187	0.361	1.685	-
<b>Subtotal</b>			0.763	0.187		0.187		0.187		-		0.187	0.361	1.685	N/A
<b>Project Cost Totals</b>			75.053	8.433		26.301		15.399		-		15.399	3.226	128.412	N/A
<b>Remarks</b>															

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2025 Navy</b>															<b>Date: March 2024</b>				
<b>Appropriation/Budget Activity</b> 1319 / 7										<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr					<b>Project (Number/Name)</b> 4033 / M-Code				



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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2025 Navy</b>		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / <i>Tomahawk Mssn Planning Ctr</i>	<b>Project (Number/Name)</b> 4033 / <i>M-Code</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>M-CODE</b>				
Acquisition Milestones: Milestones: Milestone C	4	2025	4	2025
Systems Development: Test and Evaluation: M-Code Integrated Test (IT-C)	4	2025	1	2027
Systems Development: Test and Evaluation: M-Code Inc I IOC	1	2027	1	2027
Production Milestones: Contract Awards: M-Code LRIP	2	2025	2	2025
Production Milestones: Contract Awards: M-Code FRP Lot-1	2	2026	2	2026
Production Milestones: Contract Awards: M-Code FRP Lot-2	2	2027	2	2027
Production Milestones: Contract Awards: M-Code FRP Lot-3	2	2028	2	2028

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**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Navy **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr	<b>Project (Number/Name)</b> 4034 / Maritime Strike
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
4034: <i>Maritime Strike</i>	541.595	73.783	54.371	82.145	-	82.145	29.562	19.072	19.597	19.988	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**Project MDAP/MAIS Code:** 289

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

Maritime Strike Tomahawk (MST) modernization effort provides the capability to hit moving maritime targets through mid-course guidance via a third party or seeker mode, to a terminal seeker engagement. MST began transitioning to a Program of Record in FY 2022 and was designated to an ACAT 1 subprogram in FY 2023. EOC planned in FY 2025 with Full Rate Production Decision Review planned for FY 2027 and IOC planned in FY 2027. Program of Record will consist of a period of initial and follow-on operational test and evaluation, seeker software algorithm updates, and commensurate Weapons Control System (WCS) and Theater Mission Planning Center (TMPC) software updates.

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

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<b>Title:</b> Maritime Strike Tomahawk	73.783	54.371	82.145	0.000	82.145
<b>Articles:</b>	-	-	-	-	-
<b>FY 2024 Plans:</b>					
Continuation of activities in support of Maritime Strike Tomahawk (MST). MST will continue test efforts in FY 2024 including finishing missile level qualification testing, final missile flight tests from ground launcher apparatus to assess improvements made to seeker performance from the FY 2023 test events, and further mature OES 6 software and associated algorithms. The program will also continue build-up, check-out, and lab test of MST test missiles for surface and subsurface test events to be conducted in FY 2024 and FY 2025. Modeling and Simulation (M&S) activity in laboratories will continue in FY 2024 to include validation and verification runs in the System of Systems Test Environment (SoSTE) Lab and the Signal Processor in the Loop (SPIL) environment to verify and complete validation of mission performance. TTWCS will complete system integration testing of version 5.6.1.X software build after Global Command and Control System interfaces have completed necessary fixes that were discovered in FY 2023. The program will continue MST training curriculum and logistics product development for the Fleet user, conduct test ship crew training activities for version 5.6.1.X, and continue surface (and subsurface) installation activities, which will be in concert with test ship availability in order to support final shipboard testing in FY 2024 and FY 2025. The program will complete development of documentation and begin initial engineering.					
<b>FY 2025 Base Plans:</b>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Navy		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / <i>Tomahawk Mssn Planning Ctr</i>	<b>Project (Number/Name)</b> 4034 / <i>Maritime Strike</i>

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

	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
Continuation of activities in support of the Maritime Strike Tomahawk (MST). MST will continue testing efforts in FY 2025 to include ground and flight tests to assess improvements and integration activities of the seeker from FY 2024. MST will continue to conduct data collection events and algorithm refinements as required to complete corrections in support of FOT&E. Modeling and Simulation (M&S) improvements, testing, and characterization will continue in FY 2025 and future improvements for FOT&E. TTWCS will complete operation testing of version 5.6.1.X software. MST will continue software integration and hardware qualification of the seeker processor obsolescence upgrade. MST will also continue engineering and test support of the MST Live Fire Test Event (LFTE) strategy.					
<b>FY 2025 OCO Plans:</b> N/A					
<b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> Increase from FY 2024 to FY 2025 due to operational envelope testing to fully characterize the MST Weapon System to include increased ground and flight testing in support of FOT&E, as well as continued hardware and software integration and qualification for seeker processor obsolescence upgrade.					
<b>Accomplishments/Planned Programs Subtotals</b>	73.783	54.371	82.145	0.000	82.145

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

<b>Line Item</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>			<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To</b>	
			<b>Base</b>	<b>OCO</b>	<b>Total</b>					<b>Complete</b>	<b>Total Cost</b>
• WPN 6120: <i>Spares and Repair Parts</i>	2.364	1.913	1.440	-	1.440	1.936	1.950	1.989	2.031	Continuing	Continuing
• WPN 2301: <i>Tomahawk Mods</i>	117.468	121.352	83.791	-	83.791	174.423	198.971	197.736	219.468	2,092.642	3,269.916
• PMC 2101: <i>Tomahawk</i>	0.000	0.000	42.120	-	42.120	58.300	0.000	0.000	0.000	0.000	100.420

**Remarks**

Other Program Funding Summaries for WPN BLIs 2301 and 6120 do not include funding for the Tomahawk Recertification program as there is no RDTEN funding associated with that program.

**D. Acquisition Strategy**

Maritime Strike Tomahawk (MST) will enable surface warfare engagement capability from U.S. Navy Guided Missile Cruiser (CG), Guided Missile Destroyer (DDG), and Nuclear Powered Fast Attack Submarine (SSN) platforms. The MST program includes upgrades to the All-Up Round (AUR) missile, the Tactical Tomahawk Weapons Control System (TTWCS) and also required upgrades to the Theater Mission Planning Center (TMPC) programs (under PU 4036). MST was designated

