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 0303354N *I ASW Systems Development - MIP*							
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	81.962	8.536	9.769	10.167	-	10.167	10.134	10.276	10.391	10.598	Continuing	Continuing
0490: *Airborne Acoustic Intelligence (AAI)*	81.962	8.536	9.769	10.167	-	10.167	10.134	10.276	10.391	10.598	Continuing	Continuing

A. Mission Description and Budget Item Justification

The mission of Airborne ASW Intelligence (AAI) (CNO Project K-0416) is to provide advanced Anti-Submarine Warfare (ASW) capabilities through development of new technology and prototype mechanisms for the collection and analysis of ASW related intelligence. This includes full spectrum intelligence collections, analysis, and cataloging of current peer and near peer adversaries. The program develops and deploys disruptive technologies to counter emerging threats in order to maintain the United States' current undersea warfare superiority. AAI employs systems such as the Mighty Orion and Anti-Submarine Warfare Mission Planning and Reconstruction Systems (AMPRS) to support the Tasking, Collection, Processing, Exploitation, and Dissemination (TC/PED) of passive and active intelligence measurements of current and next generation submarine vulnerabilities. The AAI data collection program provides full spectrum, measured intelligence data essential for the design and development of advanced sensors, weapon systems, environmental models, and tactical decision aids by using currently fielded sonobuoy systems; developing the Passive Extended Range Sonobuoy System; and providing prototype AN/SSQ-113 Naval Underwater Active Multi-ping family of sensors to collect active target strength measurement data for the Intelligence Community. AAI collection systems are installed and employed on uniquely configured platforms, specially configured ground support facilities, ships, and other assets as required for the collection, processing, exfiltration, and dissemination of undersea intelligence. AAI develops advanced components and system prototype for advanced detection and tracking systems, specially designed sensors, advanced processing systems and techniques, and specially derived tactics.

This is a Military Intelligence Program (MIP).

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.

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 0303354N *I ASW Systems Development - MIP*		
B. Program Change Summary ($ in Millions)	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**
Previous President's Budget	8.536	9.856	10.149	-	10.149
Current President's Budget	8.536	9.769	10.167	-	10.167
Total Adjustments	0.000	-0.087	0.018	-	0.018
• Congressional General Reductions	-	-0.087			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	0.018	-	0.018

Change Summary Explanation

FY 2024 increased since the previous President's Budget submission by $0.018M to account for inflationary and working capital fund rate adjustments.

PB24 schedule reflects completion of the Furious Krypton effort in FY23. The PERSS line has been broken out into Design Development phase that ends in FY26 and Prototype Procurement beginning FY27. Fielding/Capability milestone has been added to 1Q FY28 due to transition of the Office of Naval Research Future Naval Capabilities Extended Range - Directional Finding and Recording (ER-DIFAR) to a lower technology readiness level that necessitate addition of significant development activities. Active NUAMP line reflects prototype procurement throughout FYDP; Active NUAMP Design Development has been broken out to show effort completes FY24. Test and Evaluation line has been broken out into Integrated Testing ending in FY24 and ER-DIFAR Qualification Testing beginning in FY25. ER-DIFAR Integration Testing beginning in FY26 and ending in FY27. Supply chain issues and material shortages have delayed FY22 NUAMP prototype delivery. Quantity of 72 (FY22 qty 36 and FY23 qty 36) will deliver 4Q FY23.

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 0303354N / *ASW Systems Development - MIP*	Project (Number/Name) 0490 / *Airborne Acoustic Intelligence (AAI)*	

