Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy	Date: March 2023
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603254N *I ASW Systems Development*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	168.135	20.079	15.977	17.090	-	17.090	20.183	20.518	20.895	21.314	Continuing	Continuing
1292: *Adv ASW Sensors & Proc*	165.239	17.183	15.977	17.090	-	17.090	20.183	20.518	20.895	21.314	Continuing	Continuing
9999: *Congressional Adds*	2.896	2.896	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.792

A. Mission Description and Budget Item Justification

Includes RDT&E funds for advanced development and developmental testing of airborne Anti-Submarine Warfare (ASW) systems including aircraft, equipment, and devices for use against all types of submarine targets.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPES because it includes all efforts necessary to evaluate integrated technologies, representative models or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	20.598	15.986	17.021	-	17.021
Current President's Budget	20.079	15.977	17.090	-	17.090
Total Adjustments	-0.519	-0.009	0.069	-	0.069
• Congressional General Reductions	-	-0.009			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.512	0.000			
• Rate/Misc Adjustments	-0.007	0.000	0.069	-	0.069

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 9999: *Congressional Adds*		
Congressional Add: *Innovative AWS technologies*	2.896	0.000
Congressional Add Subtotals for Project: 9999	2.896	0.000
Congressional Add Totals for all Projects	2.896	0.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy	Date: March 2023
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603254N *I ASW Systems Development*

Change Summary Explanation

FY22 -$0.519M SBIR and cancelled account adjustments
FY23 -$0.009M Congressional General reductions
FY24 +$0.069M Rate/Misc adjustments

Schedule: Improved descriptors for Performance Assessment, Algorithm maturation and Software and Experiment/Exercise Participation, to better reflect execution plans. Two additional "over-the-side" demonstrations added to schedule in 3Q/23 and 4Q/23 respectively. Two additional Signal Processing deliverables added to schedule in 1Q/23 and 3Q/23 respectively.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy											Date: March 2023	
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603254N / *ASW Systems Development*				Project (Number/Name) 1292 / *Adv ASW Sensors & Proc*			
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
1292: *Adv ASW Sensors & Proc*	165.239	17.183	15.977	17.090	-	17.090	20.183	20.518	20.895	21.314	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program improves Air Anti-Submarine Warfare (ASW) effectiveness through development and maturation of advanced hardware and software associated with airborne acoustic and non-acoustic systems. This includes sensors and components, processing, post-processing, data recording and display capabilities to address near-peer threat scenarios against surfaced or submerged conventionally and nuclear powered submarines. Key objectives include: advancing active and passive sensors and components; improving detection, classification, localization and tracking; and increasing capacity and flexibility to handle multi-sensor data loads. Technology evaluations include sonobuoy communication links to/from aircraft, distributed netted sensors, transient signals, and source and receiver technologies that will enhance passive and multistatic active sensor systems.

Products being funded during the FYDP will provide for the development and maturation of persistent tactical search technologies that will allow transition to the localization and attack phase in operationally relevant environments. In addition, the program will provide for the development and subsequent experimentation, including data collection and engineering measurement, of the next generation of multistatic sources and receivers; passive sensors and processors; and non-acoustic technologies. Matured technologies that increase operational capability will transition to acquisition programs of record for eventual release on ASW platforms. The RDT&E test articles, which consist of sensors, components and associated processing, are employed and expended in support of and during in-water experimentation.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**
Title: System performance assessments	17.183	15.977	17.090	0.000	17.090
Articles:	100	90	180	-	180
FY 2023 Plans: Mature the air-deployable vertical line array prototype sensor for UnderSea Advantage by employing the related test articles, models, processors and algorithms in air-deployable demonstrations to validate technical maturity and assess operational performance. Execute test(s) in relevant operational environments, and conduct data analyses to evaluate the prototype hardware and associated algorithms. Conduct performance assessments, gap analyses, and rapid prototyping to demonstrate the next generation of active and passive system components, through advancements in high-gain sensing.					
FY 2024 Base Plans: Employ the UnderSea Advantage prototypes, models, processors and algorithms in relevant demonstrations to validate technical maturity and assess operational performance. Execute test(s) in operational environments, and conduct data analyses to evaluate the prototype hardware and associated algorithms. Progress towards					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603254N / *ASW Systems Development*	**Project (Number/Name)** 1292 / *Adv ASW Sensors & Proc*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
the acquisition phase by addressing performance assessments, gap analyses, and rapid prototyping of the next generation of active and passive system enhancements. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The increase from FY23 to FY24 represents purchasing air-deployable prototype sensors in support of associated at-sea demonstrations and verifications.					
Accomplishments/Planned Programs Subtotals	17.183	15.977	17.090	0.000	17.090

