Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604261N *I Acoustic Search Sensors*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	371.022	32.507	29.195	23.227	-	23.227	22.045	18.276	17.320	17.697	Continuing	Continuing
0480: *ASW Sensors & Proc*	301.053	15.204	18.611	16.001	-	16.001	13.114	13.310	13.220	13.520	Continuing	Continuing
3224: *High Altitude ASW*	69.969	17.303	10.584	7.226	-	7.226	8.931	4.966	4.100	4.177	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	34.299	30.208	27.044	-	27.044
Current President's Budget	32.507	29.195	23.227	-	23.227
Total Adjustments	-1.792	-1.013	-3.817	-	-3.817
• Congressional General Reductions	-	-0.013			
• Congressional Directed Reductions	-	-1.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.901	-			
• SBIR/STTR Transfer	-0.718	-			
• Program Adjustments	-	-	-0.533	-	-0.533
• Rate/Misc Adjustments	-	-	-3.284	-	-3.284
• Congressional General Reductions Adjustments	-2.975	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy	Date: March 2014
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604261N *I Acoustic Search Sensors*

Schedule:
0480 Schedule 1. Due to the unavailability of test assests (sub services) and delays associated with DOT&E oversight, the Milestone, the Software delivery, the FOT&E period & the contract awards slipped accordingly.
0480 Schedule 2. Due to test asset availability, APB(2) Fleet software release slipped accordingly. APB(4) & APB(5) were deleted & RCI(2) inserted to reflect change from P-3 to P-8 platform.
3224. HAASW Sonobuoy and Software Integration schedules have been adjusted to align with the P8-A schedule. A prioritized GPS Drop Vector Algorithm (GDVA) is aligned with the Increment 2 ECP 3 High Altitude ASW Weapons Capability (HAAWC) FY17 IOC. Digital Telemetry has been deferred to P-8A Increment 3 (FY18 start). Due to the $2.265M rephasing in FY15, the ECP2 Integrated Testing period & the P-8A FOT&E period has been extended through 4Q/15 & 3Q/16 accordingly.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / *Acoustic Search Sensors*	Project (Number/Name) 0480 / *ASW Sensors & Proc*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0480: *ASW Sensors & Proc*	301.053	15.204	18.611	16.001	-	16.001	13.114	13.310	13.220	13.520	Continuing	Continuing
Quantity of RDT&E Articles	0.000	50.000	75.000	200.000	-	200.000	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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. Multi-static Active Coherent (MAC) and Advanced Processing Builds (APB) are efforts funded during the period identified. The MAC program encompasses the development of an active coherent (electronic) source sonobuoy, modifications to the existing 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 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 325 sonobuoy test articles in FY13/15 will support software and hardware integration flight tests and Technical Evaluation/Follow-On Test & Evaluation for the MAC program.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: APB System Qualification Test/Fleet Release for P-3C. Rapid Capability Insertion (RCI)/Fleet Release for P-8A	0.936	7.472	12.127
Articles:	-	-	-
FY 2013 Accomplishments: Finished APB(2) Software Qualification Test (SQT) and prepared software for Fleet release.			
FY 2014 Plans: Continue software development/integration for APB(3). Release APB(2) software to Fleet. Conduct APB(3) SQT and prepare software for Fleet release. Begin system Fleet Introduction Training.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604261N / *Acoustic Search Sensors*	**Project (Number/Name)** 0480 / *ASW Sensors & Proc*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Release APB(3) software to Fleet. Final APB release for P-3. Begin software development/Engineering Measurement Program (EMP) for P-8A RCI(2). Continue system Fleet Introduction Training.			
Title: Multi-static Active Coherent (MAC)	14.268	11.139	3.874
Articles:	50.000	75.000	200.000
FY 2013 Accomplishments: Awarded SSQ-125A ECP contract. Commenced MAC OT.			
FY 2014 Plans: Complete OT and release MAC software to Fleet. Deliver software for FOT&E. Conduct decision brief for full rate production on SSQ-125. Complete FOT&E. Continue SSQ-125A ECP effort to increase source level.			
FY 2015 Plans: Complete SSQ-125A ECP. Deliver SSQ-125A EDM units to support ECP test in 3Q/4Q.			
Accomplishments/Planned Programs Subtotals	15.204	18.611	16.001

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN/4048: *Sonobuoys - All Types*	17.646	54.917	52.576	-	52.576	44.701	41.918	44.644	43.707	Continuing	Continuing

Remarks

D. Acquisition Strategy

The development and integration of MAC using coherent source technology into the P-3C and P-8A Aircraft. Sole source contracts have been awarded for Sensor Development (ERAPSCO) and for Displays and Control and Integration on P-3C aircraft (Lockheed Martin) and P-8A aircraft (Boeing).

