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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy **Date:** February 2016

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604261N / <i>Acoustic Search Sensors</i>
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	431.873	24.395	31.235	34.525	-	34.525	37.696	29.322	48.292	49.288	Continuing	Continuing
0480: <i>ASW Sensors & Proc</i>	334.355	17.354	22.378	29.967	-	29.967	33.755	25.327	44.213	45.126	Continuing	Continuing
3224: <i>High Altitude ASW</i>	97.518	7.041	8.857	4.558	-	4.558	3.941	3.995	4.079	4.162	Continuing	Continuing

A. Mission Description and Budget Item Justification

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

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

B. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	23.214	35.763	38.014	-	38.014
Current President's Budget	24.395	31.235	34.525	-	34.525
Total Adjustments	1.181	-4.528	-3.489	-	-3.489
• Congressional General Reductions	-	-0.028			
• Congressional Directed Reductions	-	-4.500			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.650	0.000			
• SBIR/STTR Transfer	-0.469	0.000			
• Program Adjustments	0.000	0.000	1.184	-	1.184
• Rate/Misc Adjustments	0.000	0.000	-4.673	-	-4.673

Change Summary Explanation

Decrease in Acoustic Search Sensors by \$1.5 million as required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.

Technical: Not applicable.

Schedule:

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604261N / <i>Acoustic Search Sensors</i>	
<p>0480 Schedule 1. Received technical correction for MAC Enhancements (MAC-E) with funding in FY16-FY21. MAC-E schedule events added accordingly. Acquisition milestones adjusted to align with P-8A. SSQ-125A EDM delivery moved from 3Q/15 to 1Q/17 due to program delays which pushed SSQ-125A test start to 3Q/17. SSQ-125A contract award moved from 2Q/17 to 1Q/18 to align with P-8A schedule. MAC-E FOT&E moved to FY22 to align with P-8A increment 3 integrated master schedule.</p> <p>0480 Schedule 2. RCI (2) Flt Rel moved from 2Q/18 to 4Q/19. RCI (2) SQT moved from 3Q/17 to 3Q/18.</p> <p>H0480 Schedule 3. Theater ASW schedule added as appropriate. Theater ASW prototype development added in 4Q/15 thru 4Q/16 to support the 1Q/17 demonstration. Advanced Theater ASW prototype development added in 4Q/16 thru 4Q/17 to initiate concept exploration.</p> <p>3224. Inc 2 Operational testing moved from 2Q/15 to 3Q/16. P-8A Inc 2 ECP 2 IOC moved from 1Q/16 to 1Q/17. Moved Digital Telemetry Contract Award from 2Q/17 to 4Q/16 to reflect a more accurate schedule.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy										Date: February 2016		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604261N / <i>Acoustic Search Sensors</i>				Project (Number/Name) 0480 / <i>ASW Sensors & Proc</i>			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
0480: <i>ASW Sensors & Proc</i>	334.355	17.354	22.378	29.967	-	29.967	33.755	25.327	44.213	45.126	Continuing	Continuing
Quantity of RDT&E Articles		200	200	200	-	200	75	100	200	200		

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 phase and the follow on Production and Deployment Phase 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 multi-static active ASW family of systems for the engineering development of solutions that detect, classify, and track threat submarines. The Multi-Static Active Coherent (MAC) program encompasses modifications to the active coherent (electronic) source sonobuoy and the Air Deployable Active Receiver sonobuoy and development, integration, and test of aircraft software. It also provides upgrades to the Multi-static mission planning tool, the tactical crew trainers and the tactical ground replay system. This program includes MAC Enhancements that will shorten the ASW kill chain by enabling the warfighter to search larger areas in less time with more precision. Project 0480 also provides funding for the Advanced Processing Builds (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 sonobuoy test articles in FY14-FY20 will support software and hardware integration flight tests and Technical Evaluation/Follow-On Test & Evaluation for the MAC program. Additionally, this project funds an urgent effort in support of the Navy's Theater Anti-Submarine Warfare offset strategy. Funding supports the rapid development, fielding and evaluation of a prototype distributed and netted undersea sensor system to meet an urgent combatant commanders' (U.S. European Command, U.S. Northern Command, U.S. Strategic Command) requirement for additional maritime Intelligence, Surveillance and Reconnaissance (ISR) capabilities.

