

**UNCLASSIFIED**

**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 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0603553N / <i>Surface ASW</i>
---	--

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	192.380	1.134	1.189	1.194	-	1.194	1.203	1.210	1.229	1.252	Continuing	Continuing
1704: <i>Undersea Warfare</i>	192.380	1.134	1.189	1.194	-	1.194	1.203	1.210	1.229	1.252	Continuing	Continuing

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

The objective of this Program Element (PE) is to pursue the development of technologies with the goal of improving Anti-Submarine Warfare (ASW) effectiveness to the point of rendering the enemy submarine irrelevant against U.S. and coalition forces. U.S. adversaries continue to develop asymmetric capabilities and capacities to deter, disrupt, or delay the entry of U.S. and allied naval forces, and pose a constant challenge as we implement the Maritime Strategy. These trends increase the threats to U.S. surface combatants, thus requiring a focused effort to identify the most promising ASW technologies through a process of discovery, assessment, experimentation, and analysis. Studies, experiments, and/or technology developments under this PE will seek to improve the ability of surface combatants to detect, classify, localize, and track submerged contacts and detect and defend against modern torpedoes. To achieve these objectives, it is essential to develop new ASW technologies. The products from these efforts will be provided to the Advanced Capability Build (ACB) program supporting the continuing improvement of the AN/SQQ-89A(V)15 Surface Ship ASW Combat System.

<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	1.180	1.189	1.196	-	1.196
Current President's Budget	1.134	1.189	1.194	-	1.194
Total Adjustments	-0.046	0.000	-0.002	-	-0.002
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.046	0.000			
• Program Adjustments	0.000	0.000	-0.002	-	-0.002
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000

**Change Summary Explanation**

FUNDING CHANGES SINCE PREVIOUS PRESIDENT'S BUDGET:

- FY 2023 decrease of \$-0.046M reflects the Small Business Innovative Research (SBIR) transfer.
- FY 2025 decrease of \$-0.002M reflects programmatic adjustments.

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Navy										<b>Date:</b> March 2024		
<b>Appropriation/Budget Activity</b> 1319 / 4					<b>R-1 Program Element (Number/Name)</b> PE 0603553N / <i>Surface ASW</i>				<b>Project (Number/Name)</b> 1704 / <i>Undersea Warfare</i>			
<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>
1704: <i>Undersea Warfare</i>	192.380	1.134	1.189	1.194	-	1.194	1.203	1.210	1.229	1.252	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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

The objective of this Project is to pursue the development of technologies with the goal of improving ASW effectiveness to the point of rendering the enemy submarine irrelevant against U.S. and coalition forces. U.S. adversaries continue to develop asymmetric capabilities and capacities to deter, disrupt, or delay the entry of U.S. and allied naval forces, and pose a constant challenge as we implement the Maritime Strategy. These trends increase the threats to U.S. surface combatants, thus requiring a focused effort to identify the most promising ASW technologies through a process of discovery, assessment, experimentation, and analysis. Studies, experiments, and/or technology developments under this PE will seek to improve the ability of surface combatants to detect, classify, localize, and track submerged contacts and detect and defend against modern torpedoes. To achieve these objectives, it is essential to develop new ASW technologies. The products from these efforts will be provided to the ACB program supporting the continuing improvement of the AN/SQQ-89A(V)15 Surface Ship ASW Combat System.

**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> ASW Concept Development/Studies	1.134	1.189	1.194	0.000	1.194
<b>Articles:</b>	-	-	-	-	-
<b>FY 2024 Plans:</b>					
- Continue transition of Passive Coherent Processing (PiCP) technology into the AN/SQQ-89A(V)15 Surface Ship ASW Combat System production program for Torpedo Defense (TD).					
- Continue development and testing of extending PiCP technology to perform cross-array association for TD.					
- Continue investigating augmented Continuous Active Sonar (CAS) waveforms and processing, and extend Doppler Matched Active Processing (DMAP) technology to CAS (including extension to the FFG 62 class).					
- Consolidate and integrate active TD and ASW code into a single common baseline.					
- Complete testing and integration of Operator Machine Interface (OMI) enhancements to display DMAP and PiCP acoustic and automation data into the AN/SQQ-89A(V)15 Surface Ship ASW Combat System.					
- Investigate using Joint Passive Active Localization (JPAL) for TD and ASW.					
- Continue to extend Passive Tracking technologies developed under the Submarine Advanced Processing Build (APB) program to the AN/SQQ-89A(V)15 Surface Ship ASW Combat System.					
- Award option under Broad Agency Announcement (BAA) development contract in support of AN/SQQ-89A(V)15 Surface Ship ASW Combat System Fleet requirements.					
<b>FY 2025 Base Plans:</b>					
- Continue transition of TD DMAP capability for towed arrays, leveraging ASW investment.					
- Investigate and develop an extension of PiCP-for-TD technology to operate for ASW.					

