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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 Program Element (Number/Name) PE 0303354N / ASW Systems Development - MIP							
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	36.543	9.110	8.278	8.889	-	8.889	10.007	9.188	9.367	10.557	Continuing	Continuing
0490: Airborne Acoustic Intelligence (AAI)	36.543	9.110	8.278	8.889	-	8.889	10.007	9.188	9.367	10.557	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 rapid development of new technology and prototype mechanisms for the collection of ASW related intelligence. This includes full spectrum intelligence collections and cataloging of current targets of interest. The program develops and swiftly deploys disruptive innovation to counter emerging threats in order to maintain the United States' current undersea warfare superiority. AAI employs the capability to quickly reconstruct and analyze passive and active measurements of submarine vulnerabilities providing actionable intelligence to fleet commanders. The AAI data collection program provides full spectrum intelligence data essential for the design and development of advanced sensors, weapon systems, environmental models, and tactical decision aids. AAI collection systems are installed and employed on uniquely configured aircraft, specially configured ground support facilities, ships, and other assets as required for the collection, processing, exfiltration, and dissemination of undersea intelligence. AAI includes recording systems, 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.

B. Program Change Summary (\$ in Millions)	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019 Base</u>	<u>FY 2019 OCO</u>	<u>FY 2019 Total</u>
Previous President's Budget	9.110	8.278	8.967	-	8.967
Current President's Budget	9.110	8.278	8.889	-	8.889
Total Adjustments	0.000	0.000	-0.078	-	-0.078
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	-0.078	-	-0.078

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<div>Change Summary Explanation</div> <div>Technical: Not Applicable</div> <div>Schedule: Added Furious Krypton development starting in 1Q 2020.</div>		

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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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
0490: Airborne Acoustic Intelligence (AAI)	36.543	9.110	8.278	8.889	-	8.889	10.007	9.188	9.367	10.557	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 rapid development of new technology and prototype mechanisms for the collection of ASW related intelligence. This includes full spectrum intelligence collections and cataloging of current targets of interest. The program develops and swiftly deploys disruptive innovation to counter emerging threats in order to maintain the United States' current undersea warfare superiority. AAI employs the capability to quickly reconstruct and analyze passive and active measurements of submarine vulnerabilities providing actionable intelligence to fleet commanders. The AAI data collection program provides full spectrum intelligence data essential for the design and development of advanced sensors, weapon systems, environmental models, and tactical decision aids. AAI collection systems are installed and employed on uniquely configured aircraft, specially configured ground support facilities, ships, and other assets as required for the collection, processing, exfiltration, and dissemination of undersea intelligence. AAI includes recording systems, 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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Systems Engineering / Aircraft Mods Active Acoustic Program	1.670	1.551	1.399	0.000	1.399
Articles:	-	-	-	-	-
FY 2018 Plans: Engineering support of Acoustic Intelligence (ACINT) Collection Suites for certified AAI collection platforms and management of full spectrum database. Engineering support for design upgrades to ACINT Collection Suites for certified AAI collection platforms. Evaluate additional P-8 aircraft sensor station for in-flight analysis of ACINT. Continue evaluation of Fleet software releases for Office of Naval Intelligence(ONI) certification aboard ASW collection platforms. Continued upgrades and development for unique airborne avionics and sensors. Continue fielding ACS kits in support of P-8A deployments.					
FY 2019 Base Plans: Engineering support of Acoustic Intelligence (ACINT) Collection Suites for certified AAI collection platforms and management of full spectrum database. Engineering support for design upgrades to ACINT Collection Suites for certified AAI collection platforms. Evaluate additional P-8 aircraft sensor station for in-flight analysis of ACINT.					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Continue evaluation of Fleet software releases for Office of Naval Intelligence(ONI) certification aboard ASW collection platforms. Continued upgrades and development for unique airborne avionics and sensors. Continue fielding ACS kits in support of P-8A deployments. FY 2019 OCO Plans: N/A FY 2018 to FY 2019 Increase/Decrease Statement: Decrease due to Navy-wide efficiencies and rate adjustments.						
Title: Data Collection and Analysis Articles:		1.085 -	1.035 -	1.044 -	0.000 -	1.044 -
FY 2018 Plans: Data collection support at Operational Wings. Ongoing collection of high interest acoustic and non-acoustic data in support of MASINT/ONI threat assessment requirements. Characterization, analysis and certification of the upgraded Fleet MASINT collection assets. Reduction, Analysis and Fleet Rapid Feedback. Conduct special operations support. Essential performance modeling and evaluation for advanced technology sensor systems design and Fleet tactics development. Develop post mission analysis hardware, software and processes in response to evolving enemy capabilities. FY 2019 Base Plans: Data collection support at Operational Wings. Ongoing collection of high interest acoustic and non-acoustic data in support of MASINT/ONI threat assessment requirements. Characterization, analysis and certification of the upgraded Fleet MASINT collection assets. Reduction, Analysis and Fleet Rapid Feedback. Conduct special operations support. Essential performance modeling and evaluation for advanced technology sensor systems design and Fleet tactics development. Develop post mission analysis hardware, software and processes in response to evolving enemy capabilities.						
FY 2019 OCO Plans: N/A FY 2018 to FY 2019 Increase/Decrease Statement: Fully funds data collection and analysis activities.						
Title: Active Measurement Validation Articles:		0.150 -	0.138 -	0.143 -	0.000 -	0.143 -