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
0490: *Airborne Acoustic Intelligence (AAI)*	81.962	8.536	9.769	10.167	-	10.167	10.134	10.276	10.391	10.598	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The mission of Airborne ASW Intelligence (AAI) (CNO Project K-0416) is to provide advanced Anti-Submarine Warfare (ASW) capabilities through development of new technology and prototype mechanisms for the collection and analysis of ASW related intelligence. This includes full spectrum intelligence collections, analysis, and cataloging of current peer and near peer adversaries. The program develops and deploys disruptive technologies to counter emerging threats in order to maintain the United States' current undersea warfare superiority. AAI employs systems such as the Mighty Orion and Anti-Submarine Warfare Mission Planning and Reconstruction Systems (AMPRS) to support the Tasking, Collection, Processing, Exploitation, and Dissemination (TC/PED) of passive and active intelligence measurements of current and next generation submarine vulnerabilities. The AAI data collection program provides full spectrum, measured intelligence data essential for the design and development of advanced sensors, weapon systems, environmental models, and tactical decision aids by using currently fielded sonobuoy systems; developing the Passive Extended Range Sonobuoy System; and providing prototype AN/SSQ-113 Naval Underwater Active Multi-ping family of sensors to collect active target strength measurement data for the Intelligence Community. AAI collection systems are installed and employed on uniquely configured platforms, specially configured ground support facilities, ships, and other assets as required for the collection, processing, exfiltration, and dissemination of undersea intelligence. AAI develops advanced components and system prototype for advanced detection and tracking systems, specially designed sensors, advanced processing systems and techniques, and specially derived tactics.

This is a Military Intelligence Program (MIP).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Systems Engineering	1.445	1.559	1.444	0.000	1.444
Articles:	-	-	-	-	-
FY 2023 Plans: Engineering support of Acoustic Intelligence (ACINT) as well as Anti-Submarine Warfare Mission Planning and Reconstruction System (AMPRS) for certified P-8 and H-60 AAI collection platforms and management of full spectrum database. Engineering support for design upgrades to ACINT Collection Suites for certified AAI collection platforms. Enhance P-8 aircraft adjunct sensor station, Mighty Orion (MO), for prototyping of in-flight analysis and dissemination of ACINT. Continue evaluation of Fleet software releases for Office of Naval Intelligence (ONI) certification aboard ASW collection platforms. Continue upgrades and development of					

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 0303354N / *ASW Systems Development - MIP*	**Project (Number/Name)** 0490 / *Airborne Acoustic Intelligence (AAI)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
hardware and software for unique airborne avionics and sensors and fielding MO mission kits in support of P-8A deployments. ***FY 2024 Base Plans:*** Engineering support of ACINT as well as AMPRS for certified P-8 and H-60 AAI collection platforms and management of full spectrum database. Enhance P-8 aircraft adjunct sensor station, MO, for prototyping of in-flight analysis and dissemination of ACINT. Evaluation of Fleet software releases for ONI certification aboard ASW collection platforms. Evaluate and development of hardware and software upgrades for unique airborne avionics and sensors and fielding MO mission kits in support of P-8A deployments. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The Systems Engineering Cost has been decreased due to realized manpower reductions, as well as increased efficiency and cost savings to provide hardware and software solutions in support the ACINT data package delivery.					
Title: Data Collection and Analysis	1.143	1.248	1.750	0.000	1.750
Articles:	-	-	-	-	-
FY 2023 Plans: Data collection support at Operational Wings and Tactical ASW commands. Ongoing collection of high interest current and future generation target acoustic data in support of Measurement and Signatures Intelligence (MASINT)/ONI threat assessment and trend analysis requirements for further development of future USN USW capabilities. Characterization, analysis and certification of the upgraded Fleet MASINT collection assets. Data reduction, Analysis and Fleet Rapid Feedback. Conduct special operations support. Provide essential performance modeling and evaluation for advanced technology sensor systems design and Fleet tactics development. Develop in mission and post mission analysis hardware, software, and processes in response to evolving enemy capabilities. ***FY 2024 Base Plans:*** Data collection support at Operational Wings and Tactical ASW commands. Ongoing collection of high interest current and future generation target acoustic data in support of MASINT/ONI threat assessment and trend analysis requirements for further development of future USN Undersea Warfare (USW) capabilities. Characterization, analysis and certification of the upgraded Fleet MASINT collection assets. Data reduction,					