E. Performance Metrics

Continued development/test of a MAC coherent source and related software that will satisfy the Multi-static Active wide area ASW search requirement.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604261N / *Acoustic Search Sensors*	**Project (Number/Name)** 0480 / *ASW Sensors & Proc*

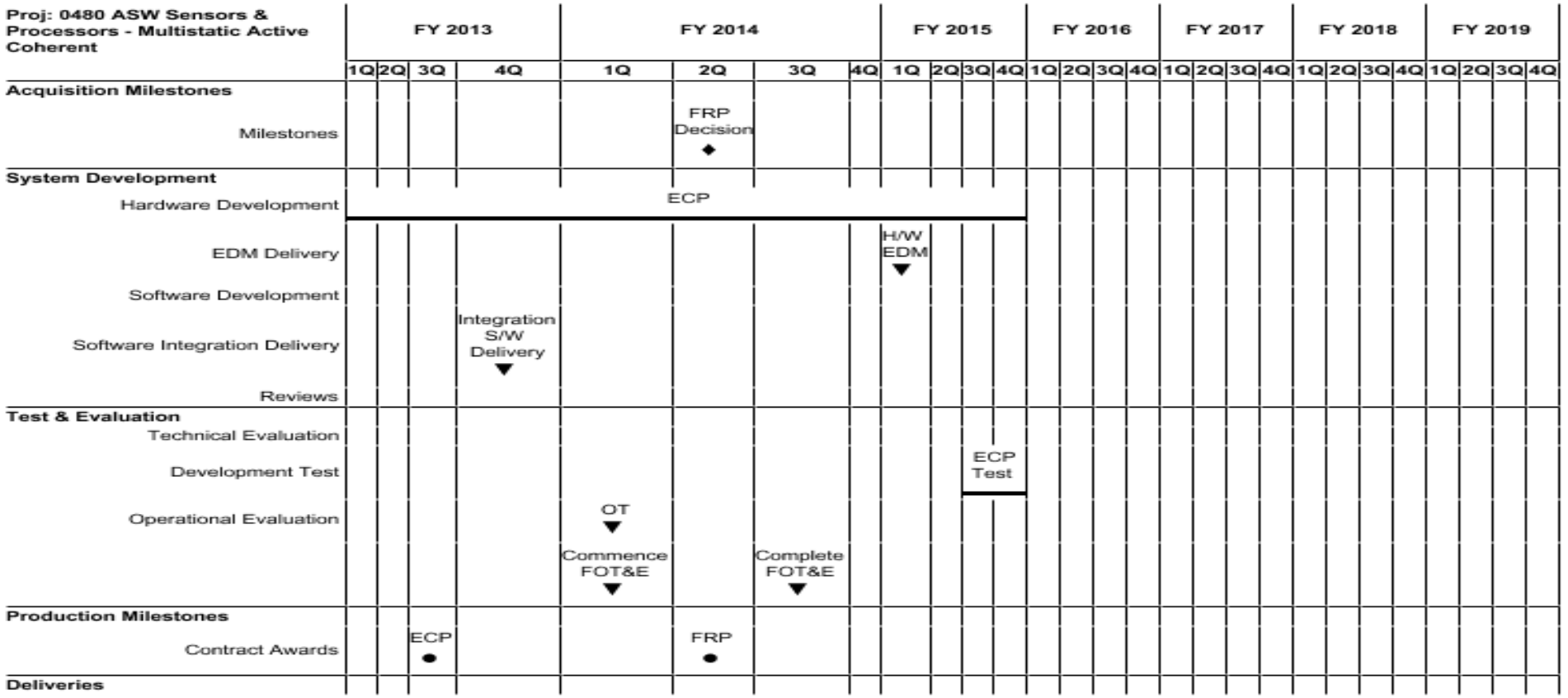

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604261N / *Acoustic Search Sensors*	**Project (Number/Name)** 0480 / *ASW Sensors & Proc*