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Navy		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / <i>Tomahawk Mssn Planning Ctr</i>	<b>Project (Number/Name)</b> 4034 / <i>Maritime Strike</i>
<p>a DoDI 5000.02 Rapid Deployment Capability (RDC) by the Assistant Secretary of the Navy (Research, Development, and Acquisition) (ASN (RDA)) in Oct 2016. Milestone decision authority ensures program accountability through knowledge points which inform progress on critical design, production readiness, system test readiness, flight readiness, operational test readiness and fielding decision. To facilitate rapid fleet fielding, hardware design was phased to the beginning of the program. Technical Data package for seeker production units completed in 3Q FY 2020 at Knowledge Point 3 which supported procurement in FY 2021. Seeker software development will continue with initial Engineering Design Models. Initial Operational Capability (IOC) will occur in FY 2027 following operational test. This strategy affords the program flexibility in achieving a threshold capability in a timely manner. MST was designated an ACAT I subprogram in FY 2023 with EOC in FY 2025 and will conduct FRP-DR in FY 2027. Program of Record will consist of a period of initial and follow-on operational test and evaluation, seeker software algorithm updates, and commensurate Weapons Control System (WCS) and Theater Mission Planning Center (TMPC) software updates. Following IOC, MST will be incorporated into the TACTOM Tomahawk Flight Test (TFT) cycle.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy													Date: March 2024		
Appropriation/Budget Activity 1319 / 7				R-1 Program Element (Number/Name) PE 0204229N / Tomahawk Mssn Planning Ctr					Project (Number/Name) 4034 / Maritime Strike						
Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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	Cost To Complete	Total Cost	Target Value of Contract
Maritime Strike - AUR	SS/CPPIF	Raytheon : Tucson, AZ	401.882	49.611	Dec 2022	33.266	Dec 2023	57.651	Dec 2024	-		57.651	Continuing	Continuing	Continuing
Maritime Strike - AUR	WR	NAWCWD : China Lake, CA	24.057	5.135	Nov 2022	1.670	Nov 2023	1.500	Nov 2024	-		1.500	Continuing	Continuing	Continuing
Maritime Strike- TTWCS	SS/CPFF	LMVF : Valley Forge, PA	12.082	1.051	Dec 2022	1.643	Jan 2024	1.675	Dec 2024	-		1.675	0.000	16.451	12.252
Maritime Strike- TTWCS	WR	NSWC-DD : Dahlgren, VA	12.511	3.512	Nov 2022	2.725	Nov 2023	2.600	Nov 2024	-		2.600	Continuing	Continuing	Continuing
Maritime Strike- TTWCS	WR	NUWC-DN : Newport, RI	5.192	1.020	Nov 2022	1.260	Nov 2023	1.260	Nov 2024	-		1.260	Continuing	Continuing	Continuing
Maritime Strike - AUR	MIPR	NRO : Chantilly, VA	3.608	0.000		0.000		0.000		-		0.000	0.000	3.608	3.608
Maritime Strike - AUR	SS/CPFF	UARC APL : Laurel, MD	1.865	0.452	Apr 2023	0.498	Apr 2024	0.507	Apr 2025	-		0.507	0.000	3.322	2.386
Maritime Strike- VLS	SS/CPFF	LM : Baltimore, MD	2.470	0.213	Feb 2023	0.000		0.000		-		0.000	0.000	2.683	1.600
Maritime Strike - AUR	WR	NSWC-PHD : Port Hueneme, CA	2.140	0.639	Oct 2022	0.000		0.000		-		0.000	0.000	2.779	1.548
Maritime Strike - AUR	SS/CPFF	ACE Electronics Defense Systems, LLC : Port Hueneme, CA	0.415	0.000		0.000		0.000		-		0.000	0.000	0.415	0.415
Maritime Strike - AUR	WR	NAVWAR : San diego	1.484	0.000		0.000		0.000		-		0.000	0.000	1.484	1.500
Maritime Strike - AUR	MIPR	DCMA : Tucson, AZ	0.560	0.000		0.000		0.000		-		0.000	0.000	0.560	-
Maritime Strike- TTWCS	SS/CPFF	Various : Port Hueneme, CA	0.116	0.000		0.000		0.000		-		0.000	0.000	0.116	-
Maritime Strike - AUR	WR	NSWC-IHD : Indian Head, MD	0.020	0.000		0.000		0.000		-		0.000	0.000	0.020	-
Maritime Strike - AUR	MIPR	DLA : Philadelphia, PA	2.600	0.000		0.000		0.000		-		0.000	0.000	2.600	-
Maritime Strike- TTWCS	SS/CPFF	Various : Newport, RI	0.507	0.241	Apr 2023	0.000		0.000		-		0.000	0.000	0.748	-
Maritime Strike- TTWCS	SS/CPFF	Various : Dahlgren, VA	0.290	0.139	Mar 2023	0.000		0.000		-		0.000	0.000	0.429	-

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr	<b>Project (Number/Name)</b> 4034 / Maritime Strike
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<b>Product Development (\$ in Millions)</b>				<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 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>			
Maritime Strike - AUR	SS/CPFF	NAVSEA : Manassas, VA	0.000	1.200	Mar 2023	0.000		0.000		-		0.000	0.000	1.200	-
<b>Subtotal</b>			471.799	63.213		41.062		65.193		-		65.193	Continuing	Continuing	N/A

**Remarks**  
 FY 2025 Maritime Strike funding conducts initial operation testing and continues the refinement of software algorithm code in support of correction of deficiencies to be evaluated during FOT&E. FY 2025 funding continues support of system test software refinement and evaluation and continues System of Systems Test Environment (SoSTE) and Signal Processor in the Loop (SPIL) laboratory performance runs and analysis. FY 2025 funding will continue the integration and qualification testing of the seeker processor obsolescence upgrade. Continues Tactical Tomahawk Weapons Control System v5.6.X system integration testing, correction of deficiencies in Increment (Inc)/Fix-it Build (FB) development, training and curriculum development, and entry into operation testing and FB Segment Testing. Continued MST training development, and Tomahawk Mission Planning Center initial Product Acceptance Test and Inc/FB complete. Continue planning, development, and integration for the additional capabilities and the correction of MST deficiencies in the follow on derivatives of TTWCS.