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 0303354N / *ASW Systems Development - MIP*	**Project (Number/Name)** 0490 / *Airborne Acoustic Intelligence (AAI)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Analysis and Fleet Rapid Feedback. Conduct special operations support. Provide essential performance modeling and evaluation for advanced technology sensor systems design and Fleet tactics development. Develop in mission and post mission analysis hardware, software, and processes in response to evolving enemy capabilities. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The Ancillary Hardware Development cost increased in FY24 to allow for the development of additional ACINT data packages.					
Title: Navy Underwater Active Multiple Ping (NUAMP) Product Development	3.757	2.719	0.627	0.000	0.627
Articles:	-	-	-	-	-
FY 2023 Plans: Conduct failure analysis and correction of previously discovered deficiencies for specific NUAMP frequencies. Transition in progress from design and development efforts for NUAMP sonic frequencies to procurement of prototype sonobuoys to enable fleet collection of active target strength measurements. ***FY 2024 Base Plans:*** The NUAMP prototype effort has fully transitioned from design and development efforts into procuring AN/SSQ-113 NUAMP prototype buoys across full range of frequencies to support fleet collection of active target strength measurements. Any future design and development efforts will take the form of engineering change proposals due to Diminishing Manufacturing Sources and Material Shortages. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decrease in funding levels for the NUAMP effort is due to completion of design and development effort to support fleet collection of active target strength measurements.					
Title: Passive Extended Range Sonobuoy System (PERSS) Product Development	2.191	3.243	6.346	0.000	6.346
Articles:	-	-	-	-	-
FY 2023 Plans:					

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 0303354N / *ASW Systems Development - MIP*	**Project (Number/Name)** 0490 / *Airborne Acoustic Intelligence (AAI)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Development of disruptive innovative sensors required for the PERSS System-of-Systems (SoS) by experimenting and prototyping in a high fidelity and realistic operating environment. Transition various laboratory sonobuoy subsystems by proving the subsystems maturity in real world environments. Perform risk reduction technology demonstration efforts using high gain beamforming sonobuoy transducer assemblies. The transition of the Office of Naval Research Future Naval Capabilities Extended Range - Directional Finding and Recording (ER-DIFAR) to the AAI program. In this phase of the program the items requiring development are the aircraft qualification testing of the ER-DIFAR sensors and the integration efforts into the AAI Mighty Orion adjunct processing suite. ***FY 2024 Base Plans:*** Development of disruptive innovative sensors required for the PERSS System-of-Systems (SoS) by experimenting and prototyping in a high fidelity and realistic operating environment. Transition various laboratory sonobuoy subsystems by proving the subsystems maturity in real world environments. In this phase of the program the items requiring development are the tactics techniques and procedures as well as on aircraft integration and testing efforts. Increased cost and delayed schedule in the design development phase has impacted the operational capability delivery date of the ER-DIFAR. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase is due to ramp-up of development and integration efforts and start of contractor testing. This effort is comprised of increased building of prototype assets and performing contractor design development testing in conjunction with utilization of open sea range test events.					
Title: Furious Krypton	0.000	1.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2023 Plans: Furious Krypton: Demonstration of disruptive innovative method to provide Tactical ASW data to multiple users both Beyond Line of Sight (BLOS) and via Satellite Communications (SATCOM). This effort completes in FY23. ***FY 2024 Base Plans:*** N/A ***FY 2024 OCO Plans:***					

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 0303354N / *ASW Systems Development - MIP*	**Project (Number/Name)** 0490 / *Airborne Acoustic Intelligence (AAI)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Effort is completed.					
Accomplishments/Planned Programs Subtotals	8.536	9.769	10.167	0.000	10.167

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Airborne ASW Intelligence (AAI) is a CNO Special Project. The included technology developments are primarily government led with contractor participation through existing vehicles.

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 0303354N / *ASW Systems Development - MIP*	**Project (Number/Name)** 0490 / *Airborne Acoustic Intelligence (AAI)*