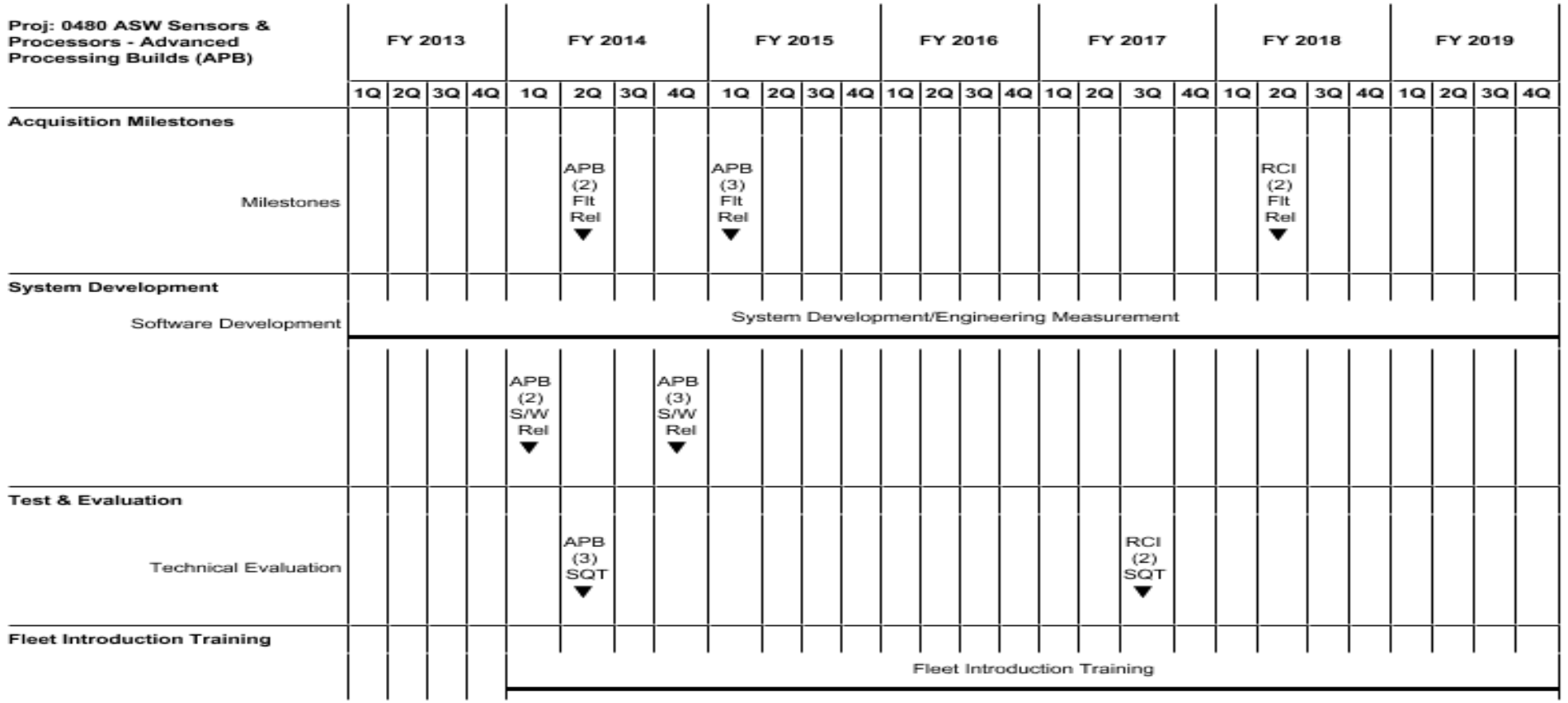

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / *Acoustic Search Sensors*	Project (Number/Name) 3224 / *High Altitude ASW*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3224: *High Altitude ASW*	69.969	17.303	10.584	7.226	-	7.226	8.931	4.966	4.100	4.177	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 2013	FY 2014	FY 2015
Title: Provide precision delivery of sonobuoys	17.303	10.584	7.226
Articles:	-	-	-
FY 2013 Accomplishments: Completed HAASW sonobuoy Critical Design Review (Nov12). Final ERAPSCO contract awarded (Feb13). P-8A Inc 2 Integration contract awarded (Dec12). Completed P-8A Inc 2 Systems Requirements Review (SRR).			
FY 2014 Plans: Finalize the HAASW sonobuoy qualification and certification and integrate the ECP into the SSQ-53, SSQ-62, and SSQ-101 sonobuoys. Continue HAASW software development and P-8A Integrated Test (IT).			
FY 2015 Plans: Continued P-8A IT. Initiate P-8A Inc 2 FOT&E.			
Accomplishments/Planned Programs Subtotals	17.303	10.584	7.226