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Navy		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 1319 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603553N / <i>Surface ASW</i>	<b>Project (Number/Name)</b> 1704 / <i>Undersea Warfare</i>

<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>
<ul style="list-style-type: none"> <li>- Continue transition of cross-array PiCP technology into the AN/SQQ-89A(V)15 Surface Ship ASW Combat System production program for TD.</li> <li>- Investigate and test extending DMAP-for-ASW to use all active waveforms for ASW and TD.</li> <li>- Initiate testing and integration of augmented CAS enhancements into the Pulsed Active Sonar (PAS) and CAS baselines for the AN/SQQ-89A(V)15 Surface Ship ASW Combat System.</li> <li>- Continue efforts to develop and test JPAL for TD and ASW.</li> <li>- Initiate development and testing of OMI enhancements to display cross-array PiCP acoustic/automation data.</li> <li>- Award option under BAA development contract in support of AN/SQQ-89A(V)15 Surface Ship ASW Combat System Fleet requirements.</li> </ul> <p><b>FY 2025 OCO Plans:</b> N/A</p> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> - FY 2024 (\$1.189M) to FY 2025 (\$1.194M) increase (\$+0.005M) is attributed to fact-of-life price increases between FY 2024 and FY 2025.</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	1.134	1.189	1.194	0.000	1.194

<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>
• RDTEN/0205620N/1916: <i>Surface ASW System Improvement</i>	27.945	29.973	29.887	-	29.887	30.194	30.413	30.835	31.433	Continuing	Continuing
• OPN/2136: <i>AN/SQQ-89 Surf ASW Cmbt Sys</i>	140.157	138.065	134.637	-	134.637	135.725	136.165	139.590	144.460	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**  
Use competitively awarded contracts from Broad Agency Announcement (BAA) solicitations and Other Transaction Authority (OTA). Successful technologies are transitioned to the AN/SQQ-89A(V)15 Surface Ship ASW Combat System ACB development program funded under PE 0205620N, Project 1916 for integration and testing. Technologies are delivered every two years to the AN/SQQ-89A(V)15 Surface Ship ASW Combat System production program via the ACB spiral development process (ACB-23, ACB-25, ACB-27, etc.).

**UNCLASSIFIED**

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

<b>Appropriation/Budget Activity</b> 1319 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603553N / <i>Surface ASW</i>	<b>Project (Number/Name)</b> 1704 / <i>Undersea Warfare</i>
--	--	--

<b>Product Development (\$ 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			
ASW Concept Development/Studies	C/CPFF	AAC : NY	2.201	0.000		0.000		0.000		-		0.000	0.000	2.201	-
ASW Concept Development/Studies	C/CPFF	Adaptive Methods : VA	3.788	0.000		0.000		0.000		-		0.000	0.000	3.788	-
ASW Concept Development/Studies	C/CPFF	Alion Sciences : VA	8.749	0.000		0.000		0.000		-		0.000	0.000	8.749	-
ASW Concept Development/Studies	C/CPFF	Applied Physical Sciences : CT	3.108	0.777	Jan 2023	0.725	Oct 2023	0.725	Jan 2025	-		0.725	Continuing	Continuing	Continuing
ASW Concept Development/Studies	C/CPFF	In-Depth Engineering : VA	3.635	0.000		0.000		0.000		-		0.000	0.000	3.635	-
ASW Concept Development/Studies	C/CPFF	JHU/APL : MD	28.068	0.000		0.000		0.000		-		0.000	0.000	28.068	-
ASW Concept Development/Studies	C/CPFF	L-3 Communications : VA	3.000	0.000		0.000		0.000		-		0.000	0.000	3.000	-
ASW Concept Development/Studies	C/CPFF	Lockheed Martin - ISS : NY	7.110	0.000		0.000		0.000		-		0.000	0.000	7.110	-
ASW Concept Development/Studies	WR	NAVWAR : CA	0.277	0.000		0.000		0.000		-		0.000	0.000	0.277	-
ASW Concept Development/Studies	WR	NAWC/Pax River : MD	2.400	0.000		0.000		0.000		-		0.000	0.000	2.400	-
ASW Concept Development/Studies	WR	NFESC/PH : CA	5.350	0.000		0.000		0.000		-		0.000	0.000	5.350	-
ASW Concept Development/Studies	C/CPFF	Northrop Grumman : VA	4.684	0.000		0.000		0.000		-		0.000	0.000	4.684	-
ASW Concept Development/Studies	WR	NRL : DC	3.037	0.000		0.000		0.000		-		0.000	0.000	3.037	-
ASW Concept Development/Studies	WR	NSMA : VA	0.907	0.000		0.000		0.000		-		0.000	0.000	0.907	-
ASW Concept Development/Studies	WR	NSWC/Carderock : MD	4.373	0.000		0.000		0.000		-		0.000	0.000	4.373	-
ASW Concept Development/Studies	WR	NUWC/Keyport : WA	0.790	0.000		0.000		0.000		-		0.000	0.000	0.790	-