<b>Support (\$ in Millions)</b>				<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 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>			
Maritime Strike Development Support	WR	NAWC-WD : China Lake	10.161	0.140	Nov 2022	0.333	Nov 2023	0.339	Nov 2024	-		0.339	Continuing	Continuing	Continuing
Martime Strike Development Support	SS/CPFF	UARC APL : Laurel, MD	0.317	0.000		0.000		0.000		-		0.000	0.000	0.317	0.318
Maritime Strike Development Support	WR	NSWC-DD : Dahlgren, VA	10.224	0.727	Nov 2022	0.543	Nov 2023	0.528	Nov 2024	-		0.528	Continuing	Continuing	Continuing
Maritime Strike Development Support	WR	NAWC-AD : Pax River, MD	5.502	1.540	Nov 2022	1.544	Nov 2023	1.500	Nov 2024	-		1.500	Continuing	Continuing	Continuing
Maritime Strike Development Support	WR	NUWC-NPT : Newport, RI	0.387	0.016	Nov 2022	0.000		0.000		-		0.000	0.000	0.403	0.403
Maritime Strike Development Support	WR	NSWC-PHD : Port Hueneme, CA	1.886	0.022	Oct 2022	0.000		0.000		-		0.000	0.000	1.908	1.850
Maritime Strike Development Support	C/CPFF	SSC : San Diego, CA	6.436	0.530	Dec 2022	0.623	Dec 2023	0.579	Dec 2024	-		0.579	0.000	8.168	6.122
Maritime Strike Development Support	WR	NAVWAR : San Diego, CA	4.824	0.938	Nov 2022	0.837	Nov 2023	0.000		-		0.000	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy												Date: March 2024			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 7				PE 0204229N / Tomahawk Mssn Planning Ctr				4034 / Maritime Strike							
Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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
Maritime Strike Development Support	C/CPFF	Sea Corp : Newport, RI	1.091	0.000		0.000		0.000		-		0.000	0.000	1.091	1.091
Maritime Strike Development Support	SS/CPFF	Precise : Pax River, MD	1.771	0.214	Jul 2023	0.357	Apr 2024	0.364	Apr 2025	-		0.364	0.000	2.706	2.521
Maritime Strike Development Support	MIPR	US Army : Redstone Arsenal, AL	2.024	0.000		0.750	Aug 2024	0.000		-		0.000	Continuing	Continuing	Continuing
Maritime Strike Development Support	SS/CPFF	Various : Dahlgren, VA	1.409	0.000		0.480	Apr 2024	0.489	Apr 2025	-		0.489	Continuing	Continuing	Continuing
Maritime Strike Development Support	MIPR	Other DOD : Various	0.039	0.047	Feb 2023	0.000		0.000		-		0.000	0.000	0.086	0.615
Maritime Strike Development Support	PO	Naval Research Lab : Washington, DC	1.010	0.262	Jun 2023	0.170	Mar 2024	0.173	Mar 2025	-		0.173	Continuing	Continuing	Continuing
Maritime Strike Development Support	SS/CPFF	Various : Port Hueneme, CA	1.379	0.607	Feb 2023	0.559	Mar 2024	0.570	Mar 2025	-		0.570	Continuing	Continuing	Continuing
Maritime Strike Development Support	SS/CPFF	Various : Pax River, MD	2.577	0.974	Jun 2023	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Maritime Strike Development Support	SS/CPFF	BAE : McLean, VA	0.123	0.000		0.000		0.000		-		0.000	0.000	0.123	0.085
Maritime Strike Development Support	WR	NSWC Corona : Corona, CA	0.351	0.000		0.048	Nov 2023	0.048	Nov 2024	-		0.048	Continuing	Continuing	Continuing
Maritime Strike Development Support	WR	NSWC-IHD : Indian Head, MD	0.107	0.049	Oct 2022	0.000		0.000		-		0.000	0.000	0.156	0.105
Maritime Strike Development Support	SS/CPFF	Keysight Tech : Colorado Springs, CO	5.101	0.000		0.000		0.000		-		0.000	0.000	5.101	5.101
Maritime Strike Development Support	Various	NAVAIR HQ : Pax River, MD	0.000	0.025	Nov 2022	0.000		0.000		-		0.000	0.000	0.025	-
<b>Subtotal</b>			56.719	6.091		6.244		4.590		-		4.590	Continuing	Continuing	N/A

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr	<b>Project (Number/Name)</b> 4034 / Maritime Strike
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<b>Support (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			

**Remarks**  
 FY 2025 funding continues operational testing documentation activities, continues fleet training, ship install of MST hardware and software, continues verification and validation support for Modeling and Simulation (M&S), and special test equipment support of M&S tools. Perform M&S data analysis of final test events to include M&S Runs for Record, TTWCS segment testing, flight testing, TWS Integration Testing, and Missile Level Qualification Test analysis.

<b>Test and Evaluation (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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-WD : China Lake	8.512	1.900	Nov 2022	5.073	Nov 2023	9.998	Nov 2024	-		9.998	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NAWC-AD : Pax River	0.113	0.117	Nov 2022	0.273	Nov 2023	0.273	Nov 2024	-		0.273	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NSWC-DD : Dahlgren, VA	2.264	1.388	Nov 2022	1.026	Nov 2023	1.000	Nov 2024	-		1.000	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NSWC-PHD : Port Hueneme, CA	1.333	0.342	Nov 2022	0.398	Nov 2023	0.796	Nov 2024	-		0.796	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NSWC-IHD : Indian Head, MD	0.227	0.000		0.096	Nov 2023	0.096	Nov 2024	-		0.096	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NUWC-NPT : Newport, RI	0.192	0.000		0.049	Nov 2023	0.049	Nov 2024	-		0.049	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NSMA : JBAB, DC	0.194	0.248	Nov 2022	0.000		0.000		-		0.000	0.000	0.442	-
Developmental Test & Evaluation (DT&E)	SS/CPFF	Various : Pax River, MD	0.233	0.207	Nov 2022	0.000		0.000		-		0.000	0.000	0.440	-
Developmental Test & Evaluation (DT&E)	Various	NAVAIR HQ : Pax River, MD	0.009	0.000		0.000		0.000		-		0.000	0.000	0.009	-
Operational Test & Evaluation (OT&E)	WR	NSWC Corona : Corona, CA	0.000	0.241	Jan 2023	0.150	Jan 2024	0.150	Jan 2025	-		0.150	0.000	0.541	-
Developmental Test & Evaluation (DT&E)	SS/CPFF	NAVSEA : Washington Navy Yard	0.000	0.036	Apr 2023	0.000		0.000		-		0.000	0.000	0.036	-

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr	<b>Project (Number/Name)</b> 4034 / Maritime Strike
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Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
<b>Subtotal</b>			13.077	4.479		7.065		12.362		-		12.362	Continuing	Continuing	N/A

**Remarks**  
 FY 2025 Maritime Strike funding required to continue transition to production representative testing. T&E efforts continue for missile Operationally Embedded Software updates for full seeker capabilities and performance; build-up of missiles for test events to include hardware and software integration; continuation of DT/OT software corrections and verification of system corrections during FOT&E activities to include, System of Systems Test Environment (SoSTE) and Signal Processor in the Loop (SPIL) performance runs and analysis. Tactical Tomahawk Weapons Control System Increment/Fix-It Builds completion in support of DT/OT and FOT&E activities. Funding will also be used in support of analysis and testing to continue MST LFTE.

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	541.595	73.783	54.371	82.145	-	82.145	Continuing	Continuing	N/A