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

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: APB System Qualification Test/Fleet Release for P-3C. Rapid Capability Insertion (RCI)/Fleet Release for P-8A	11.830	8.378	6.317	0.000	6.317
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Released Advanced Processing Builds (3) software to Fleet; final APB release for P-3. Commenced software development/Engineering Measurement Program (EMP) for P-8A RCI(2). Continued system Fleet Introduction Training (FIT) for P-8A squadrons.					
FY 2016 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016			
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / <i>Acoustic Search Sensors</i>	Project (Number/Name) 0480 / <i>ASW Sensors & Proc</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Continue software development/Engineering Measurement Program (EMP) for P-8A RCI (2). Continue system Fleet Introduction Training.						
FY 2017 Base Plans: Continue software development/EMP for P-8A RCI (2). Continue MAC FITs for P-8A squadrons.						
FY 2017 OCO Plans: N/A						
Title: Multi-static Active Coherent (MAC)	Articles:	3.874 200	14.000 200	21.825 200	0.000 -	21.825 200
FY 2015 Accomplishments: Continue SSQ-125A ECP. Awarded SSQ-125 Full Rate Production (FRP) contract development.						
FY 2016 Plans: Complete Hardware development for the SSQ-125A. Funding for MAC-E in FY15 and prior were executed under Program Element (PE) 0605500N. Continue MAC-E Software development under PE 0604261N.						
FY 2017 Base Plans: Continue MAC-E Software development. Deliver SSQ-125A EDM units. Conduct SSQ-125A test.						
FY 2017 OCO Plans: N/A						
Title: Navy Theater ASW Offset Strategy	Articles:	1.650 -	0.000 -	1.825 -	0.000 -	1.825 -
FY 2015 Accomplishments: Provided theater ASW initial development.						
FY 2016 Plans: N/A						
FY 2017 Base Plans: Execute Theater ASW demonstration. Continue Advanced Theater ASW technology development.						
FY 2017 OCO Plans: N/A						
Accomplishments/Planned Programs Subtotals		17.354	22.378	29.967	0.000	29.967

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy	Date: February 2016
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Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / <i>Acoustic Search Sensors</i>	Project (Number/Name) 0480 / <i>ASW Sensors & Proc</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u> <u>Base</u>	<u>FY 2017</u> <u>OCO</u>	<u>FY 2017</u> <u>Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/4048: <i>Sonobuoys - All Types</i>	79.682	0.000	34.821	-	34.821	49.008	50.606	49.904	56.344	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Multistatic Active Coherent (MAC) ASW system and associated sonobuoys are fully integrated on the P-3C and P-8A ASW platforms. MAC Enhancements (MAC-E) is a development program associated with P-8A increment 3 that will significantly increase the wide area search capability through Engineering Change Proposals (ECPs) to the sonobuoys, aircraft software modifications to reduce clutter and improve processing, and OMI improvements to reduce operator workload. S&T and early R&D ASW improvement programs are matured through the APB process for periodic Fleet software releases.