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604261N / *Acoustic Search Sensors*	**Project (Number/Name)** 3224 / *High Altitude ASW*

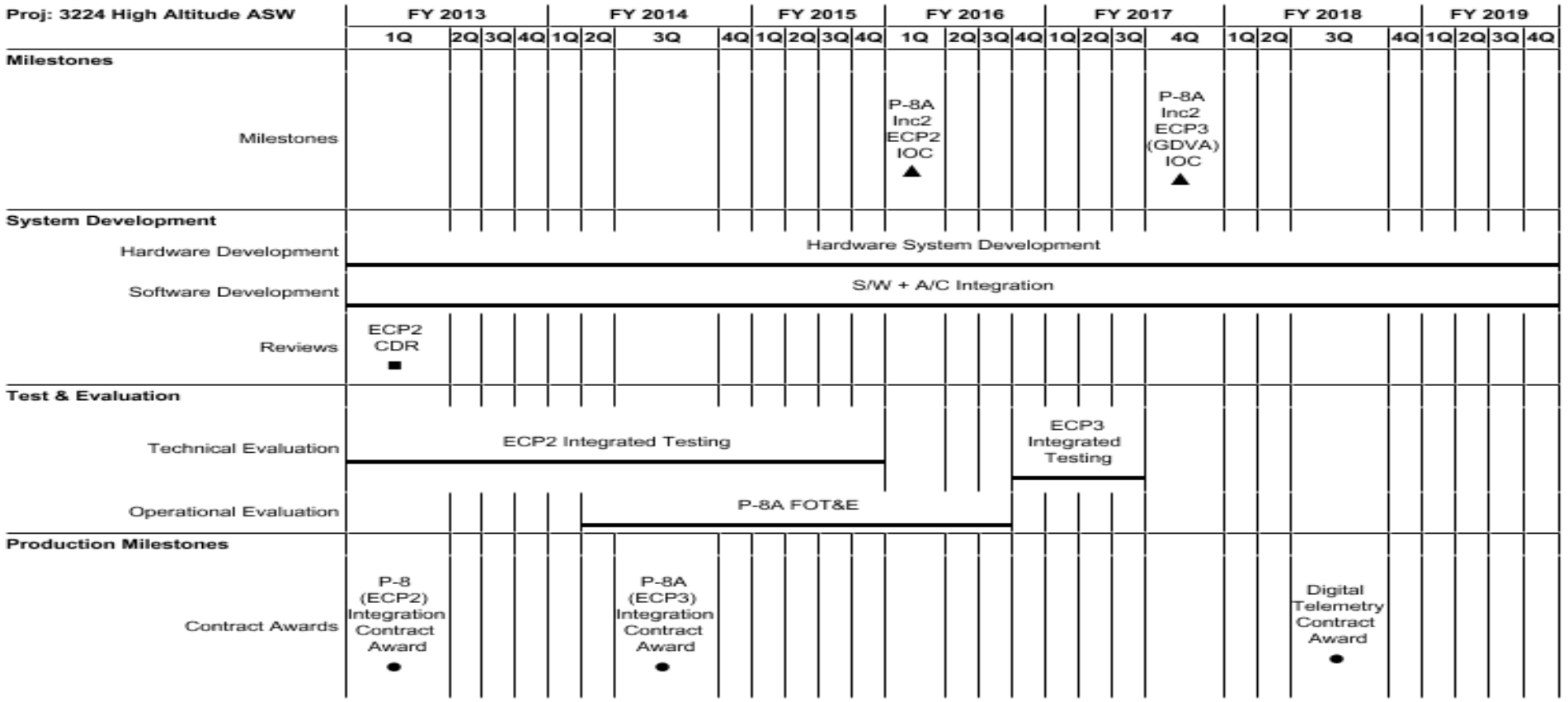
D. Acquisition Strategy

A 15 Mar 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 an SSQ-62 sonobuoys to FY17-FY19. All major contracts (ERAPSCO & Boeing) to meet P-8A Inc2 ECP2 requirements have been awarded. IOC is planned for P-8 Inc2 ECP2 in FY16. The P-8 Inc2 ECP3 contract award that develops and integrates the GPS drop vector algorithm (GDVA) will be awarded in FY14. P-8 Inc2 ECP3 IOC is planned for FY17.

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.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604261N / *Acoustic Search Sensors*	**Project (Number/Name)** 3224 / *High Altitude ASW*



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