

# UNCLASSIFIED

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2014 Navy **DATE:** April 2013

<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303354N: <i>ASW Systems Development - MIP</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 <sup>#</sup>	FY 2014 Base	FY 2014 OCO <sup>##</sup>	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	2.150	1.078	13.172	8.448	-	8.448	9.603	9.476	9.570	9.669	Continuing	Continuing
0490: <i>Airborne Acoustic Intelligence (AAI)</i>	2.150	1.078	13.172	8.448	-	8.448	9.603	9.476	9.570	9.669	Continuing	Continuing

<sup>#</sup> FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

<sup>##</sup> The FY 2014 OCO Request will be submitted at a later date

## A. Mission Description and Budget Item Justification

The mission of Airborne Acoustic Intelligence (AAI) (CNO Project K-0416) is to provide Sound Pressure Level quality recordings of targets of interest and an associated new technology, rapid prototyping mechanism for the application of state-of-the-art collection sensors. The program will develop and rapidly deploy new technology concepts in hardware and software to effectively address emerging littoral threats and to improve the present Undersea Warfare capability in support of the preparation of the Battlespace and Sea Shield/Sea Trial Initiatives. AAI also provides a measurement analysis capability to reconstruct, analyze, and develop active and target strength measurement validation. The AAI data collection program provides passive and active acoustic and non-acoustic data essential for the design and development of environmental models, sensors, weapons, software algorithms, and tactical decision aids. AAI employs developmental and prototypical hardware installed in uniquely configured Anti Submarine Warfare aircraft to collect data of interest, and specially configured ground support facilities to conduct reconstruction and analysis of this data. AAI includes calibrated recording systems, advanced detection and tracking systems, special sensors, advanced processing systems and techniques and specially derived operational tactics.

This is a Military Intelligence Program.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy				DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			
1319: Research, Development, Test & Evaluation, Navy		PE 0303354N: ASW Systems Development - MIP			
BA 4: Advanced Component Development & Prototypes (ACD&P)					
B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	1.078	13.172	17.986	-	17.986
Current President's Budget	1.078	13.172	8.448	-	8.448
Total Adjustments	0.000	0.000	-9.538	-	-9.538
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	-9.507	-	-9.507
• Rate/Misc Adjustments	0.000	0.000	-0.031	-	-0.031
Change Summary Explanation					
Technical: Not Applicable					
Schedule: Not Applicable					

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 ITEM NOMENCLATURE PE 0303354N: ASW Systems Development - MIP				PROJECT 0490: Airborne Acoustic Intelligence (AAI)			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 <sup>#</sup>	FY 2014 Base	FY 2014 OCO <sup>##</sup>	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0490: Airborne Acoustic Intelligence (AAI)	2.150	1.078	13.172	8.448	-	8.448	9.603	9.476	9.570	9.669	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
<sup>#</sup> FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
<sup>##</sup> The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
The mission of Airborne Acoustic Intelligence (AAI) (CNO Project K-0416) is to provide Sound Pressure Level (SPL) quality recordings of targets of interest and an associated new technology, rapid prototyping mechanism for the application of state-of-the-art collection sensors. The program will develop and rapidly deploy new technology concepts in hardware and software to effectively address emerging littoral threats and to improve the present Undersea Warfare capability in support of the preparation of the Battlespace and Sea Shield/Sea Trial Initiatives. AAI also provides an active target strength measurement capability. The AAI data collection program provides passive and active acoustic and non-acoustic data essential for the design and development of environmental models, sensors, weapons, software algorithms, and tactical decision aids. AAI employs developmental and prototypical hardware installed in uniquely configured ASW aircraft to collect data of interest, and specially configured ground support facilities to conduct reconstruction and analysis of this data. AAI includes calibrated recording systems, advanced detection and tracking systems, special sensors, advanced processing systems and techniques and specially derived operational tactics.												
This is a Military Intelligence Program.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: Systems Engineering / Aircraft Mods Active Acoustic Program									0.500	1.412	0.569	
									0	0	0	
FY 2012 Accomplishments: Engineering to support SPL Recording. Post mission processor upgrades for Calibrated Acoustic Intelligence (ACINT). P-8A aircraft calibration unit enhancements. Engineering development of Target Strength processing placed on Hold.												
FY 2013 Plans: Engineering to support SPL Recording. Post mission processor upgrades for Calibrated ACINT. P-8A aircraft calibration unit enhancements. Engineering support of the Active Target Strength sensor program.												
FY 2014 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0303354N: ASW Systems Development - MIP	PROJECT 0490: Airborne Acoustic Intelligence (AAI)		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Engineering to support SPL Recording. Post mission processor upgrades for Calibrated ACINT. P-8A aircraft calibration unit enhancements. Engineering support of the Active Target Strength sensor program.				
Title: Data Collection and Analysis  Articles:  FY 2012 Accomplishments: Data collection support at Operational Wings. Ongoing collection of high interest acoustic and non-acoustic data in support of Measurement/Measuring and Signature Intelligence (MASINT)/Office of Naval Intelligence (ONI) threat assessment requirements. Reduction, Analysis and Fleet Rapid Feedback. Conduct airborne special operations support. Essential performance modeling and evaluation for advanced technology sensor systems design and Fleet tactics development.  FY 2013 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. Reduction, Analysis and Fleet Rapid Feedback. Conduct airborne special operations support. Essential performance modeling and evaluation for advanced technology sensor systems design and Fleet tactics development.  FY 2014 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. Reduction, Analysis and Fleet Rapid Feedback. Conduct airborne special operations support. Essential performance modeling and evaluation for advanced technology sensor systems design and Fleet tactics development.		0.400 0	0.430 0	0.600 0
Title: Active Measurement Validation  Articles:  FY 2012 Accomplishments: 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 2013 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 2014 Plans:		0.178 0	0.415 0	0.200 0