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
FY 2018 Plans: Active Measurement Validation of targets of interest. Provides the acoustic analysis of echo characterization (which includes: signal excess measurements, peak frequency, trend analysis and pulse duration measurements) and target strength.						
FY 2019 Base Plans: Active Measurement Validation of targets of interest. Provides the acoustic analysis of echo characterization (which includes: signal excess measurements, peak frequency, trend analysis and pulse duration measurements) and target strength.						
FY 2019 OCO Plans: N/A						
FY 2018 to FY 2019 Increase/Decrease Statement: 0.005 increase is due to refined cost estimate.						
Title: Navy Underwater Active Multiple Ping (NUAMP) Product Development Articles:		6.205 -	5.554 -	5.103 -	0.000 -	5.103 -
FY 2018 Plans: Continue sonic frequency design, development, integration and test for additional sonic frequencies of the NUAMP sonobuoy family.						
FY 2019 Base Plans: Continue sonic frequency design, development, integration and test for remaining sonic frequencies of the NUAMP sonobuoy family.						
FY 2019 OCO Plans: N/A						
FY 2018 to FY 2019 Increase/Decrease Statement: Decrease due to Navy-wide efficiencies and rate adjustments.						
Title: Passive Extended Range Sonobuoy System (PERSS) Product Development Articles:		0.000 -	0.000 -	1.200 -	0.000 -	1.200 -
FY 2018 Plans:						

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A FY 2019 Base Plans: Continue development of disruptive innovative sensors 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. FY 2019 OCO Plans: N/A FY 2018 to FY 2019 Increase/Decrease Statement: Funds Passive Extended Range Sonobuoy System (PERSS) Product Development.						
Accomplishments/Planned Programs Subtotals		9.110	8.278	8.889	0.000	8.889
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 in-house with contractor participation through existing vehicles.						
E. Performance Metrics						
Provide engineering to support Sound Pressure Level (SPL) recording. Provide data collection support at Operation Wings. Perform Active Measurement Validation of targets of interest.						

