Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0205620N *I Surface ASW Cmbt Sys Integr*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	159.727	30.985	26.366	24.460	-	24.460	26.409	27.372	27.738	28.313	Continuing	Continuing
1916: *Surface ASW System Improvement*	159.727	30.985	26.366	24.460	-	24.460	26.409	27.372	27.738	28.313	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Navy's Strategy is to remain the preeminent maritime power, providing the U.S. a global expeditionary force committed to security and prosperity, while defending the Nation's interests. Within this vision, Anti-Submarine Warfare (ASW) remains a Navy core competency in a dynamic and uncertain maritime environment. U.S. adversaries continue to develop asymmetric capabilities and capacities to deter, disrupt, or delay the entry of U.S. and allied naval forces, and pose a constant challenge as we implement the Maritime Strategy. Evolving submarine technologies offer enhanced stealth, speed, endurance, weapons, and operational proficiency, trends foretelling that the adversary submarine of the future will have a significantly larger sphere of influence, while presenting less vulnerability to ASW forces. The effective offensive engagement range of the adversary submarine of the future will continue to match or outrange individual U.S. and multinational platform sensors and weapons in many tactical environments. Submarines are an increasing threat to all Naval and Allied ships, particularly modern diesel subs and faster torpedoes. Not only can the presence of potential hostile submarines delay naval combatant action until they are located and neutralized, submarines can also disrupt all seaborne logistics supply for any ground campaign as well as maritime commerce. ASW forces must be effective in all operating environments, ranging from the deep open ocean to the littorals, and are key to countering adversarial anti-access and area denial strategies.

The objective of this Program Element (PE) is to significantly improve existing Surface Ship Undersea Warfare (USW) sonar system capabilities through quick and affordable development/integration of emergent, transformational technologies in support of Littoral ASW, Theater ASW, Mine Reconnaissance, and overall Sea Shield efforts required to pace the threat. Detection and classification play uniquely vital roles in the success of any ASW campaign. To be effective against increasingly stealthy threats in an often ambiguous undersea environment, future sensors must be environmentally adaptive, have very low false alarm rates, and exploit the full range of current and future submarine detection vulnerabilities.

Project 1916's primary mission is to improve AN/SQQ-89(V) Measures Of Performance (MOP) by enhancing passive and active detection, tracking, classification and localization, and torpedo Detection, Classification, and Localization (DCL), sonobuoy data processing and display capabilities, and increasing acoustic sensor frequency bandwidth (Operational Requirements Document #667-76-05 titled 'AN/SQQ-89 Improvement Program', Test and Evaluation Master Plan 802-2 (TEMP 802-2)). Improvements to system simulation, stimulation, Information Assurance (IA), software and network architectures, and safety are included. This project takes advantage of the AN/SQQ-89(V) Open System Architecture (OSA) and Acoustic Rapid Commercial-Off-The-Shelf (COTS) Insertion (ARCI) initiatives to integrate a torpedo DCL and ASW sonar combat system capability improvements. This COTS-based Surface Ship ASW combat system, the AN/SQQ-89A(V)15, is currently planned as a backfit program for both CG47 (select CG59-73 Baseline 3 and 4 ships) and DDG51 (All DDG and follow FLT I/II/IIA) class ships. The Open Architecture (OA) (level 3 compliant) of the AN/SQQ-89A(V)15 system drives the Advanced Capability Build (ACB) spiral development process and provides budget flexibility to make COTS/OA technology solutions and ARCI-type initiatives affordable. This will be accomplished via the incorporation of select Pre-Planned Product Improvements (P3I) and emergent, transformational ASW technologies delivered to the AN/SQQ-89(V) prime integrator every two years. ASW technology implementation will take advantage of improvements developed under the submarine Advanced Processing Build (APB) and Advanced Surveillance Build (ASB) programs and will in turn share unique

improvements developed under this program with the submarine and surveillance ASW communities. This project will also contribute to the development of Littoral Combat Ship (LCS) ASW Mission Packages.