**Remarks**

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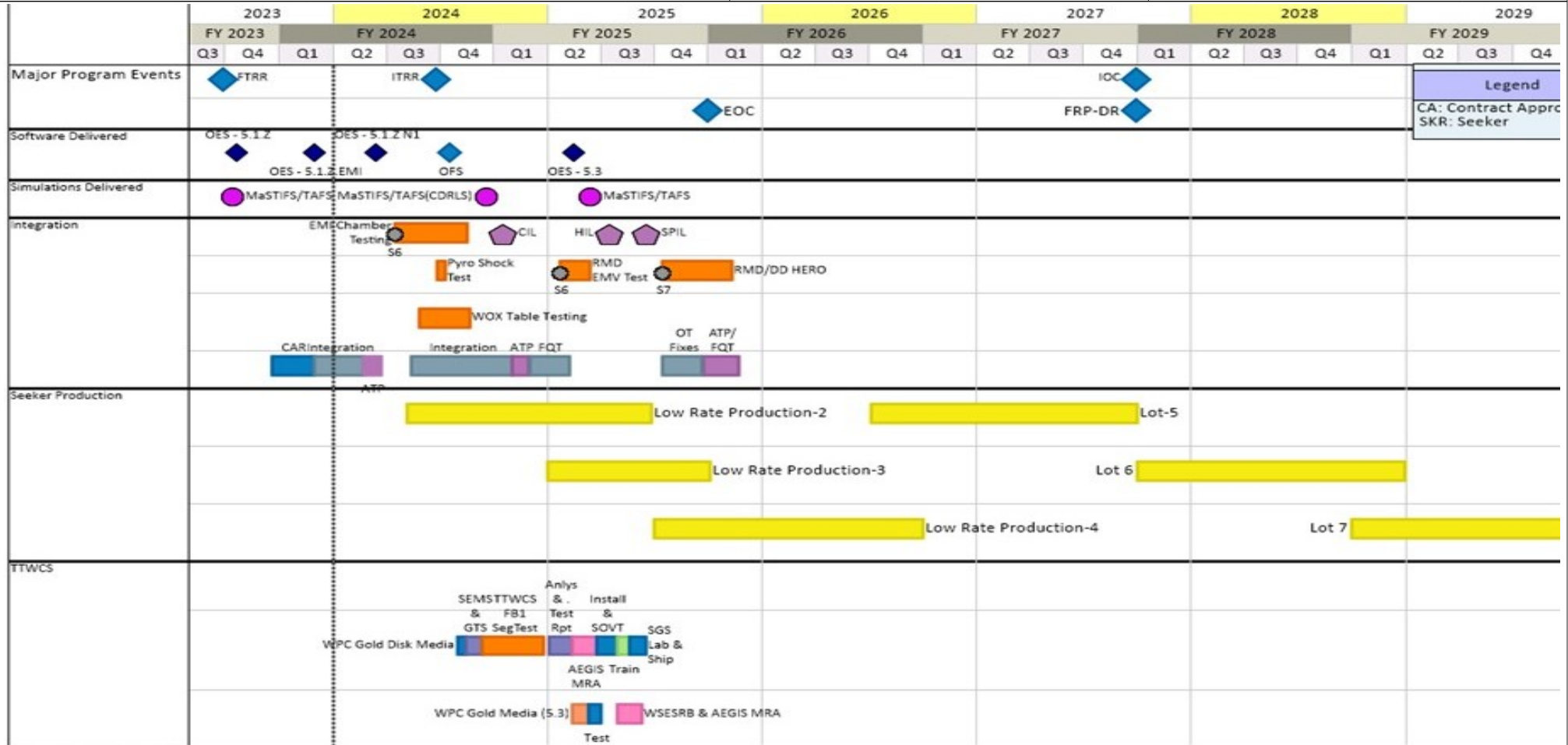
Exhibit R-4, RDT&E Schedule Profile: PB 2025 Navy

Date: March 2024

Appropriation/Budget Activity  
1319 / 7

R-1 Program Element (Number/Name)  
PE 0204229N / Tomahawk Mssn Planning Ctr

Project (Number/Name)  
4034 / Maritime Strike



Legend  
CA: Contract Appro  
SKR: Seeker



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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2025 Navy</b>		<b>Date: March 2024</b>
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr	<b>Project (Number/Name)</b> 4034 / Maritime Strike

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 4034</b>				
Acquisition Milestones: Top Level Milestones: FTRR	3	2023	3	2023
Acquisition Milestones: Top Level Milestones: ITRR	3	2024	3	2024
Acquisition Milestones: Top Level Milestones: MST IOC	4	2027	4	2027
Acquisition Milestones: Top Level Milestones: EOC	4	2025	4	2025
Acquisition Milestones: Top Level Milestones: FRP-DR	4	2027	4	2027
Deliveries: Software Delivery: OES-5.1.Z EMI	1	2023	1	2023
Deliveries: Software Delivery: OES-5.1.Z N1	2	2024	2	2024
Deliveries: Software Delivery: OFS	4	2024	4	2024
Deliveries: Software Delivery: OES-5.3	2	2025	2	2025
Deliveries: Simulations Delivery: MaSTIFS/TAFS (CDRLS)	4	2024	4	2024
Deliveries: Simulations Delivery: MaSTIFS/TAFS	2	2025	2	2025
Integration: EMI Chamber Testing	3	2024	4	2024
Integration: EMV Test	2	2025	3	2025
Integration: CIL	1	2025	1	2025
Integration: HIL	3	2025	3	2025
Integration: SPIL	4	2025	4	2025
Integration: HERO	4	2025	1	2026
Integration: Pyroshock Test	3	2024	4	2024
Integration: WOX Table Testing	3	2024	4	2024
Seeker Production: LRP 1/2 Seeker	3	2024	3	2025
Seeker Production: LRP 3 Seeker	1	2025	1	2026

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**Exhibit R-4A, RDT&E Schedule Details: PB 2025 Navy** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / <i>Tomahawk Mssn Planning Ctr</i>	<b>Project (Number/Name)</b> 4034 / <i>Maritime Strike</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Seeker Production: LRP 4 Seeker	4	2025	4	2026
Seeker Production: Lot 5 Seeker	4	2026	4	2027
Seeker Production: Lot 6 Seeker	1	2028	1	2029
Seeker Production: Lot 7 Seeker	1	2029	4	2029
TTWCS: TTWCS Testing	4	2024	4	2025

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**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Navy **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319 / 7					<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr				<b>Project (Number/Name)</b> 4035 / JMEWS			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
4035: JMEWS	125.271	21.086	22.012	28.352	-	28.352	9.248	3.149	0.000	0.000	0.000	209.118
Quantity of RDT&E Articles		23	-	-	-	-	-	-	-	-		

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

The Joint Multiple-Effects Warhead System (JMEWS) ACAT III program enables the Tactical Tomahawk to utilize multiple lethal effects to address Hard and Deeply Buried Targets (HDBT) while increasing the Tomahawk Weapon System (TWS) capabilities against Integrated Air Defense Systems (IADS) and Weapons of Mass Destruction (WMD).

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

	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
<b>Title:</b> JMEWS	21.086	22.012	28.352	0.000	28.352
<b>Articles:</b>	23	-	-	-	-
<b>FY 2024 Plans:</b> Due to issues found and addressed in developmental test in the hard target sled test and insensitive munitions tests, delta CDR efforts are required. JMEWS planned activities include the continuation of the EMD phase and post Critical Design Review (CDR) testing, to include Functional Ground Test (FGT) and the start of Flight Testing. EMD efforts continue with hardware and software development, target construction, Insensitive Munitions (IM) and Hazard Classification (HC) testing, fuze and warhead qualification, systems engineering reviews, and Safety Review board. No impact to fleet release or IOC.					
<b>FY 2025 Base Plans:</b> JMEWS planned activities include completion of the EMD phase and Flight Testing. Transition to production efforts will begin; to include the continuation of Ground Launch Flight Tests (GLFT), Production Readiness Review (PRR), and development of manufacturing plan of hardware to be used in Low Rate Initial Production (LRIP) and Full Rate Production (FRP) activities.					
<b>FY 2025 OCO Plans:</b> N/A					
<b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> Increase from FY 2024 to FY 2025 due to completion of EMD phase, flight testing and transition to production efforts. Transition to production efforts will begin to include the continuation of GLFT, PRR, and development of manufacturing plan of hardware to be used in LRIP and FRP activities.					
<b>Accomplishments/Planned Programs Subtotals</b>	21.086	22.012	28.352	0.000	28.352

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Navy		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / <i>Tomahawk Mssn Planning Ctr</i>	<b>Project (Number/Name)</b> 4035 / JMEWS

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

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>			<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• WPN 2301: <i>Tomahawk Mods</i>	1.406	6.296	4.555	-	4.555	23.885	19.048	21.670	22.484	491.798	591.142

**Remarks**

Other Program Funding Summary for WPN BLI 2301 does not include funding for the Tomahawk Recertification program as there is no RD TEN funding associated with that program.