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• RDT&E/0480: *ASW Sensors & Proc*	38.956	46.001	43.874	-	43.874	44.284	44.981	45.882	46.794	Continuing	Continuing

Remarks

D. Acquisition Strategy

Develop and mature acoustic and non-acoustic ASW technologies that have high potential for meeting documented capability gaps and Fleet requirements. As funding permits, transition those technologies to acquisition programs of record for eventual Fleet release on ASW platforms.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603254N / *ASW Systems Development*	Project (Number/Name) 1292 / *Adv ASW Sensors & Proc*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hdw Development	Various	Various : Various	12.175	5.559	Dec 2021	5.066	Dec 2022	5.521	Dec 2023	-		5.521	Continuing	Continuing	Continuing
		Subtotal	12.175	5.559		5.066		5.521		-		5.521	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	WR	NAWCAD : PATUXENT RIVER, MD	11.788	3.780	Dec 2021	3.546	Dec 2022	3.781	Dec 2023	-		3.781	0.000	22.895	-
Studies & Analysis	WR	NAWCAD : PATUXENT RIVER, MD	12.776	2.636	Dec 2021	2.363	Dec 2022	2.194	Dec 2023	-		2.194	Continuing	Continuing	Continuing
		Subtotal	24.564	6.416		5.909		5.975		-		5.975	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (DT&E)	Various	Various : Various	32.568	3.172	Dec 2021	3.150	Dec 2022	3.580	Dec 2023	-		3.580	Continuing	Continuing	Continuing
		Subtotal	32.568	3.172		3.150		3.580		-		3.580	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Eng Spt	Various	Various : Various	25.590	1.186	Dec 2021	1.103	Dec 2022	1.151	Dec 2023	-		1.151	Continuing	Continuing	Continuing
ENG & TECH SVCS (NON-FFRDC)	Various	Various : Various	3.394	0.100	Dec 2021	0.100	Dec 2022	0.100	Dec 2023	-		0.100	Continuing	Continuing	Continuing
MGT & PROF SVCS (FFRDC)	Various	Various : Various	1.857	0.100	Dec 2021	0.091	Dec 2022	0.100	Dec 2023	-		0.100	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603254N / *ASW Systems Development*	Project (Number/Name) 1292 / *Adv ASW Sensors & Proc*

Management Services ($ in Millions)