Project 1916 also includes funding for the Surface Ship Engineering Measurement Program (SSEMP), which will measure the performance of existing and new Surface Ship ASW combat systems and enables data-based assessment of the capabilities and shortfalls in the performance of these systems in realistic scenarios.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	31.863	26.366	25.356	-	25.356
Current President's Budget	30.985	26.366	24.460	-	24.460
Total Adjustments	-0.878	-	-0.896	-	-0.896
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.878	-			
• Program Adjustments	-	-	-0.725	-	-0.725
• Rate/Misc Adjustments	-	-	-0.171	-	-0.171

Change Summary Explanation

The FY 2016 funding request was reduced by $.725 million to account for the availability of prior year execution balances.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205620N / *Surface ASW Cmbt Sys Integr*	Project (Number/Name) 1916 / *Surface ASW System Improvement*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1916: *Surface ASW System Improvement*	159.727	30.985	26.366	24.460	-	24.460	26.409	27.372	27.738	28.313	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Surface ASW Systems Improvements Project will support essential performance enhancements to AN/SQQ-89(V) and Surface Ship Sonar Systems. This project will improve AN/SQQ-89(V) MOP by enhancing active and passive detection, tracking, classification and localization, torpedo DCL, and sonobuoy data processing and display capabilities, and increasing acoustic sensor frequency bandwidth (Operational Requirements Document #667-76-05 titled 'AN/SQQ-89 Improvement Program'), TEMP 802-2.

This project will take advantage of the AN/SQQ-89(V) OSA and ARCI initiatives to integrate a TDCL and ASW sonar and combat system capability improvements. This COTS-based Surface Ship ASW combat system, the AN/SQQ-89A(V)15, is currently planned as a backfit program for both CG47 (select CG59-73 Baseline 3 and 4 ships) and DDG51 (All DDG51 and follow FLT I/II/IIA) class ships. This project has delivered the AN/SQQ-89A(V)15 Pre-Production Prototype, performed installation on board CG73, and conducted subsequent Developmental Test & Evaluation (DT&E) and Initial Operational Test & Evaluation (IOT&E) where the system was found 'Operationally Effective' by Command Operational Test and Evaluation Force (COMOPTEVFOR).

The OSA and high performance COTS processing hardware on ships fielded with the AN/SQQ-89A(V)15 combat system provides an opportunity to integrate select P3I as well as emergent, transformational ASW technological improvements that were previously unachievable. The Undersea Warfare (USW) suites on these ships will require periodic upgrades to remain effective well into the 21st century and to pace the threat. Software upgrades target capability increases in high interest areas as prescribed by the Fleet and captured in campaign analysis. To achieve this, this project will package and deliver incremental upgrades every two years to the AN/SQQ-89A(V)15 production program via an ACB spiral development process (ACB-11, ACB-13, etc.) by inserting maturing USW technologies, such as enhancements to improve USW performance in the littoral, operator efficiency upgrades via the implementation of robust embedded data record and replay capability and active/passive sonar simulation/stimulation, DCL active/passive processing upgrades, passive sonar automated detection and classification processing bell-ringers from the ASW Community-of-Interest, detect and track through maneuvers, integration of MH-60R mission systems with the AN/SQQ-89A(V)15 combat system, integration of Mid-Frequency active detection improvements, false-alarm rate reduction, clutter reduction, integration of ASW Community-of-Interest improved acoustic intercept and small-object avoidance, ASW Multi-Sensor integration (acoustic similar-source fusion and implementation of integrated shipboard system data, and ASW combat display architecture), distributed engagement management (Network Centric Enterprise Services implementation, new displays and decision aids, ASW Community-of-Interest model capabilities implementation), Mid-Frequency Acoustic Communications (MF ACOMMS) between Surface Combatants and Submarines, and upgraded technologies such as algorithm improvements, increased Passive Narrow Band (PNB) frequency, Continuous Active Sonar (CAS), Surface ASW Synthetic Trainer (SAST), and beamformer improvements. A rigorous testing program is also required to ensure that these performance enhancements are operationally effective and suitable.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205620N / *Surface ASW Cmbt Sys Integr*	**Project (Number/Name)** 1916 / *Surface ASW System Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SQQ-89A(V)15 Surface Ship ASW Advanced Capability Build (ACB) Development	27.035	22.466	20.560	-	20.560
Articles:	-	-	-	-	-