**D. Acquisition Strategy**

Joint Multiple Effects Warhead System (JMEWS) (ACAT III) acquisition strategy includes the development, integration, test, qualification, and production of a new warhead that will expand the land target set the Tomahawk missile is capable of defeating by combining existing blast and fragmentation with a new penetration capability and improved mission planning. JMEWS will comply with Insensitive Munitions requirements which improves safety during transportation and storage on land and aboard ships and submarines. JMEWS Milestone B occurred in FY 2020, Milestone C is planned for FY 2025, and the capability will Fleet Release in FY 2027. JMEWS program includes upgrades to the All-Up Round (AUR) missile, the Tactical Tomahawk Weapons Control System (TTWCS), and Theater Mission Planning Center (TMPC) program (under PU 4036).

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2025 Navy</b>											<b>Date: March 2024</b>				
<b>Appropriation/Budget Activity</b> 1319 / 7						<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr					<b>Project (Number/Name)</b> 4035 / JMEWS				

<b>Product Development (\$ in Millions)</b>				<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 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>			
JMEWS	SS/CPPIF	Raytheon : Tucson, AZ	73.849	13.470	Nov 2022	11.934	Feb 2024	13.216	Nov 2024	-		13.216	0.000	112.469	-
JMEWS	WR	NAWC-WD : China Lake, CA	20.392	0.000		2.658	Jan 2024	1.538	Dec 2024	-		1.538	2.645	27.233	-
JMEWS/TTWCS	SS/CPFF	LMVF : Valley Forge, PA	0.174	0.300	Feb 2023	0.000		0.000		-		0.000	0.000	0.474	-
JMEWS	WR	NSWC-DD : Dahlgren, VA	0.000	1.695	Nov 2022	2.001	Dec 2023	1.510	Nov 2024	-		1.510	3.200	8.406	-
<b>Subtotal</b>			94.415	15.465		16.593		16.264		-		16.264	5.845	148.582	N/A

**Remarks**

FY 2025 increase to Raytheon supports transition to production.  
 FY 2025 increase to NAWC-WD due to program elongation and efforts to complete post-CDR testing.

<b>Support (\$ in Millions)</b>				<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 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>			
JMEWS Development Support	SS/CPFF	UARC-APL : Laurel, MD	0.240	0.141	Dec 2022	0.075	Jan 2024	0.185	Dec 2024	-		0.185	0.000	0.641	-
JMEWS Development Support	WR	NSWC-IH : Indian Head, MD	1.592	0.281	Nov 2022	0.189	Jan 2024	0.220	Nov 2024	-		0.220	0.324	2.606	-
JMEWS Development Support	WR	NSWC-DD : Dahlgren, VA	1.667	0.500	Nov 2022	0.298	Nov 2023	0.500	Nov 2024	-		0.500	0.412	3.377	-
JMEWS Development Support	WR	NAWC-AD : Patuxent River, MD	1.674	0.315	Nov 2022	0.508	Nov 2023	0.300	Nov 2024	-		0.300	0.755	3.552	-
JMEWS Development Support	WR	NAWC-WD : China Lake, CA	4.885	0.000		0.000		0.000		-		0.000	0.000	4.885	-
JMEWS VLS Dev Support	SS/CPFF	BAE Systems : Dahlgren, VA	0.630	0.294	Nov 2022	0.250	Dec 2023	0.250	Nov 2024	-		0.250	0.290	1.714	-
JMEWS Development Support	SS/CPFF	Precise Systems : Lexington Park, MD	0.161	0.000		0.000		0.000		-		0.000	0.000	0.161	-

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr	<b>Project (Number/Name)</b> 4035 / JMEWS
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<b>Support (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
<b>Subtotal</b>			10.849	1.531		1.320		1.455		-		1.455	1.781	16.936	N/A

<b>Test and Evaluation (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
Operational Test & Evaluation (OT&E)	WR	NAWC-WD : China Lake, CA	19.569	3.990	Dec 2022	3.952	Jan 2024	10.533	Nov 2024	-		10.533	4.571	42.615	-
Developmental Test & Evaluation (DT&E)	WR	NSWC-DD : Dahlgren, VA	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
Developmental Test & Evaluation (DT&E)	WR	NUWC-NPT : Newport, RI	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
<b>Subtotal</b>			19.569	3.990		3.952		10.533		-		10.533	4.571	42.615	N/A

**Remarks**  
FY 2025 increase in funding to NAWC-WD due to program elongation and completion of post CDR testing, including Ground Launch Flight Tests.

<b>Management Services (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
JMEWS	WR	NAWC-AD : Patuxent River, MD	0.438	0.100	Nov 2022	0.147	Nov 2023	0.100	Nov 2024	-		0.100	0.200	0.985	-
<b>Subtotal</b>			0.438	0.100		0.147		0.100		-		0.100	0.200	0.985	N/A

			Prior Years	FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			125.271	21.086		22.012		28.352		-		28.352	12.397	209.118	N/A

**Remarks**



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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2025 Navy</b>		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / <i>Tomahawk Mssn Planning Ctr</i>	<b>Project (Number/Name)</b> 4035 / JMEWS

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>JMEWS</b>				
Acquisition Milestones: Milestones: Milestone C	3	2025	3	2025
Acquisition Milestones: Milestones: Fleet Release	4	2027	4	2027
Systems Development: Software Development: JMEWS TTWCS SW Dev	1	2023	3	2025
Systems Development: Software Development: JMEWS TTWCS SW Test	3	2025	1	2027
Reviews: Acquisition Reviews: Delta Design Review	1	2024	1	2024
Reviews: Acquisition Reviews: JMEWS Delta CDR	3	2024	3	2024
Reviews: Contract Awards: JMEWS LRIP Long-Lead Energetics	3	2023	1	2025
Reviews: Contract Awards: JMEWS LRIP Lot 1 Award	2	2025	2	2025
Reviews: Contract Awards: JMEWS LRIP Lot 2 Award	2	2026	2	2026

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**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Navy **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr	<b>Project (Number/Name)</b> 4036 / TTWCS TMPC PPPI
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
4036: TTWCS TMPC PPPI	60.364	16.449	17.181	18.123	-	18.123	18.109	18.642	18.748	19.119	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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

The Theater Mission Planning Center (TMPC) consists of Commercial and Government Off-The-Shelf (COTS/GOTS) software and COTS hardware. TMPC is the mission planning segment of the Tomahawk Weapon System (TWS) that provides subsystems for the precision targeting, route planning, mission distribution, and strike management of Tomahawk cruise missile missions from sites located ashore and afloat. TMPC optimizes all aspects of the Tomahawk missile mission to successfully engage a target.

