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

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604261N: <i>Acoustic Search Sensors</i>							
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
Total Program Element	53.913	64.834	56.509	-	56.509	22.577	17.323	14.099	14.361	Continuing	Continuing
0480: <i>ASW Sensors & Proc</i>	39.722	31.412	23.906	-	23.906	10.944	14.077	14.099	14.361	Continuing	Continuing
3224: <i>High Altitude ASW</i>	14.191	33.422	32.603	-	32.603	11.633	3.246	-	-	0.000	95.095

A. Mission Description and Budget Item Justification

Includes RDT&E funds for engineering development and operational test and evaluation of acoustic search sensors and complementary equipment for Anti Submarine Warfare (ASW) aircraft.

Excludes civilian and military manpower and their related costs and military construction costs which are included in appropriate management and support elements in this program.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	56.086	64.834	57.853	-	57.853
Current President's Budget	53.913	64.834	56.509	-	56.509
Total Adjustments	-2.173	-	-1.344	-	-1.344
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-0.650	-			
• SBIR/STTR Transfer	-1.006	-			
• Program Adjustments	-0.001	-	-0.683	-	-0.683
• Section 219 Reprogramming	-0.495	-	-	-	-
• Rate/Misc Adjustments	-	-	-0.661	-	-0.661
• Congressional General Reductions Adjustments	-0.021	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i>
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H0480. Multi-Static Active Coherent (Schedule 1). Updated Engineering Developmental Model (EDM) delivery to reflect a schedule bar from 2Q/10 thru 2Q/11 due to the fact that the contract delivery schedule provides for delivery over a one year period.

H0480. Multi-Static Active Coherent (Schedule 2). Moved Advanced Processing Build (APB)(2) Fleet Release from 1Q/11 to 1Q/12, APB(2) S/W Release from 4Q/10 to 4Q/11, APB(2) Software Qualification Test (SQT) from 2Q/10 to 2Q/11 due to a one year Platform Hardware Procurement delay. Continuous System Development effort added from 1Q/10 thru 4Q/16 to show prior development test and subsequent Fleet release. Due to the various funding reductions we have received for OSD12, moved APB (2) Fleet Release from 1Q/12 to 1Q/13.

H3224. High Altitude ASW. HAASW is a FY10 new start program. The preliminary findings of the Effectiveness and suitability, the first phase of the Analysis of Alternatives, have led to a maturation of the acquisition strategy. As part of the maturing acquisition approach, several components are integrated together and the acquisition milestones were adjusted accordingly.

Deleted "Dropsonde and MPT" from schedule. Dropsonde will be included with GPS and Digital Uplink to form the "HAASW" program. Due to the new requirements of the DODINST 5000.02, dtd Dec 2008, an Material Development Decision (MDD) and Milestone (MS)-A were added to the acquisition plan. MS-A was added in 4Q/10. Moved MS-B from 3Q/10 to 1Q/12 in order to accomplish the necessary acquisition processes and Technology Development phase. Moved Dropsonde MS-C from 4Q/14 and GPS/Digital Uplink from 2Q/14 to 1Q/14 due to program maturity which has allowed better planning accuracy. Moved Dropsonde FRP from 4Q/14 to 2Q/15 in order to account for required testing. Added PDR in 3Q/11 and CDR in 2Q/12 for completeness of schedule. Removed OA from 2Q/13. Moved GPS/Uplink Sonobuoy Mod contract from 3Q/10 to 1Q/11 to properly align it occurring after MS-A approval. Combined GPS/Uplink Sonobuoy Mod Production contract awards from 3Q/14 into the LRIP award in 1Q/14. "Integrated testing" includes all required testing during FY12 and FY13. Added IOT&E to 4Q/14 thru 1Q/15 due to it being a required test period and was added for completeness. Moved Dropsonde LRIP from 2Q/13 to 1Q/14 as LRIP must occur after MS-C. Current estimates are that LRIP systems will begin delivery in 4Q/14, therefore, moved LRIP delivery from 4Q/15 to 4Q/14. Moved FY11 buoy delivery from 3Q/11 to 4Q/11. Moved FY12 buoy delivery from 2Q/12 to 3Q/12. Moved FY13 buoy delivery from 1Q/13 to 2Q/13. Buoy deliveries are updated to reflect the new schedule driven by 5000.02 requirements and greater planning accuracy. Dropsonde LRIP 2Q/13 and Dropsonde FRP 4Q/14 are replaced with LRIP award 1Q/14.