E. Performance Metrics

High level operational system requirements are documented in the MAC Capability Production Document (CPD). Cost, schedule, and performance metrics are tracked throughout the development phase of the program to ensure the operational requirements will be met or exceeded during an extensive DT/OT cycle.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy **Date:** February 2016

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / <i>Acoustic Search Sensors</i>	Project (Number/Name) 0480 / <i>ASW Sensors & Proc</i>
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Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hdw Development	SS/CPIF	ERAPSCO : FT. WAYNE IN	13.549	5.256	Dec 2014	0.000		2.060	Dec 2016	-		2.060	17.500	38.365	39.865
Prior year Prod Dev no longer funded in the FYDP	Various	VARIOUS : VARIOUS	19.905	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			33.454	5.256		0.000		2.060		-		2.060	-	-	-

Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Development	WR	NAWCAD : PATUXENT RIVER, MD	22.204	0.500	Nov 2014	5.600	Dec 2015	5.436	Dec 2016	-		5.436	Continuing	Continuing	Continuing
Software Development	SS/CPIF	LOCKHEED MARTIN : MANASSAS VA	8.000	1.329	Nov 2014	1.000	Dec 2015	1.373	Dec 2016	-		1.373	3.727	15.429	15.429
Software Development	Various	VARIOUS : VARIOUS	9.288	1.950	Nov 2014	3.584	Dec 2015	6.869	Dec 2016	-		6.869	Continuing	Continuing	Continuing
Studies & Analysis	WR	NAWCAD : PATUXENT RIVER, MD	14.602	1.000	Nov 2014	2.973	Dec 2015	2.519	Dec 2016	-		2.519	Continuing	Continuing	Continuing
Technical Data	WR	NAWCAD : PATUXENT RIVER, MD	15.359	0.300	Oct 2015	0.372	Dec 2015	0.343	Dec 2016	-		0.343	Continuing	Continuing	Continuing
Training	WR	NAWCAD : PATUXENT RIVER, MD	0.000	0.000		2.114	Dec 2015	2.095	Dec 2016	-		2.095	Continuing	Continuing	Continuing
Subtotal			69.453	5.079		15.643		18.635		-		18.635	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy **Date:** February 2016

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / <i>Acoustic Search Sensors</i>	Project (Number/Name) 0480 / <i>ASW Sensors & Proc</i>
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Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test & Eval	WR	NAWCAD : PATUXENT RIVER, MD	25.492	1.625	Nov 2014	2.518	Dec 2015	2.591	Dec 2016	-		2.591	Continuing	Continuing	Continuing
Subtotal			25.492	1.625		2.518		2.591		-		2.591	-	-	-

Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Eng Spt	Various	VARIOUS :	38.609	2.360	Nov 2014	1.630	Dec 2015	3.434	Dec 2016	-		3.434	Continuing	Continuing	Continuing
Contractor Eng Spt	C/CPFF	NAVMAR APPLIED SCIENCES CORP : WARMINSTER, PA	4.337	1.712	Nov 2014	0.500	Dec 2015	1.030	Dec 2016	-		1.030	2.810	10.389	10.004
Government Eng Spt	WR	NAWCAD : PATUXENT RIVER, MD	96.553	0.707	Nov 2014	0.726	Dec 2015	0.500	Dec 2016	-		0.500	Continuing	Continuing	Continuing
Eng & Tech Spt Srvc (NON-FFRDC)	Various	VARIOUS :	55.571	0.615	Nov 2014	1.361	Dec 2015	1.717	Dec 2016	-		1.717	Continuing	Continuing	Continuing
Mgt & Prof SptT Srvc (FFRDC)	Various	VARIOUS :	10.018	0.000	Nov 2014	0.000	Dec 2015	0.000		-		0.000	Continuing	Continuing	Continuing
Prior Years Mgmt Svcs no longer funded in the FYDP	Various	VARIOUS :	0.868	0.000		0.000		0.000		-		0.000	0.000	0.868	-
Subtotal			205.956	5.394		4.217		6.681		-		6.681	-	-	-

	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		334.355	17.354	22.378	29.967	-	-	-	-

Remarks
The support growth in FY16 results from the realignment, via technical correction, of \$14.0 million Multistatic Active Coherent Enhancements (MAC-E) funding from Program Element (PE) 0605500N to PE 0604261N.