**UNCLASSIFIED**

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

<b>Appropriation/Budget Activity</b> 1319 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603553N / <i>Surface ASW</i>	<b>Project (Number/Name)</b> 1704 / <i>Undersea Warfare</i>
--	--	--

<b>Product Development (\$ 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			
ASW Concept Development/Studies	WR	NUWC/Newport : RI	44.915	0.000		0.000		0.000		-		0.000	0.000	44.915	-
ASW Concept Development/Studies	MIPR	SSGC : MS	3.253	0.000		0.000		0.000		-		0.000	0.000	3.253	-
ASW Concept Development/Studies	C/CPFF	UT/ARL : TX	6.752	0.000		0.000		0.000		-		0.000	0.000	6.752	-
ASW Concept Development/Studies	C/CPFF	VAR : VAR*	34.846	0.257	Dec 2022	0.364	Nov 2023	0.369	Dec 2024	-		0.369	Continuing	Continuing	Continuing
<b>Subtotal</b>			171.243	1.034		1.089		1.094		-		1.094	Continuing	Continuing	N/A

**Remarks**  
\*Consists of multiple performing activities with funding for each not greater than \$1M per year.

<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	ONR : VA	5.500	0.000		0.000		0.000		-		0.000	0.000	5.500	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	C/CPFF	JHU/APL : MD	4.462	0.000		0.000		0.000		-		0.000	0.000	4.462	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	C/CPFF	UT/ARL : TX	2.000	0.000		0.000		0.000		-		0.000	0.000	2.000	-
<b>Subtotal</b>			11.962	0.000		0.000		0.000		-		0.000	0.000	11.962	N/A

**Remarks**  
\*Consists of multiple performing activities with funding for each not greater than \$1M per year.

**UNCLASSIFIED**

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

<b>Appropriation/Budget Activity</b> 1319 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603553N / <i>Surface ASW</i>	<b>Project (Number/Name)</b> 1704 / <i>Undersea Warfare</i>
--	--	--

<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			
Program Management Support - Acquisition, Business & Finance	C/CPAF	EG&G : VA	2.050	0.000		0.000		0.000		-		0.000	0.000	2.050	-
Program Management Support - Acquisition, Business & Finance	C/CPAF	BAE Systems : MD	4.824	0.000		0.000		0.000		-		0.000	0.000	4.824	-
Program Management Support - Systems Engineering and Technical Assistance (SETA)	C/CPFF	CGI Federal : VA	1.751	0.000		0.000		0.000		-		0.000	0.000	1.751	-
Program Management Support - Systems Engineering and Technical Assistance (SETA)	C/CPFF	KMS Solutions* : VA	0.200	0.100	Dec 2022	0.100	Feb 2024	0.100	Dec 2024	-		0.100	Continuing	Continuing	Continuing
Program Office Travel	Allot	NAVSEA PEO IWS 5 : DC	0.350	0.000		0.000		0.000		-		0.000	0.000	0.350	-
<b>Subtotal</b>			9.175	0.100		0.100		0.100		-		0.100	Continuing	Continuing	N/A

**Remarks**  
 \*In addition to program office support, KMS Solutions provides technical planning, systems engineering, and test support. KMS Solutions also provides Subject Matter Experts (SMEs) as members of AN/SQQ-89 Surface Ship ASW Combat System ACB technical Peer Review Working Groups and Integrated Product Teams (IPTs) in support of designing and refining candidate technologies for inclusion into ACB deliveries.

	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>	192.380	1.134	1.189	1.194	-	1.194	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 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603553N / <i>Surface ASW</i>	<b>Project (Number/Name)</b> 1704 / <i>Undersea Warfare</i>
--	--	--

Project 1704	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029							
	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				
Broad Agency Announcement (BAA) Awards	▲ BAA Award				△ BAA Award				△ BAA Award				△ BAA Award				△ BAA Award				△ BAA Award				△ BAA Award				△ BAA Award			
Technology Development and Analysis	Technology Development and Analysis																															

**UNCLASSIFIED**

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

<b>Appropriation/Budget Activity</b> 1319 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603553N / <i>Surface ASW</i>	<b>Project (Number/Name)</b> 1704 / <i>Undersea Warfare</i>
--	--	--

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Proj 1704.L24</i></b>				
Broad Agency Announcement (BAA) Awards: BAA Award - 2023	2	2023	2	2023
Broad Agency Announcement (BAA) Awards: BAA Award - 2024	2	2024	2	2024
Broad Agency Announcement (BAA) Awards: BAA Award - 2025	2	2025	2	2025
Broad Agency Announcement (BAA) Awards: BAA Award - 2026	2	2026	2	2026
Broad Agency Announcement (BAA) Awards: BAA Award - 2027	2	2027	2	2027
Broad Agency Announcement (BAA) Awards: BAA Award - 2028	2	2028	2	2028
Broad Agency Announcement (BAA) Awards: BAA Award - 2029	2	2029	2	2029
Technology Development and Analysis: Technology Development and Analysis	1	2023	4	2029