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

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i>	PROJECT 0480: <i>ASW Sensors & Proc</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
0480: <i>ASW Sensors & Proc</i>	39.722	31.412	23.906	-	23.906	10.944	14.077	14.099	14.361	Continuing	Continuing
Quantity of RDT&E Articles	1000	0	500	0	500	0	0	0	0		

A. Mission Description and Budget Item Justification

The Anti-Submarine Warfare (ASW) Sensors and Processing project provides the tools and methods necessary to maintain naval superiority by preventing threat submarines from disrupting the U.S. Navy's ability to control the sea lines of communication and completing their hostile missions. This project encompasses the Engineering & Manufacturing Development (EMD) phase and the follow on increments of sensor systems to improve the mission effectiveness of airborne ASW platforms in cueing, searching, localizing, tracking, and attacking subsurface targets. Smaller and quieter threat submarines drive the requirement for continued advancement in ASW sensor capabilities for both blue water and littoral environments. The littoral regions of the world create an additional ASW challenge to overcome the increase in background clutter caused by the shallow water depth, high volume of shipping, and commercial radio frequency interference. Project 0480 provides funding to the Extended Echo Ranging family of multi-static active ASW systems for the engineering development of solutions that detect, classify, and track threat submarines. Multi-static Active Coherent (MAC) and Advanced Processing Builds (APB) are efforts funded during the period identified. The MAC program, which started in FY08, encompasses the development of an active coherent (electronic) source sonobuoy, modifications to the existing Air Deployable Active Receiver sonobuoy, development, integration, and test of aircraft avionics software and MAC system. It also provides upgrades to the Multi-static mission planning tool, the Tactical Operational Readiness Trainer and the Tactical Ground Replay System. MAC provides a large area search capability in all water environments and will eliminate current impulsive source safety, training, and Rules of Engagement restrictions. Project 0480 also provides funding for the APB program which provides software enhancements for signal processing improvements, clutter reduction, automation, improved displays and controls, as well as improved communication links for reduced operator workload resulting in increased target detection and classification capabilities and interoperability. APB also includes an Air ASW Engineering Measurement Program that collects ASW system data and identifies areas where beneficial improvements can be made and provides common software and hardware solutions across all Air ASW platforms. The 1500 sonobuoy test articles in FY10/12 will support software and hardware integration flight tests and Technical Evaluation/Operational Evaluation for MAC Increment I and Increment II respectively.

Also included in this project is funding to conduct testing for safe carriage and release to obtain P-3 flight certification of the Acoustic to Radio Frequency (A2RF) Air variant communications buoy in support of the PMW-770 Communications at Speed and Depth program for underwater communications with a submerged submarine.

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

	FY 2010	FY 2011	FY 2012
Title: Complete Advanced Processing Builds (APB) SQT/Fleet Release	7.670	1.579	1.433
Articles:	0	0	0
FY 2010 Accomplishments:			

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i>	PROJECT 0480: <i>ASW Sensors & Proc</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p>Provided APB funds for software development, integration, and test for Multi-Static ASW (MSA) sensor systems. Provides P-3C and P-8A platform integration of multi-static technology improvements allowing increased weapon system efficiency and decreased fleet operator workload in the littoral ASW mission.</p> <p>FY 2011 Plans: Provides APB funds for software development, integration, and test for MSA sensor systems. Provides P-3C and P-8A platform integration of multi-static technology improvements allowing increased weapon system efficiency and decreased fleet operator workload in the littoral ASW mission.</p> <p>FY 2012 Plans: Provides APB funds for software development, integration, and test for MSA sensor systems. Provides P-3C and P-8A platform integration of multi-static technology improvements allowing increased weapon system efficiency and decreased fleet operator workload in the littoral ASW mission.</p>				
<p>Title: Multi-static Active Coherent (MAC) Increment I</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Developed/tested a MAC coherent source and related software that will satisfy the large area search requirement in the harsh, shallow water littorals.</p> <p>FY 2011 Plans: Continue to develop/test a MAC coherent source and related software that will satisfy the large area search requirement in the harsh, shallow water littorals.</p> <p>FY 2012 Plans: Continue to develop/test a MAC coherent source and related software that will satisfy the large area search requirement in the harsh, shallow water littorals.</p>		29.052 1000	29.833 0	22.473 500
<p>Title: Comms at Speed and Depth/At-Sea Test support</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: P-3 flight certification for safe carriage and release of A2RF buoy.</p>		3.000 0	-	-
Accomplishments/Planned Programs Subtotals		39.722	31.412	23.906