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy **Date:** February 2016

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / <i>Acoustic Search Sensors</i>	Project (Number/Name) 0480 / <i>ASW Sensors & Proc</i>
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Proj: 0480 ASW Sensors & Processors - Advanced Processing Builds (APB)	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
Acquisition Milestones																												
Milestones	APB (3) Fit Rel ▼																				RCI (2) Fit Rel ▼							
System Development																												
Software Development	System Development/Engineering Measurement																											
Test & Evaluation																												
Technical Evaluation																	RCI (2) SQT ▼				RCI (3) SQT ▼							
Fleet Introduction Training																												
	Fleet Intro Trng																											

2017PB - 0604261N - 0480 Transitioning to P8 RCI FY15-FY17

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy **Date:** February 2016

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / <i>Acoustic Search Sensors</i>	Project (Number/Name) 0480 / <i>ASW Sensors & Proc</i>
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Proj: 0480 Theater ASW Offset Strategy	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
Acquisition Milestones																												
Milestones					Theater ASW prototype development				▲																			
								Advanced Theater ASW prototype development																				

2017PB - 0604261N - 0480 FY16 efforts are dependent upon Omnibus Reprogramming action

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy **Date:** February 2016

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / <i>Acoustic Search Sensors</i>	Project (Number/Name) 0480 / <i>ASW Sensors & Proc</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj: 0480 ASW Sensors & Processors - Multistatic Active Coherent</i>				
Acquisition Milestones: Milestones: P-8A Increment 3 MS B	3	2017	3	2017
Acquisition Milestones: Milestones: P-8A Increment 3 MS C	2	2020	2	2020
System Development: Hardware Development: Engineering Change Proposal	1	2015	4	2016
System Development: EDM Delivery: Eng Dev Model (H/W EDM) 2	1	2017	1	2017
System Development: Software Development: MAC-E Software Development	1	2016	4	2021
Test & Evaluation: Development Test: Engineering Change Proposal Test	1	2016	2	2017
Test & Evaluation: Development Test: SSQ-125A Test	3	2017	4	2017
Test & Evaluation: Development Test: MAC-E Development Test	3	2018	4	2021
Production Milestones: Contract Awards: Full Rate Production (FRP)	1	2015	1	2015
Production Milestones: Contract Awards: SSQ-125A	1	2018	1	2018
<i>Proj: 0480 ASW Sensors & Processors - Advanced Processing Builds (APB)</i>				
Acquisition Milestones: Milestones: APB (3) Fleet Release	1	2015	1	2015
Acquisition Milestones: Milestones: RCI (2) Fleet Release	4	2019	4	2019
System Development: Software Development: System Development/Engineering Measurement	1	2015	4	2021
Test & Evaluation: Technical Evaluation: RCI (2) SQT	3	2018	3	2018
Test & Evaluation: Technical Evaluation: RCI (3) SQT	3	2020	3	2020
Fleet Introduction Training: Fleet Introduction Training	1	2015	4	2021
<i>Proj: 0480 Theater ASW Offset Strategy</i>				
Acquisition Milestones: Milestones: Theater ASW prototype development	4	2015	4	2016
Acquisition Milestones: Milestones: Theater ASW Demonstration	1	2017	1	2017
Acquisition Milestones: Milestones: Advanced Theater ASW prototype development	4	2016	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy										Date: February 2016		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604261N / <i>Acoustic Search Sensors</i>				Project (Number/Name) 3224 / <i>High Altitude ASW</i>			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
3224: <i>High Altitude ASW</i>	97.518	7.041	8.857	4.558	-	4.558	3.941	3.995	4.079	4.162	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The High Altitude Anti-Submarine Warfare (HAASW) program increases P-8A operational flexibility and effectiveness throughout the kill chain at higher than traditional ASW altitudes. FY10-FY16 activities include Sonobuoy Technology Development (TD), P-8A Aircraft integration, Training, Test & Evaluation, and Initial Operational Capability. TD includes hardware modifications to current production sonobuoys and software development for the aircraft. Global Positioning System (GPS) integration will provide precise sonobuoy location regardless of aircraft altitude/location to enhance wide area ASW search, localization, track and targeting. The digital telemetry will improve sonobuoy communication performance in high Radio Frequency Interference environments, increase Air Deployable Active Receiver (SSQ-101) channel availability, and provide NATO compatibility. FY16-FY19 activities include the integration of an algorithm that will adjust sonobuoy release/drop points for more accurate sonobuoy placement and integrating digital telemetry into the SSQ-53 and SSQ-62.