Description: Develop enhancements to the AN/SQQ-89A(V)15 Open System Architecture (OSA) via the integration of transformational technologies through an ACB spiral development process. Items include hull-mounted Acoustic Intercept (ACI) sensor, ACI performance predictions and signal injection capabilities, hull array adaptive beamformer and towed array shape compensated beamformer improvements via the Beamformer Functional Segment (BFFS), Mid-Frequency Active (MFA) Cooperative Organic Mine Defense (COMID) mine avoidance upgrades, MFA rapid replay and multi-waveform tracker, Hull Passive Processing Functional Segment (HPPFS) improvements, Sensor Performance Prediction Functional Segment (SPPFS) improvements, Undersea Warfare Control Functional Segment (UCFS) improvements, Supportability Functional Segment (SupFS)/SAST improvements, Recording Functional Segment (RecFS) improvements, Common System Services/Mission Package Services (CSS/MPS) improvements, full bandwidth towed array passive ASW and automated torpedo DCL algorithm improvements (active/passive) within the Torpedo Recognition and Alertment Functional Segment (TRAFS)/Torpedo Defense Functional Segment (TDFS) necessary to extend detection ranges and reduce false alert/alarm rates, new Undersea Situational Awareness Workstation (USAW) sensor to reduce the number of displays required for system operation, Mid-Frequency Acoustic Communications (MF ACOMMS) development, integration of MH-60R mission systems with the AN/SQQ-89A(V)15 combat system, simplification of displays and active processing, and a Sonar Logger capability to significantly reduce operator data logging requirements. These items will be integrated and delivered to the CG47 and DDG51 class AN/SQQ-89A(V)15 backfit production programs via ACB updates. Import advanced development capabilities from the submarine Advanced Processing Build (APB) and Acoustic Rapid Commercial-off-the-Shelf (COTS) Insertion (ARCI) projects. Export advanced capabilities to submarine and surveillance combat system programs.

Resolve/troubleshoot issues/deficiencies that arise from the AN/SQQ-89(V) Surface Ship ASW Test & Evaluation program. Rapidly address and correct problems/deficiencies in processing, capability or operations within the following areas within the AN/SQQ-89(V) USW combat system architecture; sensor processing, acoustics, fire control, contact management, performance prediction, operator productivity and on-board training, MFTA, Digital Fire Control Interface (DFCI), MFA processing, and adaptive beamforming.

FY 2014 Accomplishments:

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205620N / *Surface ASW Cmbt Sys Integr*	**Project (Number/Name)** 1916 / *Surface ASW System Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continued development and integration of enhancements to the AN/SQQ-89A(V)15 for ACB-15. Priority candidates currently planned for ACB-15 include: Active Clutter Reduction, Torpedo Defense, Integration of Submarine Passive improvements, and integration of MH-60R mission systems. Conducted independent Step 2 testing of ACB-15 individual technologies to finalize transitions for integration onto the tactical hardware. Following independent testing, began integration of ACB-15 capabilities into the tactical string. Integrated ACB-15 will be used for land-based testing of the full system. Completed Step 3, land-based testing and System Qualification Test (SQT) of ACB-13. ***FY 2015 Plans:*** Complete Aegis Integration Event (AIE) certification and transition of AN/SQQ-89A(V)15 ACB-13. Continue development and integration of enhancements to the AN/SQQ 89A(V)15 for ACB-15. Priority candidates will continue to be assessed during the 4 Step ACB process. Finish the conduct of independent Step 2 testing of ACB-15 individual technologies. Individual capabilities which meet Step 2 requirements will be integrated onto tactical hardware. Prepare data collection and test plans for Step 3 land-based testing as part of 4 Step ACB process. Step 3 includes a peer review by SMEs of fully integrated tactical capability. ***FY 2016 Base Plans:*** Continue development and integration of enhancements to the AN/SQQ-89A(V)15 for ACB-15. Priority candidates will continue to be assessed during the ACB Step process. Step 3 land-based testing of full tactical system will test individual capability and system performance of ACB-15. Complete SQT and AIE certifications. Step 4 at-sea testing of ACB-15 will test system capability with shipboard interfaces prior to production transition. Initiate development of concepts and capabilities for ACB-17. ***FY 2016 OCO Plans:*** N/A					
Title: AN/SQQ-89(V) Surface Ship ASW Test & Evaluation Program	0.700	0.700	0.700	-	0.700
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Finalized test ship and resources in support ACB-11 Operational Test (OT). Completed ACB-13 Step 3, conducted SQT, and conducted Development Test (DT) at the Land-Based Test Site (LBTS) prior to formal SQT. ***FY 2015 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205620N / *Surface ASW Cmbt Sys Integr*	**Project (Number/Name)** 1916 / *Surface ASW System Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Plan ACB-13 At-Sea DT events with lead ships. Update TEMP 802-2 to cover ACB-13 DT/OT requirement. ***FY 2016 Base Plans:*** Finalize test ship and resources in support ACB-13 OT. Complete ACB-15 Step 3, AIE, conduct DT at the LBTS prior to formal SQT. ***FY 2016 OCO Plans:*** N/A					
Title: Surface Ship Enhanced Measurement Program (SSEMP) ***Articles:*** ***Description:*** Analyze the sonar employment in the operational setting and report results for improvement of training/employment guidance. Perform Fleet exercise data reconstruction and post-test analysis each year. Conduct selected at-sea data collection activities by providing planning support, ship riders, and analyst support. Evaluate prototype sonar employment tactics, sonar processing and automation algorithms, and communication protocols for the detection, classification, tracking, and intra-Fleet hand-off to Fleet ASW assets, and provide summary reports to document results. ***FY 2014 Accomplishments:*** Supported analysis of ACB-11/ACB-13 Return On Investment (ROI) test. Supported ACB-11 IOT&E/OT data collection and analysis of operational performance. Planned ACB-11 and ACB-13 lab-based system and operator performance comparison test and continued analysis of SSEMP cases. ***FY 2015 Plans:*** Commence ACB-13 performance assessment and operator at-sea testing and analysis of SSEMP cases. Update lab hardware to support ACB-13 install on ACB-11/TI-12 hardware. Continue analysis of SSEMP cases. ***FY 2016 Base Plans:*** Support analysis of ACB-13/ACB-15 Return On Investment (ROI) test. Support ACB-13 IOT&E/OT data collection and analysis of operational performance. Continue analysis of SSEMP cases. ***FY 2016 OCO Plans:*** N/A	3.250 -	3.200 -	3.200 -	- -	3.200 -
Accomplishments/Planned Programs Subtotals	30.985	26.366	24.460	-	24.460

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205620N / *Surface ASW Cmbt Sys Integr*	**Project (Number/Name)** 1916 / *Surface ASW System Improvement*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/2136: *AN/SQQ-89 Surface ASW Combat System*	83.231	78.802	103.241	-	103.241	98.284	123.474	138.661	135.037	Continuing	Continuing
• OPN/0900: *DDG Modernization*	285.994	324.219	364.157	-	364.157	403.782	570.886	507.745	521.562	Continuing	Continuing
• OPN/0960: *CG Modernization*	10.539	-	-	-	-	84.251	108.996	103.036	105.183	Continuing	Continuing

Remarks

D. Acquisition Strategy

- Via an ACB spiral development process, incorporate evolutionary and transformational technologies into AN/SQQ-89A(V)15 production systems.
- Utilize the Small Business Innovative Research (SBIR) program and full and open competition for new and improved innovative capability development.

