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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>							
1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				PE 0303354N: <i>ASW Systems Development - MIP</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	-	2.161	1.078	-	1.078	1.177	1.227	1.272	1.295	Continuing	Continuing
0490: <i>Airborne Acoustic Intelligence (AAI)</i>	-	2.161	1.078	-	1.078	1.177	1.227	1.272	1.295	Continuing	Continuing

**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 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.

Funding was moved in FY11 from PE 0603254N to this PE (0303354N) and is a Military Intelligence Program.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	-	2.161	1.172	-	1.172
Current President's Budget	-	2.161	1.078	-	1.078
Total Adjustments	-	-	-0.094	-	-0.094
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-0.070	-	-0.070
• Rate/Misc Adjustments	-	-	-0.024	-	-0.024

**Change Summary Explanation**

Technical: 0490. FY-11 thru FY-15 Active Target Strength development will be placed on hold due to decrease in funding.

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1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	PE 0303354N: <i>ASW Systems Development - MIP</i>

Schedule: Due to funding decrease, Active Target Strength development placed on Hold and quantities decreased. P-3 Avionics Suite upgrades for Magnetic Anomaly Detector recording placed on Hold and quantities decreased.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Navy **DATE:** February 2011

<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>	<b>PROJECT</b> 0490: <i>Airborne Acoustic Intelligence (AAI)</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
0490: <i>Airborne Acoustic Intelligence (AAI)</i>	-	2.161	1.078	-	1.078	1.177	1.227	1.272	1.295	Continuing	Continuing
Quantity of RDT&E Articles	0	1	0	0	0	0	0	0	0		

**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 a measurement analysis capability to reconstruct, analyze and develop active 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 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. The one RDT&E article consists of a SPL collection suite.

Funding was moved in FY11 from PE 0603254N to this new PE (0303354N) and is considered a Military Intelligence Program.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<p><b>Title:</b> Systems Engineering / Aircraft Mods Active Acoustic Program</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>FY 2011 Plans:</b> 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.</p> <p><b>FY 2012 Plans:</b> Engineering to support SPL Recording. Post mission processor upgrades for Calibrated ACINT. P-8A aircraft calibration unit enhancements. Engineering development of Target Strength processing placed on Hold.</p>	-	1.011 1	0.500 0
<p><b>Title:</b> Data Collection and Analysis</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>FY 2011 Plans:</b> 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.</p>	-	0.750 0	0.400 0

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Navy	<b>DATE:</b> February 2011
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<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>	<b>PROJECT</b> 0490: <i>Airborne Acoustic Intelligence (AAI)</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
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.  <b>FY 2012 Plans:</b> 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.			
<b>Title:</b> Active Measurement Validation  <b>FY 2011 Plans:</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>FY 2012 Plans:</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>Articles:</b> -	0.400 0	0.178 0
<b>Accomplishments/Planned Programs Subtotals</b>	-	2.161	1.078

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**D. Acquisition Strategy**

Airborne Acoustic Intelligence (AAI) is a CNO Special Project. The included technology developments are primarily in-house with contractor participation through existing vehicles.

**E. Performance Metrics**

MIP Program.



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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Navy		<b>DATE:</b> February 2011
<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>	<b>PROJECT</b> 0490: <i>Airborne Acoustic Intelligence (AAI)</i>

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2012 Navy</b>		<b>DATE:</b> February 2011
<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>	<b>PROJECT</b> 0490: <i>Airborne Acoustic Intelligence (AAI)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj: 0490 Airborne Acoustic Intelligence (AAI)</b>				
Systems Engineering: P-3/P-8 Avionics Suite: P-3/P-8 Avionics Suite	1	2011	4	2016
Sys Eng Tactical Acoustic Processor (TAPS): Sys Eng Tactical Acoustic Processor (TAPS)	1	2011	4	2016
Product Development: Data Collection and Analysis	1	2011	4	2016
Deliveries: TAPS Processor	3	2011	3	2011
Deliveries: P3/P8 Avionics	3	2013	3	2013