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i>	PROJECT 0480: <i>ASW Sensors & Proc</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/4048: <i>Sonobuoys - All Types</i>	0.000	8.453	11.850	0.000	11.850	6.546	26.013	29.743	30.098	Continuing	Continuing

D. Acquisition Strategy

The development and integration of MAC using coherent source technology into the P-3C Aircraft. Sole source contracts have been awarded for Sensor Development (ERAPSCO) and for Displays and Control and Integration on P-3C aircraft (Lockheed Martin, Manassas).

E. Performance Metrics

Continued development/test of a MAC coherent source and related software that will satisfy the large area search requirement in the harsh, shallow water littorals.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i>	PROJECT 0480: <i>ASW Sensors & Proc</i>
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hdw Development	Various	VARIOUS:VARIOUS	18.505	-	Oct 2010	1.400	Oct 2011	-		1.400	6.850	26.755	26.755
Primary Hdw Development	SS/CPIF	ERAPSCO:FT. WAYNE IN	-	3.350	Oct 2010	3.350	Oct 2011	-		3.350	0.000	6.700	6.700
Subtotal			18.505	3.350		4.750		-		4.750	6.850	33.455	33.455

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development (Increment II)	WR	NAWCAD:PATUXENT RIVER, MD	14.747	4.457	Oct 2010	1.000	Oct 2011	-		1.000	9.026	29.230	
Software Development (Increment II)	SS/CPIF	LOCKHEED MARTIN:MANASSAS VA	-	3.000	Oct 2010	3.000	Oct 2011	-		3.000	3.000	9.000	9.000
Software Development (Increment II)	Various	VARIOUS:VARIOUS	7.302	0.500	Oct 2010	0.529	Oct 2011	-		0.529	1.250	9.581	9.581
Studies & Analysis	WR	NAWCAD:PATUXENT RIVER, MD	9.840	2.500	Oct 2010	1.000	Oct 2011	-		1.000	0.000	13.340	
Technical Data	WR	NAWCAD:PATUXENT RIVER, MD	13.559	1.800	Oct 2010	-		-		-	5.750	21.109	
Subtotal			45.448	12.257		5.529		-		5.529	19.026	82.260	

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev Test & Eval	WR	NAWCAD:PATUXENT RIVER, MD	14.700	3.000	Nov 2010	2.000	Nov 2011	-		2.000	6.300	26.000	
Subtotal			14.700	3.000		2.000		-		2.000	6.300	26.000	

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i>	PROJECT 0480: <i>ASW Sensors & Proc</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i>	PROJECT 0480: <i>ASW Sensors & Proc</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i>	PROJECT 0480: <i>ASW Sensors & Proc</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i>	PROJECT 0480: <i>ASW Sensors & Proc</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i>	PROJECT 0480: <i>ASW Sensors & Proc</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i>	PROJECT 0480: <i>ASW Sensors & Proc</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj: 0480 ASW Sensors & Processors				
Acquisition Milestones: Milestones: Milestone C	1	2011	1	2011
System Development: EDM Delivery: Eng Dev Model (H/W EDM) Increment 1	2	2010	2	2011
System Development: EDM Delivery: Eng Dev Model (H/W EDM) Increment 2	2	2013	2	2013
System Development: Software Integration Delivery: Integration Software Delivery Increment 1	3	2010	3	2010
System Development: Software Integration Delivery: Integration Software Delivery Increment 2	3	2013	3	2013
System Development: Reviews: Critical Design Review (CDR) Increment 1	1	2010	1	2010
Test & Evaluation: Development Test: Commence S/W and H/W Integrated Flt test (Inc 1)	3	2010	3	2010
Test & Evaluation: Operational Evaluation: OT (Inc 1)	2	2011	2	2011
Test & Evaluation: Operational Evaluation: Commence FOT&E (Inc 2)	4	2013	4	2013
Production Milestones: Contract Awards: Low Rate Initial Production (LRIP) Inc 1	1	2011	1	2011
Production Milestones: Contract Awards: Full Rate Production (FRP) Increment 1	1	2012	1	2012
Production Milestones: Contract Awards: Full Rate Production (FRP) Increment 2	1	2015	1	2015
Proj: 0480 ASW Sensors & Processors - Advanced Processing Builds (APB)				
Acquisition Milestones: Milestones: APB (2) Fleet Release	1	2013	1	2013
Acquisition Milestones: Milestones: APB (3) Fleet Release	1	2015	1	2015
System Development: Software Development: System Development	1	2010	4	2016
System Development: Software Development: APB (2) Software Release	4	2011	4	2011
System Development: Software Development: APB (3) Software Release	4	2014	4	2014
Test & Evaluation: Technical Evaluation: APB (2) SQT	2	2011	2	2011