E. Performance Metrics

- Deliver incremental capability increases in high interest areas, as prescribed by the Fleet and captured in campaign analysis, every two years to the AN/SQQ-89A(V)15 production program via an ACB spiral development process (ACB-09, ACB-11, ACB-13, etc.) by inserting maturing USW technologies.
- Conduct system qualification testing (SQT) and AEGIS Integration Events (AIE) for all fielded variants of ACB.
- Completed AN/SQQ-89A(V)15 ACB-11 Surface Ship ASW Combat System, performed installation, conducted DT&E, and initial IOT&E.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205620N / *Surface ASW Cmbt Sys Integr*	Project (Number/Name) 1916 / *Surface ASW System Improvement*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SQQ-89 S/W Development/Integration	C/CPFF	AAC : NY	5.923	0.115	Dec 2013	0.540	Jan 2015	0.540	Dec 2015	-		0.540	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	ALION : IL	1.673	2.750	Jan 2014	1.250	Jan 2015	1.250	Dec 2015	-		1.250	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	AM : VA	13.722	0.850	Dec 2013	0.160	Jan 2015	0.150	Dec 2015	-		0.150	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	GD-AIS : VA	11.322	-		-		-		-		-	-	11.322	-
SQQ-89 S/W Development/Integration	C/CPFF	In-Depth Engineering : VA	2.975	-		-		-		-		-	-	2.975	-
SQQ-89 S/W Development/Integration	C/CPFF	JHU/APL : MD	16.511	5.800	Feb 2014	4.265	Dec 2014	4.317	Dec 2015	-		4.317	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	METRON : VA	1.500	0.950	Dec 2013	1.100	Jan 2015	1.100	Dec 2015	-		1.100	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	Lockheed Martin : NY	10.205	-		-		-		-		-	-	10.205	-
SQQ-89 S/W Development/Integration	C/CPFF	Lockheed Martin : VA	6.203	3.750	Jan 2014	2.950	Dec 2014	3.152	Dec 2015	-		3.152	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	WR	NSWC/Carderock : MD	4.277	3.250	Dec 2013	2.150	Nov 2014	2.150	Nov 2015	-		2.150	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	WR	NSWC/Dahlgren : VA	1.440	-		-		-		-		-	-	1.440	-
SQQ-89 S/W TDA Support	WR	NUWC/Newport : RI	7.912	1.150	Dec 2013	1.850	Nov 2014	1.650	Nov 2015	-		1.650	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	SEDNA : VA	3.550	0.750	Jan 2014	0.100	Jan 2015	0.100	Dec 2015	-		0.100	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	UT/ARL : TX	8.887	2.450	Feb 2014	2.565	Jan 2015	1.701	Dec 2015	-		1.701	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	VAR : VAR*	12.342	4.960	Dec 2013	5.227	Dec 2014	4.142	Dec 2015	-		4.142	Continuing	Continuing	Continuing
SAST Development/ Integration	C/CPFF	JHU/APL : MD	8.302	-		-		-		-		-	-	8.302	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205620N / *Surface ASW Cmbt Sys Integr*	**Project (Number/Name)** 1916 / *Surface ASW System Improvement*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SAST Development/ Integration	WR	NSWC/Carderock : MD	11.265	-		-		-		-		-	-	11.265	-
SAST Development/ Integration	WR	NUWC/Newport : RI	2.950	-		-		-		-		-	-	2.950	-
SAST Development/ Integration	C/CPFF	SEDNA : VA	4.792	-		-		-		-		-	-	4.792	-
SAST Development/ Integration	C/CPFF	UT/ARL : TX	1.652	-		-		-		-		-	-	1.652	-
SAST Development/ Integration	C/CPFF	VAR : VAR*	0.380	-		-		-		-		-	-	0.380	-
		Subtotal	137.783	26.775		22.157		20.252		-		20.252	-	-	-