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
Active Measurement Validation	WR	NAWCAD : PATUXENT RIVER, MD	2.468	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Ancillary Hdw Development	WR	NAWCAD : PATUXENT RIVER, MD	8.054	0.325	Dec 2021	0.429	Dec 2022	0.456	Dec 2023	-		0.456	Continuing	Continuing	Continuing
Ancillary Hdw Development Cont	Various	VARIOUS : VARIOUS	3.936	1.280	Dec 2021	1.798	Dec 2022	1.955	Dec 2023	-		1.955	Continuing	Continuing	Continuing
Systems Eng	WR	NAWCAD : PATUXENT RIVER, MD	8.548	0.703	Dec 2021	0.741	Dec 2022	0.655	Dec 2023	-		0.655	Continuing	Continuing	Continuing
Systems Eng Cost	Various	VARIOUS : VARIOUS	5.225	1.169	Dec 2021	1.277	Dec 2022	0.789	Dec 2023	-		0.789	0.000	8.460	-
Primary Hdw Development	SS/CPIF	ERAPSCO : COLUMBIA CITY, IN	48.395	4.801	Dec 2021	5.257	Dec 2022	0.000		-		0.000	Continuing	Continuing	Continuing
Primary Hdw Development	C/IDIQ	VARIOUS : VARIOUS	0.000	0.000		0.000		6.042	Dec 2023	-		6.042	0.000	6.042	-
		Subtotal	76.626	8.278		9.502		9.897		-		9.897	Continuing	Continuing	N/A

Remarks

The Ancillary/Primary Hardware Development Continued increase in FY 2024 in accordance with the increase in PERSS efforts. Increase is due to the program ramp of ER-DIFAR for integration effort and will be performing additional qualification tests on ER-DIFAR sonobuoys. This effort is comprised of increased building of prototype assets and performing contractor design development testing in conjunction with utilization of open sea range test events. The Ancillary Hardware Development cost has been increased to allow for the development of additional ACINT data packages. The Systems Engineering cost has been decreased due to realized manpower reduction, cost savings and increased efficiency to provide hardware and software solutions in support the ACINT data package delivery. As of FY24, program transitions from sole source Joint Venture contract with ERAPSCO to a competitive multiple award contract which will result in the establishment of a new vendor base.

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
Mgt & Prof Spt Svcs (Non-FFRDC)	Various	VARIOUS : VARIOUS	4.302	0.213	Dec 2021	0.217	Dec 2022	0.220	Dec 2023	-		0.220	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 0303354N / *ASW Systems Development - MIP*	Project (Number/Name) 0490 / *Airborne Acoustic Intelligence (AAI)*	

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
Travel	Various	VARIOUS : VARIOUS	0.415	0.045	Dec 2021	0.050	Dec 2022	0.050	Dec 2023	-		0.050	Continuing	Continuing	Continuing
Prior year Mgmt Svcs no longer funded in the FYDP	Various	VARIOUS : VARIOUS	0.619	0.000		0.000		0.000		-		0.000	0.000	0.619	-
		Subtotal	5.336	0.258		0.267		0.270		-		0.270	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	81.962	8.536		9.769		10.167		-		10.167	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 0303354N / *ASW Systems Development - MIP*	**Project (Number/Name)** 0490 / *Airborne Acoustic Intelligence (AAI)*