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
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)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Active Measurement Validation	WR	NAWCAD : PATUXENT RIVER, MD	1.743	0.150	Dec 2016	0.138	Dec 2017	0.143	Dec 2018	-		0.143	Continuing	Continuing	Continuing
Ancillary Hdw Development	WR	NAWCAD : PATUXENT RIVER, MD	5.139	0.875	Dec 2016	0.500	Dec 2017	0.500	Dec 2018	-		0.500	Continuing	Continuing	Continuing
Ancillary Hdw Development Cont	Various	VARIOUS : VARIOUS	0.947	0.599	Dec 2016	0.585	Dec 2017	0.593	Dec 2018	-		0.593	Continuing	Continuing	Continuing
Systems Eng	WR	NAWCAD : PATUXENT RIVER, MD	4.891	0.927	Dec 2016	0.665	Dec 2017	0.676	Dec 2018	-		0.676	Continuing	Continuing	Continuing
Systems Eng	Various	VARIOUS : VARIOUS	1.522	0.743	Dec 2016	0.793	Dec 2017	0.723	Dec 2018	-		0.723	Continuing	Continuing	Continuing
Primary Hdw Development	SS/CPIF	ERAPSCO : FT. WAYNE IN	18.525	5.268	Dec 2016	5.347	Dec 2017	6.004	Dec 2018	-		6.004	14.080	49.224	49.224
Subtotal			32.767	8.562		8.028		8.639		-		8.639	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Mgt & Prof Spt Svcs (Non-FFRDC)	Various	VARIOUS : VARIOUS	3.154	0.319	Dec 2016	0.202	Dec 2017	0.205	Dec 2018	-		0.205	Continuing	Continuing	Continuing
Contractor Eng Spt	Various	VARIOUS : VARIOUS	0.407	0.181	Dec 2016	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Travel	Various	VARIOUS : VARIOUS	0.184	0.048	Dec 2016	0.048	Dec 2017	0.045	Dec 2018	-		0.045	Continuing	Continuing	Continuing
Prior year Mgmt Svcs no longer funded in the FYDP	Various	VARIOUS : VARIOUS	0.031	0.000		0.000		0.000		-		0.000	0.000	0.031	-
Subtotal			3.776	0.548		0.250		0.250		-		0.250	Continuing	Continuing	N/A

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			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			36.543	9.110		8.278		8.889		-		8.889	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy Date: February 2018

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)
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Proj: 0490 Airborne Acoustic Intelligence (AAI)	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Systems Engineering																												
P-3/P-8 Avionics Suite	P-3/P-8/MH-60R Avionics Suite																											
Sys Eng Tactical Acoustic Processor (TAPS)																												
	TAPS																											
Product Development																												
	Furious Krypton																											
	PERSS																											
	Data Collection and Analysis																											
	Active Target Strength Sensor Processing Development (NUAMP)																											
Test & Evaluation																												
	NUAMP Integrated Testing																											
Airborne Avionics Deliveries																												
Prototypes																												
	189 ▼																											
	236 ▼					219 ▼				250 ▼				180 ▼			180 ▼				180 ▼					180 ▼		

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy			Date: February 2018
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

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj: 0490 Airborne Acoustic Intelligence (AAI)				
Systems Engineering: P-3/P-8 Avionics Suite: P-3/P-8/MH-60R Avionics Suite	1	2017	4	2023
Sys Eng Tactical Acoustic Processor (TAPS): Sys Eng Tactical Acoustic Processor (TAPS)	1	2017	4	2023
Product Development: Furious Krypton Development	1	2020	4	2023
Product Development: Passive Extended Range Sonic Sensor	1	2019	4	2023
Product Development: Data Collection and Analysis	1	2017	4	2023
Product Development: Active Target Strength sensor processing development	1	2017	4	2023
Test & Evaluation: Technical Evaluation	1	2017	4	2023
Prototypes: Prototype 3	2	2017	2	2017
Prototypes: Prototype 4	2	2017	2	2017
Prototypes: Prototype 5	2	2018	2	2018
Prototypes: Prototype 6	2	2019	2	2019
Prototypes: Prototype 7	2	2020	2	2020
Prototypes: Prototype 8	2	2021	2	2021
Prototypes: Prototype 9	2	2022	2	2022
Prototypes: Prototype 10	2	2023	2	2023