Remarks

*Consists of multiple performing activities with funding for each not greater than $1M per year.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SSEMP ConductTest/Data Evaluation	C/CPFF	JHU/APL : MD	9.865	2.100	Feb 2014	2.100	Dec 2014	2.100	Dec 2015	-		2.100	Continuing	Continuing	Continuing
SSEMP Conduct/Test/ Data Evaluation	WR	NUWC/Newport : RI	2.412	0.500	Nov 2013	0.500	Nov 2014	0.500	Nov 2015	-		0.500	Continuing	Continuing	Continuing
SSEMP Conduct/Test/ Data Evaluation	C/CPFF	UT/ARL : TX	3.078	0.600	Feb 2014	0.600	Jan 2015	0.600	Dec 2015	-		0.600	Continuing	Continuing	Continuing
SQQ-89 IV&V/SAT/TEMP Assess./Update	WR	NUWC/Newport : RI	1.626	0.400	Nov 2013	0.400	Nov 2014	0.400	Nov 2015	-		0.400	Continuing	Continuing	Continuing
SQQ-89 DT/OT/ Miscellaneous T&E	WR	VAR : VAR*	1.785	0.300	Dec 2013	0.300	Dec 2014	0.300	Dec 2015	-		0.300	Continuing	Continuing	Continuing
		Subtotal	18.766	3.900		3.900		3.900		-		3.900	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205620N / *Surface ASW Cmbt Sys Integr*	Project (Number/Name) 1916 / *Surface ASW System Improvement*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

*Consists of multiple performing activities with funding for each not greater than $1M per year.