TMPC provides mission planning at the theater and operational levels and is designed for high rate mission planning production responsive to national strategic, operational, and tactical requirements. TMPC develops and distributes missions; provides command information services for all variants of the Tomahawk missile; provides strike planning, execution, coordination, control and reporting, and provides Maritime Component Commanders (MCC) the capability to plan or modify conventional TWS missions. TMPC is employed in major joint combat operations and Overseas Contingency Operations. TMPC has evolved into 4 scalable configurations deployed at 180 sites: Cruise Missile Support Activities (CMSAs) (3), Tomahawk Strike Mission Planning Cells (TSMPCs) (3), Carrier Strike Groups (CSGs) (19 Total: 12 Afloat / 7 Shore), and Firing Units (FRUs) (139- 85 Surface / 54 Subsurface). Additionally, TMPC is installed in Labs and Training Classrooms (16) that contain various combinations of the four configurations. TMPC software development activities support new capabilities for the Tomahawk Weapon System while also decreasing mission planning time, increasing the quality and accuracy of each mission and reducing complexity. TMPC was previously referred to as Tomahawk Command and Control System (TC2S).

The Tactical Tomahawk Weapons Control System (TTWCS) provides launch capability for surface and subsurface platforms. Development of TTWCS provides a common architecture to launch TACTOM missiles and all variants in inventory. Development of upgrades to TTWCS is required to meet the Department of Defense Information Technology Standards Registry, address cyber threats through system security builds, remain interoperable within the Joint Service Architecture, and to retain weapons system viability and usability for the Fleet. Additionally, TTWCS provides vital pre-launch processing and tasking, mission preparation, missile power and initialization, as well as launch and monitoring capability for various fielded missiles, through an incremental approach to software and hardware performance upgrades. These efforts provide battle-group tactical flexibility and responsiveness while maximizing TWS wartime capability.

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

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<b>Title:</b> Theater Mission Planning Center (TMPC)	10.576	10.904	11.703	0.000	11.703
<b>Articles:</b>	-	-	-	-	-
<b>FY 2024 Plans:</b>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Navy		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning C tr	<b>Project (Number/Name)</b> 4036 / TTWCS TMPC PPPI

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
<p>Continue evaluation of TMPC design process to ensure Tomahawk missile performance characteristics are adequately modeled in TMPC. Code critical fixes in TMPC 7.X from Tomahawk Land Attack DT/OT and achieve IOC. Continue TMPC 7.X PAT DT/OT for Maritime Strike Tomahawk. Continue software development and integration of the TWS Joint Multiple Effects Warhead System in TMPC 8.X (JMEWS).</p> <p><b>FY 2025 Base Plans:</b> Continue TMPC 7.X PAT DT/OT for Maritime Strike Tomahawk (MST). Code and deliver critical fixes from those test events to support deployment of MST in FY26. Continue software development and integration of the TWS Joint Multiple Effects Warhead System in TMPC 8.X, deliver first two increments of TMPC 8.X and commence PAT DT/OT.</p> <p><b>FY 2025 OCO Plans:</b> N/A</p> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> Increase in funding from FY 2024 to FY 2025 is due to an increase in Developer and Government test prep and execution for TMPC 8.X.</p>					
<p><b>Title:</b> Tactical Tomahawk Weapons Control System (TTWCS)</p> <p align="right"><b>Articles:</b></p> <p><b>FY 2024 Plans:</b> TTWCS program will expand prototype development and incorporation of software automated testing to reduce unit test cycle time, as well as further enhance hardware and software products through security engineering efforts, prototype hardware virtual twins, hardware surrogates/alternatives, and prove out technology insertion methods. TTWCS program will continue evaluation of fielded systems for cyber threats, create impact assessments and mitigation plans, and develop suitable alternatives/roadmaps. TTWCS will expand a phase based, incremental, prototyped effort to virtualize the system, evaluate performance and interfaces as well as create investigation tools, processes, model-based system engineering, and architecture models to support automated testing.</p> <p><b>FY 2025 Base Plans:</b> FY 2025 plans include Fleet Release of v5.6.1, and the continuation of planning, design/development, and validation of new advanced computing hardware (HW) components with increased capacity/throughput, security</p>	5.873 -	6.277 -	6.420 -	0.000 -	6.420 -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Navy		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr	<b>Project (Number/Name)</b> 4036 / TTWCS TMPC PPI

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
measures, kill chain improvements, integrated combat systems prototypes, and software architecture that increases performance for fielded systems and is aligned/interoperable with future networking capabilities.  <b>FY 2025 OCO Plans:</b> N/A  <b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> The increase in FY 2025 permits the necessary effort to verify system performance in a virtualized environment.					
<b>Accomplishments/Planned Programs Subtotals</b>	16.449	17.181	18.123	0.000	18.123