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

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Provide precision delivery of sonobuoys	7.041	8.857	4.558	0.000	4.558
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Continued P-8A Increment (Inc) 2, Engineering Change Proposal (ECP) 2, Initial Test & Evaluation (IT&E). Initiated transfer of SSQ-53G, SSQ-62F, and SSQ-101B ECPs into Full Rate Production (FRP).					
FY 2016 Plans: Initiate P-8A Inc 2 ECP 2 Follow-On Operational Test & Evaluation (FOT&E) and ECP 3 IT&E. Initiate digital telemetry in the SSQ-53, SSQ-62 and SSQ-125.					
FY 2017 Base Plans: Continue P-8A Inc 2 ECP 2 FOT&E and reach ECP 2 Initial Operational Capability (IOC). Initiate ECP 3 FOT&E and reach ECP 3 IOC. Continue digital telemetry in the SSQ-53, SSQ-62 and SSQ-125.					
FY 2017 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	7.041	8.857	4.558	0.000	4.558

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Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / <i>Acoustic Search Sensors</i>	Project (Number/Name) 3224 / <i>High Altitude ASW</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u> <u>Base</u>	<u>FY 2017</u> <u>OCO</u>	<u>FY 2017</u> <u>Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/4048: <i>Sonobuoys - All Types</i>	182.890	168.763	162.588	-	162.588	198.510	199.533	203.896	207.967	Continuing	Continuing

Remarks

D. Acquisition Strategy

A 15 March 12 Acquisition Decision Memorandum from PEO(A) (Milestone Decision Authority) approved the transition from a planned Acquisition Category (ACAT) Program to a series of Engineering Change Proposal (ECP) modifications to the AN/SSQ-53, AN/SSQ-62 and AN/SSQ-101 sonobuoys. Affordability deferred the digital telemetry requirement in the SSQ-53, SSQ-62 and SSQ-125 sonobuoys to FY16-FY19. All major contracts (ERAPSCO & Boeing) to meet P-8A Inc 2 ECP 2 and ECP 3 requirements have been awarded. The P-8A Inc 2 ECP 3 contract award that develops and integrates the GPS drop vector algorithm (GDVA) was awarded in FY15. IOC is planned for P-8A Inc 2 ECP 2 in FY17 and for P-8A Inc 2 ECP 3 in FY18.

E. Performance Metrics

Schedule and cost variances are used to track sonobuoy development. Should Cost methodology has also been employed to manage the development and production costs of the HAASW capable sonobuoys.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy												Date: February 2016				
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)								
1319 / 5				PE 0604261N / Acoustic Search Sensors				3224 / High Altitude ASW								
Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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	
Primary Hdw Development	SS/CPIF	ERAPSCO : FT. WAYNE IN	32.706	0.304	Jan 2015	3.907	Nov 2015	0.000	Nov 2016	-		0.000	0.000	36.917	36.917	
Primary Hdw Development	TBD	TBD : TBD	0.000	0.000		0.600	Sep 2016	2.800	Nov 2016	-		2.800	2.600	6.000	-	
Prior year Prod Dev no longer funded in the FYDP	Various	VARIOUS : VARIOUS	5.863	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing	
Subtotal			38.569	0.304		4.507		2.800		-		2.800	-	-	-	
Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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	
A/C Software Integration	C/CPFF	BOEING : SEATTLE WA	23.041	5.007	Nov 2014	2.471	Nov 2015	0.000		-		0.000	0.000	30.519	30.519	
Prior year Support cost no longer funded in the FYDP	Various	VARIOUS : VARIOUS	4.861	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing	
Subtotal			27.902	5.007		2.471		0.000		-		0.000	-	-	-	
Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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	
Test & Eval	Various	VARIOUS : VARIOUS	3.812	0.480	Nov 2014	0.444	Nov 2015	0.767	Nov 2016	-		0.767	Continuing	Continuing	Continuing	
Subtotal			3.812	0.480		0.444		0.767		-		0.767	-	-	-	
Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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	
Contractor Eng Spt	Various	VARIOUS : VARIOUS	2.899	0.088	Nov 2014	0.135	Nov 2015	0.200	Nov 2016	-		0.200	Continuing	Continuing	Continuing	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy **Date:** February 2016