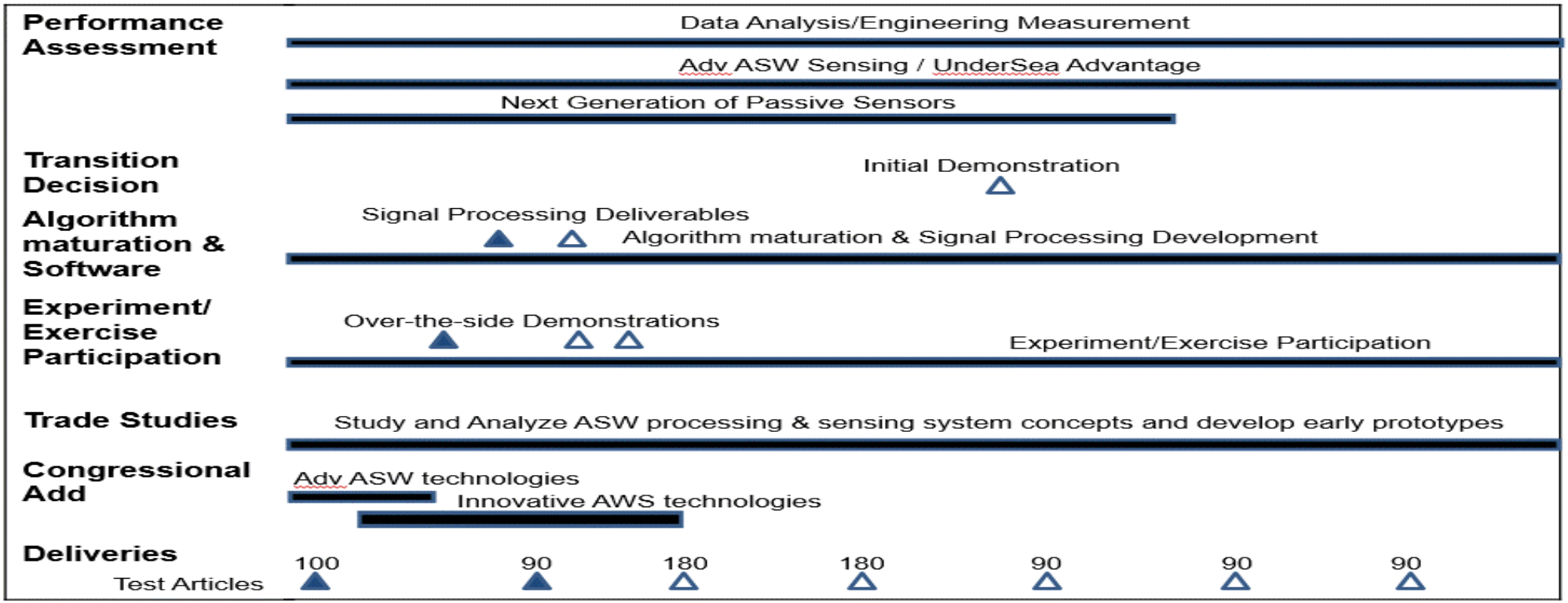
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Eng Spt	WR	NAWCAD : PATUXENT RIVER, MD	64.903	0.642	Dec 2021	0.550	Dec 2022	0.655	Dec 2023	-		0.655	Continuing	Continuing	Continuing
Travel	Various	VARIOUS : VARIOUS	0.188	0.008	Dec 2021	0.008	Dec 2022	0.008	Dec 2023	-		0.008	Continuing	Continuing	Continuing
		Subtotal	95.932	2.036		1.852		2.014		-		2.014	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	165.239	17.183		15.977		17.090		-		17.090	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603254N / *ASW Systems Development*	**Project (Number/Name)** 1292 / *Adv ASW Sensors & Proc*

PMA-264 Advanced ASW Sensors & Processing (1292)



The RDT&E test articles, which consist of sensors, components and associated processors are employed and expended in support of and during in-water experimentation.