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• OPN 5253: Tomahawk Support Equipment	92.270	92.432	98.921	-	98.921	101.149	97.349	96.151	98.106	Continuing	Continuing
• OPN 9020: Initial and Vendor Direct Spares	0.774	0.408	0.458	-	0.458	0.515	0.540	0.556	0.497	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**  
TTWCS is being managed under the Software Acquisition Pathway, initiated 1Q FY 2024. TMPC and TTWCS use a combination of contracted and government laboratory facilities to integrate hardware and software updates to provide the planning, design/development, and validation of new advanced computing hardware (HW) components with increased capacity/throughput, security measures, kill chain improvements, integrated combat systems prototypes, and software architecture that increases performance for fielded systems and is aligned/interoperable with future networking capabilities that meet the requirement to service the Fleet with a lethal Tomahawk capability.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy												Date: March 2024			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 7				PE 0204229N / Tomahawk Mssn Planning Ctr				4036 / TTWCS TMPC PPPI							
Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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
TMPC 7.X	SS/CPFF	Perspecta : San Jose, CA	10.470	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
TMPC 7.X	SS/CPFF	Tapestry : St. Louis, MO	0.525	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
TMPC 7.X	SS/CPFF	BAE Systems : San Diego, CA	2.487	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
TMPC 7.X	SS/CPFF	Leidos : California, MD	12.696	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
TMPC 7.X	SS/CPFF	UARC APL : Laurel, MD	1.211	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
TMPC 7.X	WR	NAWC-AD : Patuxent River, MD	6.351	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
TMPC 8.X	SS/CPFF	Perspecta : San Jose, CA	2.430	0.589	Dec 2022	0.601	Dec 2023	0.613	Dec 2024	-		0.613	Continuing	Continuing	Continuing
TMPC 8.X	SS/CPFF	Tapestry : St. Louis, MO	2.721	0.308	Jan 2023	0.314	Jan 2024	0.150	Jan 2025	-		0.150	Continuing	Continuing	Continuing
TMPC 8.X	SS/CPFF	BAE Systems : San Diego, CA	2.237	1.178	Dec 2022	1.201	Dec 2023	1.225	Dec 2024	-		1.225	Continuing	Continuing	Continuing
TMPC 8.X	SS/CPFF	Leidos : California, MD	5.733	1.980	Dec 2022	1.820	Dec 2023	1.875	Dec 2024	-		1.875	Continuing	Continuing	Continuing
TMPC 8.X	SS/CPFF	UARC APL : Laurel, MD	1.872	1.125	May 2023	1.148	May 2024	1.341	May 2025	-		1.341	Continuing	Continuing	Continuing
TMPC 8.X	WR	NAWC-AD : Patuxent River, MD	2.677	1.396	Nov 2022	1.300	Nov 2023	0.449	Nov 2024	-		0.449	Continuing	Continuing	Continuing
Systems Engineering - TTWCS Improvements	WR	NSWC : Dahlgren, VA	1.705	3.329	Oct 2022	4.376	Nov 2023	4.066	Oct 2024	-		4.066	Continuing	Continuing	Continuing
Systems Engineering- TTWCS Software Support Activity	SS/CPFF	LMVF : Valley Forge, PA	1.137	0.000	Dec 2022	1.136	Dec 2023	2.354	Jan 2025	-		2.354	Continuing	Continuing	Continuing
Systems Engineering - TTWCS Hardware Support	WR	NSWC PHD : Port Hueneme	0.000	0.782	Dec 2022	0.000		0.000		-		0.000	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr	<b>Project (Number/Name)</b> 4036 / TTWCS TMPC PPPI
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<b>Product Development (\$ in Millions)</b>				<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 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>			
Systems Engineering -TTWCS Software Development	SS/CPFF	IDT : Arlington, VA	0.000	1.762	Jun 2023	0.765	Dec 2023	0.000		-		0.000	Continuing	Continuing	Continuing
<b>Subtotal</b>			54.252	12.449		12.661		12.073		-		12.073	Continuing	Continuing	N/A

**Remarks**  
 TMPC naming convention has been changed from TMPC 7.0 to TMPC 7.X to provide flexibility with our build numbers to include MST capabilities, the implementation of micro-services, and cyber requirement upgrades.  
 TMPC naming convention has been changed from TMPC 8.0 (JMEWS) to TMPC 8. X to provide flexibility with our build numbers to include JMEWS, TPS recode as a redesign, routine product upgrades, and deficiency corrections all rolled out on an incremental basis.  
 TMPC 8.X Tapestry budget decreased and realigned to UARC APL due to shift in developer requirements.  
 TMPC 8.X NAWCAD Labor realigned from Product Development to Management Services.  
 TMPC 8.X Implements functionality to support JMEWS and additional M-Code capabilities. Aligns with PU 4033 and 4035.

TTWCS Product Development funds support design/development and validation of new advanced computing hardware (HW) components with increased capacity/throughput, security measures, and software architecture that increases performance for fielded systems and is aligned/interoperable with future networking capabilities. In FY 2024, as hardware equipment from NSWC Port Hueneme was delivered and supporting upgrade labor was completed, the program shifted work to NSWC Dahlgren, including software cyber security and automation tools.

<b>Support (\$ in Millions)</b>				<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 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>			
TMPC 6.0	SS/CPFF	Perspecta : San Jose, CA	1.395	0.000		0.000		0.000		-		0.000	0.000	1.395	1.496
TMPC 6.0	SS/CPFF	Leidos : California, MD	2.909	0.000		0.000		0.000		-		0.000	0.000	2.909	1.717
TMPC 7.X	SS/CPFF	Leidos : California, MD	0.275	0.175	Dec 2022	0.179	Dec 2023	0.183	Dec 2024	-		0.183	0.000	0.812	-
TMPC 8.X	SS/CPFF	Leidos : California, MD	0.000	0.000		0.200	Dec 2023	0.204	Dec 2024	-		0.204	0.000	0.404	-
TMPC Support	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.281	Dec 2023	0.287	Dec 2024	-		0.287	0.000	0.568	-

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr	<b>Project (Number/Name)</b> 4036 / TTWCS TMPC PPPI
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<b>Support (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
PPPI Development Support	SS/CPFF	Precise : Lexington Park, MD	1.143	0.000		0.000		0.000		-		0.000	0.000	1.143	-
<b>Subtotal</b>			5.722	0.175		0.660		0.674		-		0.674	0.000	7.231	N/A

**Remarks**  
 TMPC 7.X Implements functionality to support Maritime Strike Tomahawk capability. Aligns with PU: 4034.  
 TMPC 8.X Implements functionality to support JMEWS and additional M-Code capabilities. Aligns with PU 4033 and 4035.

<b>Test and Evaluation (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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)	WR	NSWC PHD : Port Hueneme	0.390	0.000		0.000		0.000		-		0.000	0.000	0.390	-
Operational Test & Evaluation (OT&E)	C/CPFF	Perspecta : San Jose, CA	0.000	0.500	Dec 2022	0.503	Dec 2023	0.513	Dec 2024	-		0.513	0.000	1.516	-
Operational Test & Evaluation (OT&E)	C/CPFF	Leidos : California, MD	0.000	1.825	Dec 2022	1.827	Dec 2023	2.500	Dec 2024	-		2.500	0.000	6.152	-
Operational Test & Evaluation (OT&E)	WR	NAWCAD : Patuxent River, MD	0.000	1.500	Dec 2022	1.530	Dec 2023	1.560	Dec 2024	-		1.560	0.000	4.590	-
<b>Subtotal</b>			0.390	3.825		3.860		4.573		-		4.573	0.000	12.648	N/A

**Remarks**  
 TTWCS Developmental Test and Evaluation funds are required to support testing and prototyping of new hardware components to increase performance.  
 TMPC Test and evaluation funding in FY 2025 will complete PAT and DT/OT for TMPC 7.X Maritime Strike Tomahawk, critical deficiency fixes to TMPC 7.X and commence initial PAT DT/OT for TMPC 8.X.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr	<b>Project (Number/Name)</b> 4036 / TTWCS TMPC PPPI
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<b>Management Services (\$ in Millions)</b>				<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 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>			
TMPC Management	SS/CPFF	Precise : Lexington Park, MD	0.000	0.000		0.000		0.139	Mar 2025	-		0.139	0.000	0.139	-
TMPC Management	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.000		0.664	Dec 2024	-		0.664	0.000	0.664	-
<b>Subtotal</b>			0.000	0.000		0.000		0.803		-		0.803	0.000	0.803	N/A

**Remarks**  
NAWCAD labor and Precise contract support realigned in FY 2025 from Product Development to Management Services.