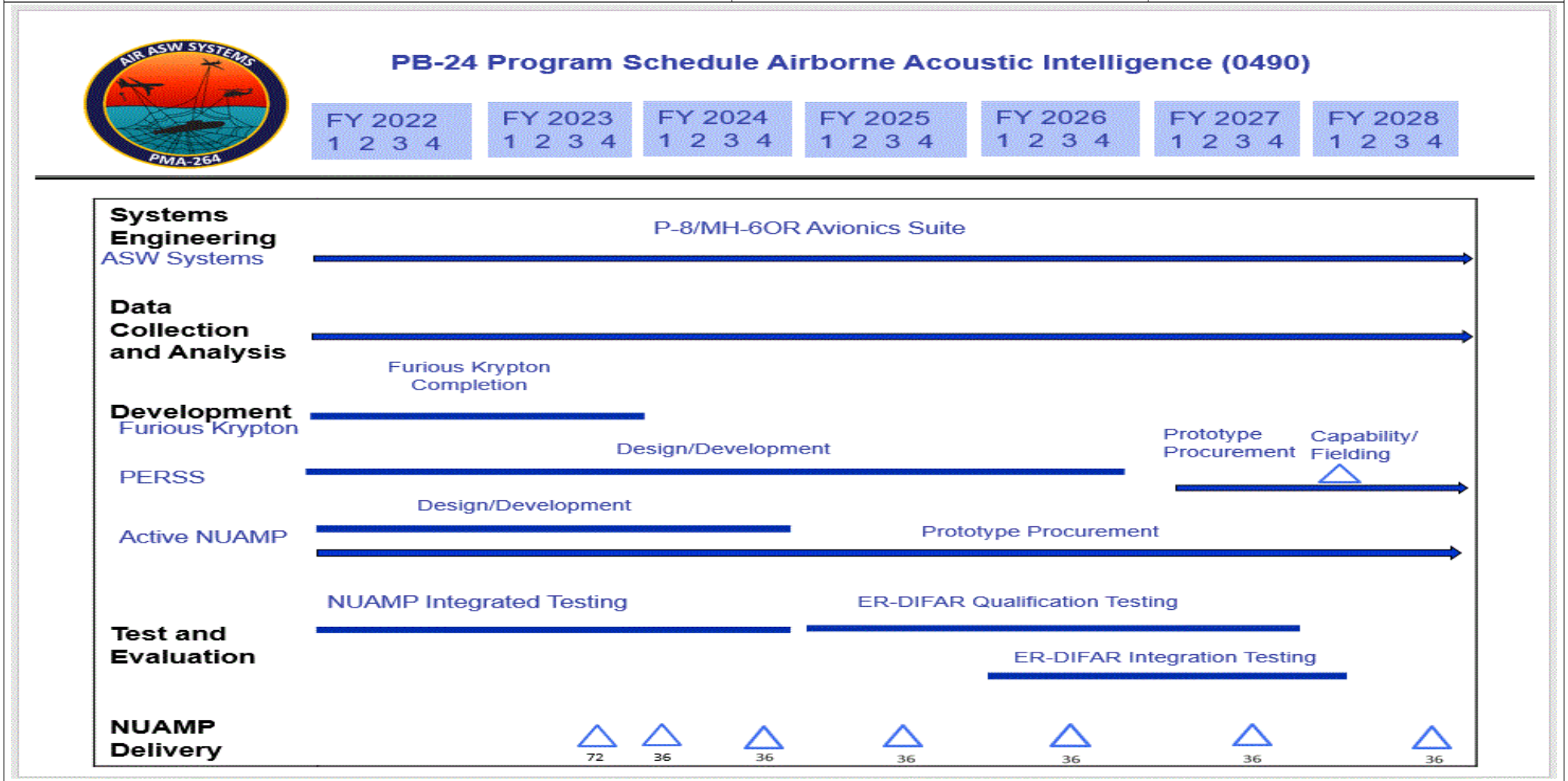

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0303354N / *ASW Systems Development - MIP*	**Project (Number/Name)** 0490 / *Airborne Acoustic Intelligence (AAI)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj: 0490 Airborne Acoustic Intelligence (AAI)				
Systems Engineering: ASW Systems: P-8/MH-60R Avionics Suite/ASW Systems	1	2022	4	2028
Data Collection and Analysis:	1	2022	4	2028
Product Development: Furious Krypton	1	2022	4	2023
Product Development: PERSS Design/Development	1	2022	4	2026
Product Development: Prototype Procurement	1	2027	4	2028
Product Development: PERSS Capability/Fielding	1	2028	1	2028
Product Development: NUAMP Design Development	1	2022	4	2024
Product Development: NUAMP Prototype Procurement	1	2022	4	2028
Product Development: Test & Evaluation: NUAMP Integrated Testing	1	2022	4	2024
Product Development: Test & Evaluation: ER-DIFAR Qualification Testing	1	2025	4	2027
Product Development: Test & Evaluation: ER-DIFAR Integration Testing	1	2026	4	2027
NUAMP Deliveries: DELIVERY1	4	2023	4	2023
NUAMP Deliveries: DELIVERY2	1	2024	1	2024
NUAMP Deliveries: DELIVERY3	4	2024	4	2024
NUAMP Deliveries: DELIVERY4	4	2025	4	2025
NUAMP Deliveries: DELIVERY5	4	2026	4	2026
NUAMP Deliveries: DELIVERY6	4	2027	4	2027
NUAMP Deliveries: DELIVERY7	4	2028	4	2028