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2014 Navy		<b>DATE:</b> April 2013	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0303354N: <i>ASW Systems Development</i> - <i>MIP</i>	<b>PROJECT</b> 0490: <i>Airborne Acoustic Intelligence (AAI)</i>
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2012</b>	<b>FY 2013</b>
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.			
<b>Title:</b> Product Development			
<b>Articles:</b>		0.000	10.915 0
<b>FY 2013 Plans:</b> Initiate Active Target Strength Sensor development program.			7.079 0
<b>FY 2014 Plans:</b> Continue Active Target Strength Sensor development program.			
<b>Accomplishments/Planned Programs Subtotals</b>		1.078	13.172
<b>8.448</b>			
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
Airborne Acoustic Intelligence is a CNO Special Project. The included technology developments are primarily in-house with contractor participation through existing vehicles.			
<b>E. Performance Metrics</b>			
MIP Program.			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)						R-1 ITEM NOMENCLATURE PE 0303354N: ASW Systems Development - MIP				PROJECT 0490: Airborne Acoustic Intelligence (AAI)					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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	0.400	0.178	Oct 2011	0.415	Dec 2012	0.200	Dec 2013	-		0.200	0.000	1.193	
Ancillary Hdw Development	WR	NAWCAD:PATUXENT RIVER, MD	0.750	0.400	Oct 2011	0.430	Dec 2012	0.600	Dec 2013	-		0.600	Continuing	Continuing	Continuing
Systems Eng	WR	NAWCAD:PATUXENT RIVER, MD	0.100	0.036	Oct 2011	0.912	Dec 2012	0.146	Dec 2013	-		0.146	Continuing	Continuing	Continuing
Primary Hdw Development	TBD	TBD:TBD	0.000	0.000		10.915	May 2013	7.079	Dec 2013	-		7.079	Continuing	Continuing	Continuing
Subtotal			1.250	0.614		12.672		8.025		0.000		8.025			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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	0.900	0.464	Dec 2011	0.500	Dec 2012	0.423	Dec 2013	-		0.423	Continuing	Continuing	Continuing
Subtotal			0.900	0.464		0.500		0.423		0.000		0.423			
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			2.150	1.078		13.172		8.448		0.000		8.448			
Remarks															

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PE 0303354N: ASW Systems Development - MIP  
Navy

R-1 Line #79

**APPROPRIATION/BUDGET ACTIVITY**  
1319: *Research, Development, Test & Evaluation, Navy*  
BA 4: *Advanced Component Development & Prototypes (ACD&P)*

**R-1 ITEM NOMENCLATURE**  
PE 0303354N: *ASW Systems Development*  
- *MIP*

PROJECT	0490: <i>Airborne Acoustic Intelligence (AAI)</i>
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Proj: 0490 Airborne Acoustic Intelligence (AAI)	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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
<b>Systems Engineering</b>																												
P-3/P-8 Avionics Suite	P-3/P-8 Avionics Suite																											
<b>Sys Eng Tactical Acoustic Processor (TAPS)</b>																												
	TAPS																											
<b>Product Development</b>																												
	Data Collection and Analysis																											
					Active Target Strength sensor processing development																							
<b>Test &amp; Evaluation</b>																												
													Integrated Testing															
<b>Deliveries</b>																												
	<div> <div>P3/P8 Avionics</div> <div></div> </div>																											

2014PB - 0303354N - 0490

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2014 Navy			<b>DATE:</b> April 2013
<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303354N: <i>ASW Systems Development</i> - <i>MIP</i>	<b>PROJECT</b> 0490: <i>Airborne Acoustic Intelligence (AAI)</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Proj: 0490 Airborne Acoustic Intelligence (AAI)</i></b>				
Systems Engineering: P-3/P-8 Avionics Suite: P-3/P-8 Avionics Suite	1	2012	4	2018
Sys Eng Tactical Acoustic Processor (TAPS): Sys Eng Tactical Acoustic Processor (TAPS)	1	2012	4	2018
Product Development: Data Collection and Analysis	1	2012	4	2018
Product Development: Active Target Strength sensor processing development	1	2013	4	2018
Test & Evaluation: Technical Evaluation	1	2015	4	2018
Deliveries: P3/P8 Avionics	3	2013	3	2013