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603254N / *ASW Systems Development*	**Project (Number/Name)** 1292 / *Adv ASW Sensors & Proc*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj: 1292 - Adv ASW Sensors & Processors				
Performance Assessment: Data Analysis/Engineering Measurement	1	2022	4	2028
Performance Assessment: Advanced ASW sensing / Undersea Advantage	1	2022	4	2028
Performance Assessment: Next Generation of Passive Sensors	1	2022	4	2026
Transition Decision: Initial Demonstration	4	2025	4	2025
Algorithm maturation & Software: Signal Processing Deliverable 1	1	2023	1	2023
Algorithm maturation & Software: Signal Processing Deliverable 2	3	2023	3	2023
Algorithm maturation & Software: Algorithm maturation & Signal Processing Development	1	2022	4	2028
Experiment/Exercise Participation: Over-the-side Demonstrations (1)	4	2022	4	2022
Experiment/Exercise Participation: Over-the-side Demonstrations (2)	3	2023	3	2023
Experiment/Exercise Participation: Over-the-side Demonstrations (3)	4	2023	4	2023
Experiment/Exercise Participation: Experiment/Exercise Participation	1	2022	4	2028
Trade Studies: Trade Studies	1	2022	4	2028
Congressional Add: Adv ASW technologies	1	2022	4	2022
Congressional Add: Innovative AWS technologies	2	2022	1	2024
Deliveries: Test Articles: FY22 Test Article Deliveries	1	2022	1	2022
Deliveries: Test Articles: FY23 Test Article Deliveries	2	2023	2	2023
Deliveries: Test Articles: FY24 Test Article Deliveries	1	2024	1	2024
Deliveries: Test Articles: FY25 Test Article Deliveries	1	2025	1	2025
Deliveries: Test Articles: FY26 Test Article Deliveries	1	2026	1	2026
Deliveries: Test Articles: FY27 Test Article Deliveries	1	2027	1	2027
Deliveries: Test Articles: FY28 Test Article Deliveries	1	2028	1	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy											Date: March 2023	
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603254N / *ASW Systems Development*				Project (Number/Name) 9999 / *Congressional Adds*			
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
9999: *Congressional Adds*	2.896	2.896	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.792
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

FY22 $2.896M Congressional Add for Innovative AWS technologies. Develop and mature acoustic and non-acoustic innovative ASW technologies.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
Congressional Add: Innovative AWS technologies	2.896	0.000
FY 2022 Accomplishments: Support Congressional Add efforts.		
FY 2023 Plans: N/A		
Congressional Adds Subtotals	2.896	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Develop, test and mature innovative ASW technologies. Funding applied to investments and innovative and operationally relevant sensors, processing, telemetry, and experimentation.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603254N / *ASW Systems Development*	**Project (Number/Name)** 9999 / *Congressional Adds*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various : Various	1.442	1.500	Aug 2022	0.000		0.000		-		0.000	0.000	2.942	-
		Subtotal	1.442	1.500		0.000		0.000		-		0.000	0.000	2.942	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	Various	Various : Various	0.476	0.600	Aug 2022	0.000		0.000		-		0.000	0.000	1.076	-
Studies and Analysis	Various	Various : Various	0.678	0.546	Aug 2022	0.000		0.000		-		0.000	0.000	1.224	-
		Subtotal	1.154	1.146		0.000		0.000		-		0.000	0.000	2.300	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Spt	WR	NAWCAD : PATUXENT RIVER, MD	0.300	0.250	Aug 2022	0.000		0.000		-		0.000	0.000	0.550	-
		Subtotal	0.300	0.250		0.000		0.000		-		0.000	0.000	0.550	N/A