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Test & Evaluation: Technical Evaluation: APB (3) SQT	2	2014	2	2014
<i>Proj: 0480 ASW Sensors & Processors - Accoustic to Radio Frequency Variant (A2RF)</i>				
Test & Evaluation: A2RF - Air: P-3 Air Certification Testing for A2RF	2	2010	3	2010
Test & Evaluation: A2RF - Air: A2RF Air Certification for P-3	3	2010	3	2010
Test & Evaluation: A2RF - Air: Flight support for CSD-A2RF At-Sea test	3	2010	4	2010

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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
3224: <i>High Altitude ASW</i>	14.191	33.422	32.603	-	32.603	11.633	3.246	-	-	0.000	95.095
Quantity of RDT&E Articles	0	200	450	0	450	450	0	0	0		

A. Mission Description and Budget Item Justification

The P-8A High Altitude Anti-Submarine Warfare (HAASW) program objective is to ensure greater Anti-Submarine Warfare (ASW) aircraft operational flexibility and effectiveness at high altitudes. FY10-FY14 R&D monies fund necessary engineering changes to ASW sonobuoys, in addition to developing and integrating a meteorological sensing device (Dropsonde). Sonobuoys will be modified with a Global Positioning System (GPS) and a NATO standard Digital Uplink. GPS integration will provide precise sonobuoy location regardless of aircraft altitude/location to enhance wide area ASW search, localization, tracking, and targeting. The Digital Uplink will improve sonobuoy communications performance in high Radio Frequency Interference (RFI) littoral environments, increase Air Deployable Active Receiver channel availability, and provide NATO compatibility. The Dropsonde provides the capability to conduct in-situ meteorological (temperature, pressure, humidity, and winds) data measurement. The P-8A will use this real time data to update tactical decision aids, refine sonobuoy "release points", and for in-flight mission planning for optimization of Radar, Electro-Optical, Infra-Red, and other non-acoustic sensors. The FY11 test article quantities reflect 200 sonobuoys/dropsondes. Reduced test article quantities to reflect a more realistic schedule.

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

	FY 2010	FY 2011	FY 2012
Title: Provide precision delivery of sonobuoys	14.191	33.422	32.603
Articles:	0	200	450
FY 2010 Accomplishments: HAASW is an FY10 new start. The program supported engineering changes to sonobuoys employed during all stages of the ASW kill chain, from wide area search to attack. Efforts also included Dropsonde development/integration and the GPS and Dropsonde in-situ meteorological data for tactical decision aids and mission planning. FY10/11 is for HAASW Requirements Development, technology development and prototyping. Reduced test articles to reflect a more realistic schedule. The test schedule and test article deliveries are aligned with Integrated Test.			
FY 2011 Plans: The program will support engineering changes to sonobuoys employed during all stages of the ASW kill chain, from wide area search to attack. Efforts also include Dropsonde development/integration and the GPS and Dropsonde in-situ meteorological data for tactical decision aids and mission planning. FY10/11 is for HAASW Requirements Development, technology development and prototyping. The test schedule and test article deliveries are aligned with Integrated Test.			
FY 2012 Plans: The program will support engineering changes to sonobuoys employed during all stages of the ASW kill chain, from wide area search to attack. Efforts also include Dropsonde development/integration and the GPS and Dropsonde in-situ meteorological data			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
for tactical decision aids and mission planning. FY10/11 is for HAASW Requirements Development, technology development and prototyping. The test schedule and test article deliveries are aligned with Integrated Test.			
Accomplishments/Planned Programs Subtotals	14.191	33.422	32.603

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/4048: <i>Sonobuoys - All Types</i>	0.000	0.000	0.000	0.000	0.000	0.752	3.348	2.722	4.120	Continuing	Continuing

D. Acquisition Strategy

HAASW acquisition strategy includes three varied contract approaches. A sole source contract will be awarded for sonobuoy GPS and Digital Uplink engineering changes. Dropsonde meteorological sensing device development and integration will be open competition. The P-8A software development for the GPS and Digital Uplink signal processing and for the Dropsonde meta data in the tactical decision aids and the in-flight mission planning tools will be performed by the P-8A prime integrator.