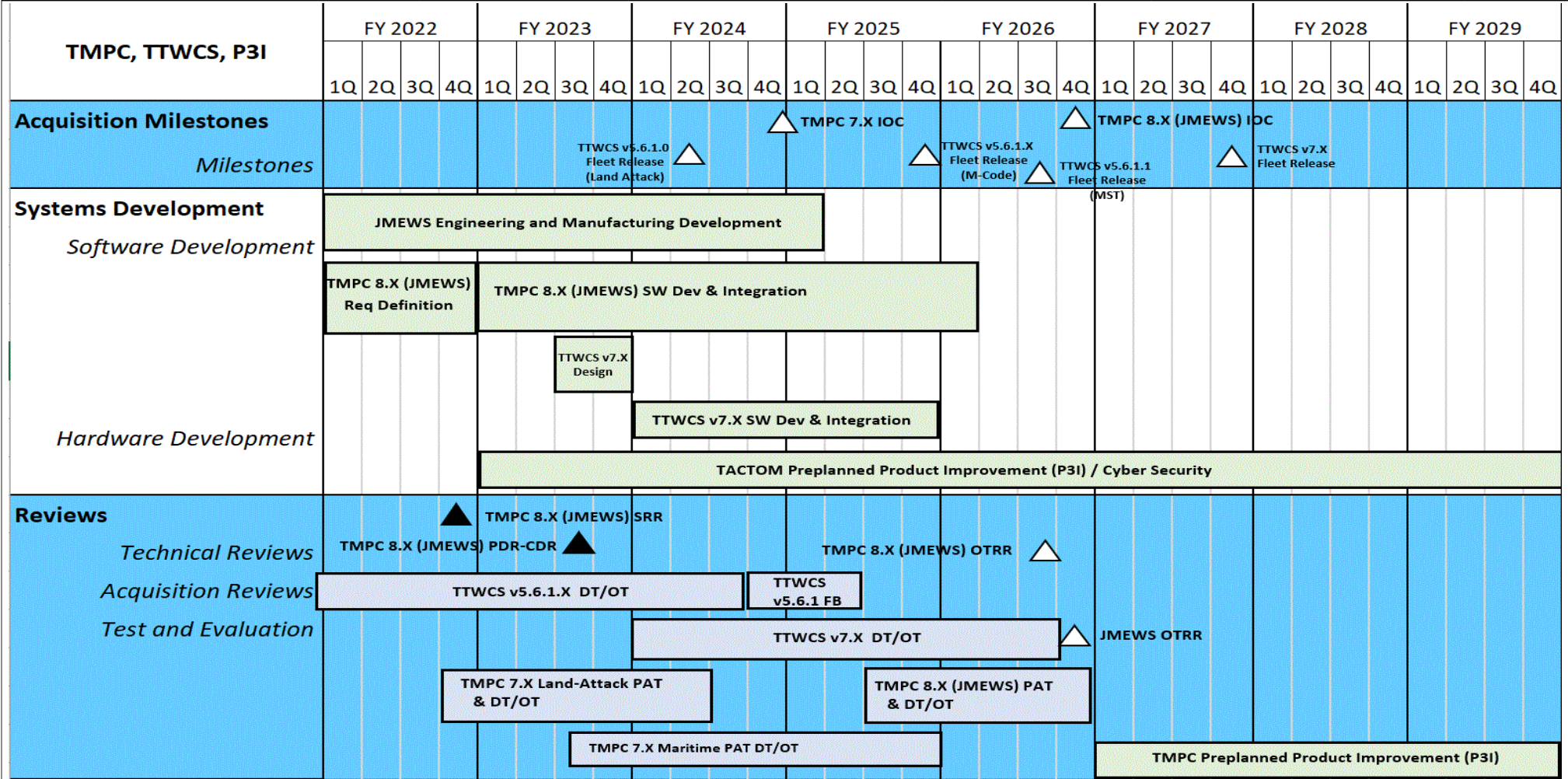
<b>Prior Years</b>	<b>FY 2023</b>		<b>FY 2024</b>		<b>FY 2025 Base</b>		<b>FY 2025 OCO</b>		<b>FY 2025 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>	60.364	16.449		17.181		18.123		-	18.123	Continuing	Continuing	N/A

**Remarks**

**UNCLASSIFIED**

Exhibit R-4, RDT&E Schedule Profile: PB 2025 Navy Date: March 2024

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr	<b>Project (Number/Name)</b> 4036 / TTWCS TMPC P3I
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**UNCLASSIFIED**

<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2025 Navy</b>		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / Tomahawk Mssn Planning Ctr	<b>Project (Number/Name)</b> 4036 / TTWCS TMPC P3I

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>TMPC, TTWCS, P3I</b>				
Acquisition Milestones: Milestones: TMPC 7.X IOC	4	2024	4	2024
Acquisition Milestones: Milestones: TMPC 8.X IOC	4	2026	4	2026
Acquisition Milestones: Milestones: TTWCS v5.6.1.X Fleet Release (Land Attack)	2	2024	2	2024
Acquisition Milestones: Milestones: TTWCS v5.6.1.X Fleet Release (MST)	3	2026	3	2026
Acquisition Milestones: Milestones: TTWCS v5.6.1.X Fleet Release (MCODE)	4	2025	4	2025
Acquisition Milestones: Milestones: TTWCS v7.X Fleet Release	4	2027	4	2027
Acquisition Milestones: Software Development: TMPC 8.X SW Dev & Integration	1	2023	2	2026
Acquisition Milestones: Software Development: TMPC 8.X Requirements Definition	1	2023	4	2023
Acquisition Milestones: Software Development: TTWCS v7.X Software	3	2023	4	2023
Acquisition Milestones: Software Development: TTWCS v7.X SW Dev & Int	1	2024	4	2025
Reviews: Critical Design Reviews: TMPC 8.X System Requirements Review (SRR)	1	2023	1	2023
Reviews: Critical Design Reviews: TMPC 8.X Critical Design Review (CDR)	4	2024	4	2024
Reviews: Critical Design Reviews: TMPC 8.X Preliminary Design Review (PDR)	3	2023	3	2023
Reviews: Critical Design Reviews: TACTOM Preplanned Product Improvement (P3I) Cyber Improvements	1	2023	4	2029
Reviews: Critical Design Reviews: TMPC Preplanned Product Improvement	1	2025	4	2029
Reviews: Test and Evaluation: TTWCS v5.6.1.X DT/OT	1	2023	3	2024
Reviews: Test and Evaluation: TTWCS v7.X DT/OT	1	2024	3	2026
Reviews: Test and Evaluation: TMPC 7.X Product Acceptance Testing Land Attack (PAT) & DT/OT	1	2023	2	2024
Reviews: Test and Evaluation: TMPC 8.X Product Acceptance Testing (PAT) & DT/OT	3	2025	4	2026

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**Exhibit R-4A, RDT&E Schedule Details: PB 2025 Navy** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0204229N / <i>Tomahawk Mssn Planning Ctr</i>	<b>Project (Number/Name)</b> 4036 / <i>TTWCS TMPC PPPI</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>
Reviews: Test and Evaluation: TMPC 7.X Product Acceptance Testing MST (PAT) & DT/OT	3	2023	1	2026
Reviews: Test and Evaluation: TMPC 8.X Operational Test Readiness Review (OTRR)	3	2026	3	2026