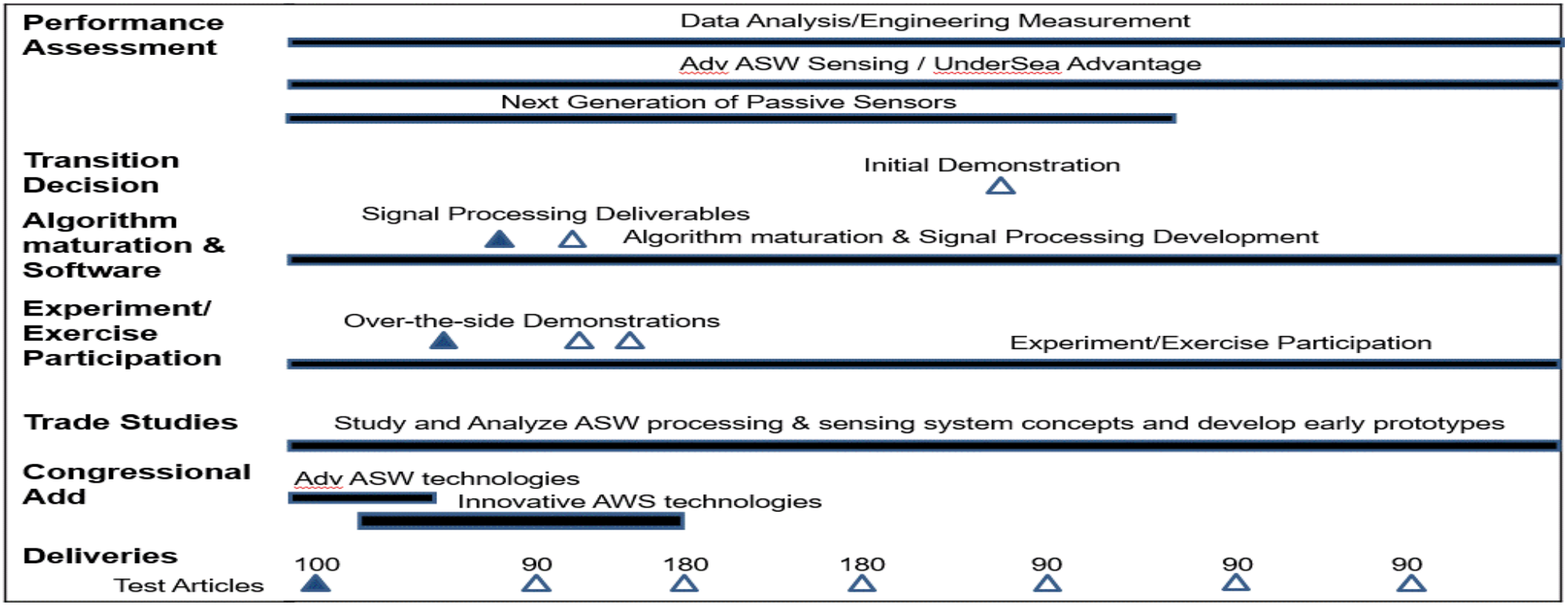
	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	2.896	2.896		0.000		0.000		-		0.000	0.000	5.792	N/A

Remarks

FY22 $2.896M Congressional Add for Innovative AWS technologies.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603254N / *ASW Systems Development*	**Project (Number/Name)** 9999 / *Congressional Adds*

PMA-264 Advanced ASW Sensors & Processing (1292)



The RDT&E test articles, which consist of sensors, components and associated processors are employed and expended in support of and during in-water experimentation.

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603254N / *ASW Systems Development*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj: 1292 - Adv ASW Sensors & Processors				
Performance Assessment: Data Analysis/Engineering Measurement	1	2022	4	2028
Performance Assessment: Advanced ASW sensing / Undersea Advantage	1	2022	4	2028
Performance Assessment: Next Generation of Passive Sensors	1	2022	4	2026
Transition Decision: Initial Demonstration	4	2025	4	2025
Algorithm maturation & Software: Signal Processing Deliverable 1	1	2023	1	2023
Algorithm maturation & Software: Signal Processing Deliverable 2	3	2023	3	2023
Algorithm maturation & Software: Algorithm maturation & Signal Processing Development	1	2022	4	2028
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Experiment/Exercise Participation: Over-the-side Demonstrations (3)	4	2023	4	2023
Experiment/Exercise Participation: Experiment/Exercise Participation	1	2022	4	2028
Trade Studies: Trade Studies	1	2022	4	2028
Congressional Add: Adv ASW technologies	1	2022	4	2022
Congressional Add: Innovative AWS technologies	2	2022	1	2024
Deliveries: FY22 Test Article Deliveries	1	2022	1	2022
Deliveries: FY23 Test Article Deliveries	2	2023	2	2023
Deliveries: FY24 Test Article Deliveries	1	2024	1	2024
Deliveries: FY25 Test Article Deliveries	1	2025	1	2025
Deliveries: FY26 Test Article Deliveries	1	2026	1	2026
Deliveries: FY27 Test Article Deliveries	1	2027	1	2027
Deliveries: FY28 Test Article Deliveries	1	2028	1	2028