E. Performance Metrics

Support engineering changes to sonobuoys during all stages of the ASW kill chain, from wide area search to attack.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hdw Development	Various	VARIOUS:VARIOUS	1.000	4.009	Nov 2010	0.376	Nov 2011	-		0.376	5.000	10.385	10.385
Primary Hdw Development	SS/CPIF	ERAPSCO:FT. WAYNE IN	3.000	15.000	Nov 2010	15.000	Nov 2011	-		15.000	0.000	33.000	33.000
Subtotal			4.000	19.009		15.376		-		15.376	5.000	43.385	43.385

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Documentation	Various	VARIOUS:VARIOUS	-	0.450	Nov 2010	0.500	Nov 2011	-		0.500	0.500	1.450	1.450
Studies & Analysis	Various	VARIOUS:VARIOUS	0.192	0.200	Nov 2010	-		-		-	0.200	0.592	0.592
A/C Software Integration	Various	VARIOUS:VARIOUS	1.000	2.119	Nov 2010	-		-		-	3.000	6.119	6.119
Tech Data	WR	NAWCAD:PATUXENT RIVER, MD	-	0.100	Nov 2010	-		-		-	0.450	0.550	
A/C Software Integration	C/CPFF	BOEING:SEATTLE WA	-	9.000	Nov 2010	8.000	Nov 2011	-		8.000	0.000	17.000	17.000
Subtotal			1.192	11.869		8.500		-		8.500	4.150	25.711	

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev Test & Eval	Various	VARIOUS:VARIOUS	0.100	0.350	Nov 2010	0.500	Nov 2011	-		0.500	3.000	3.950	3.950
Subtotal			0.100	0.350		0.500		-		0.500	3.000	3.950	3.950

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Eng Spt	Various	VARIOUS:VARIOUS	0.500	0.500	Oct 2010	0.946	Oct 2011	-		0.946	0.475	2.421	2.421

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i>	PROJECT 3224: <i>High Altitude ASW</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i>	PROJECT 3224: <i>High Altitude ASW</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj: 3224 High Altitude ASW				
Acquisition Milestones: Milestones: Milestone A	4	2010	4	2010
Acquisition Milestones: Milestones: Milestone B	1	2012	1	2012
Acquisition Milestones: Milestones: Milestone C	1	2014	1	2014
Acquisition Milestones: Milestones: Full Rate Production	2	2015	2	2015
System Development: Hardware Development: Hardware System Development	4	2010	3	2013
System Development: Software Development: Aircraft Software Development/ Integration	1	2011	1	2014
System Development: Reviews: PDR	3	2011	3	2011
System Development: Reviews: CDR	2	2012	2	2012
Test & Evaluation: Technical Evaluation: Integrated Testing	1	2012	1	2014
Test & Evaluation: Operational Evaluation: P-8A FOT&E	2	2014	3	2014
Test & Evaluation: Operational Evaluation: IOT&E	4	2014	1	2015
Production Milestones: Contract Awards: Hardware Contract Award	1	2011	1	2011
Production Milestones: Contract Awards: GPS/Uplink Sonobuoy Modification Contract	1	2011	1	2011
Production Milestones: Contract Awards: LRIP Award	1	2014	1	2014
Deliveries: Sonobuoy GPS/Digital Uplink Test Article Delivery: Sonobuoy GPS/Digital Uplink Test Article Delivery 1	4	2011	4	2011
Deliveries: Sonobuoy GPS/Digital Uplink Test Article Delivery: Sonobuoy GPS/Digital Uplink Test Article Delivery 2	3	2012	3	2012
Deliveries: Sonobuoy GPS/Digital Uplink Test Article Delivery: Sonobuoy GPS/Digital Uplink Test Article Delivery 3	2	2013	2	2013
Deliveries: Dropsonde Test Article Delivery: Delivery (1)	4	2011	4	2011

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i>	PROJECT 3224: <i>High Altitude ASW</i>

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Deliveries: Dropsonde Test Article Delivery: Delivery (2)	2	2012	2	2012
Deliveries: Dropsonde Test Article Delivery: Delivery (3)	1	2013	1	2013
Deliveries: LRIP Delivery: LRIP	4	2014	4	2014