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / <i>Acoustic Search Sensors</i>	Project (Number/Name) 3224 / <i>High Altitude ASW</i>
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Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Eng Spt	WR	NAWCAD : PATUXENT RIVER, MD	20.774	1.135	Nov 2014	1.300	Nov 2015	0.791	Nov 2016	-		0.791	Continuing	Continuing	Continuing
Travel	C/T&M	VARIOUS : VARIOUS	0.549	0.027	Nov 2014	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Prior Year Mngmt Svcs no longer funded in the FYDP	Various	VARIOUS : VARIOUS	3.013	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			27.235	1.250		1.435		0.991		-		0.991	-	-	-
Project Cost Totals			97.518	7.041		8.857		4.558		-		4.558	-	-	-

Remarks
Funding increases from FY16 to FY17 support P8A Inc ECP 2 FOTE&E and ECP 2 IOC.

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy **Date:** February 2016

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / <i>Acoustic Search Sensors</i>	Project (Number/Name) 3224 / <i>High Altitude ASW</i>
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Proj: 3224 High Altitude ASW	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021							
	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				
Milestones																																
Milestones									P-8A Inc 2 ECP 2 IOC ▲				P-8A Inc 2 ECP 3 (GDVA) IOC ▲																			
System Development																																
Hardware Development	Hardware System Development																															
Software Development	S/W + A/C Integration																															
Reviews																																
Test & Evaluation																																
Technical Evaluation	Inc 2 Integrated Testing																								Digital Telemetry Integrated Testing							
Operational Evaluation									Inc 2 Operational Testing																				Digital Telemetry Operational Testing			
Production Milestones																																
Contract Awards	P-8A (ECP 3) Integration Contract Award ●								Digital Telemetry Contract Award ●																							

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy **Date:** February 2016

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / <i>Acoustic Search Sensors</i>	Project (Number/Name) 3224 / <i>High Altitude ASW</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj: 3224 High Altitude ASW				
Milestones: Milestones: P-8A Inc 2 ECP 2 IOC	1	2017	1	2017
Milestones: Milestones: P-8A Inc 2 ECP 3 (GDVA) IOC	2	2018	2	2018
System Development: Hardware Development: Hardware System Development	1	2015	4	2021
System Development: Software Development: Aircraft Software Development/ Integration	1	2015	4	2021
Test & Evaluation: Technical Evaluation: Inc 2 Integrated Testing	1	2015	3	2016
Test & Evaluation: Technical Evaluation: Digital Telemetry Integrated Testing	3	2018	2	2020
Test & Evaluation: Operational Evaluation: Inc 2 Operational Testing	3	2016	2	2017
Test & Evaluation: Operational Evaluation: Digital Telemetry Operational Testing	3	2020	4	2021
Production Milestones: Contract Awards: P-8A (ECP 3) Integration Contract Award	1	2015	1	2015
Production Milestones: Contract Awards: Digital Telemetry Contract Award	4	2016	4	2016

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