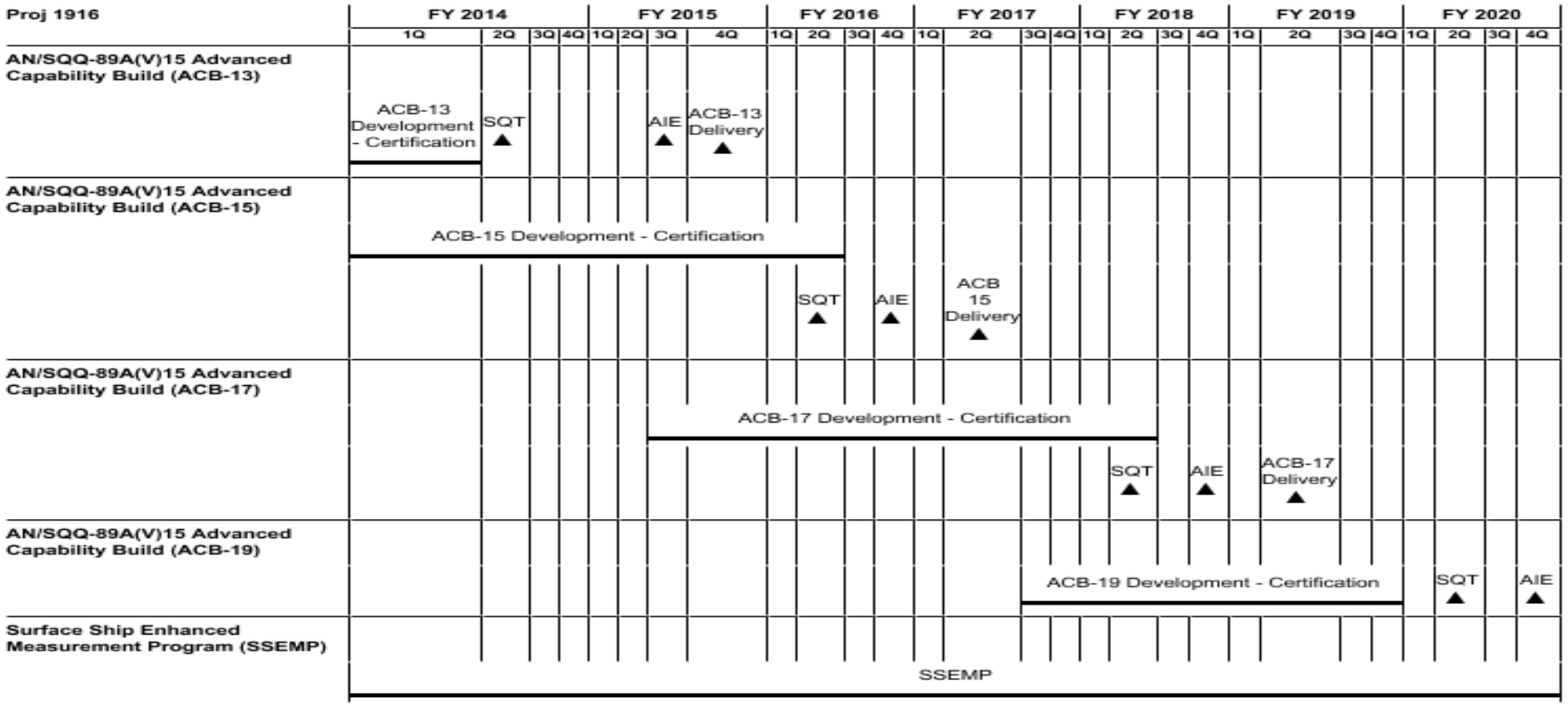
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPAF	BAE Systems : MD	2.499	0.250	Jan 2014	0.250	Nov 2014	0.250	Dec 2015	-		0.250	Continuing	Continuing	Continuing
Program Office Travel	Allot	NAVSEA PEO IWS5 : DC	0.679	0.060	Feb 2014	0.059	Jan 2015	0.058	Oct 2015	-		0.058	Continuing	Continuing	Continuing
		Subtotal	3.178	0.310		0.309		0.308		-		0.308	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	159.727	30.985		26.366		24.460		-		24.460	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205620N / *Surface ASW Cmbt Sys Integr*	**Project (Number/Name)** 1916 / *Surface ASW System Improvement*



2016PB - 0205620N - 1916

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205620N / *Surface ASW Cmbt Sys Integr*	**Project (Number/Name)** 1916 / *Surface ASW System Improvement*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 1916				
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-13): SQQ-89A(V)15 ACB-13 Dev./ Step Eval./PRT/Integ./Cert. (continued)	1	2014	1	2014
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-13): SQQ-89A(V)15 ACB-13 System Qualification Test (SQT)	2	2014	2	2014
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-13): SQQ-89A(V)15 ACB-13 Aegis Integration Event (AIE)	3	2015	3	2015
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-13): SQQ-89A(V)15 ACB-13 Prdtn. S/W Delivery to Integrator	4	2015	4	2015
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-15): SQQ-89A(V)15 ACB-15 Dev./ Step Eval./PRT/Integ./Cert. (continued)	1	2014	2	2016
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-15): SQQ-89A(V)15 ACB-15 System Qualification Test (SQT)	2	2016	2	2016
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-15): SQQ-89A(V)15 ACB-15 Aegis Integration Event (AIE)	4	2016	4	2016
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-15): SQQ-89A(V)15 ACB-15 Prdtn. S/W Delivery to Integrator	2	2017	2	2017
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-17): SQQ-89A(V)15 ACB-17 Dev./ Step Eval./PRT/Integ./Cert.	3	2015	2	2018
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-17): SQQ-89A(V)15 ACB-17 System Qualification Test (SQT)	2	2018	2	2018
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-17): SQQ-89A(V)15 ACB-17 Aegis Integration Event (AIE)	4	2018	4	2018
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-17): SQQ-89A(V)15 ACB-17 Prdtn. S/W Delivery to Integrator	2	2019	2	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205620N / *Surface ASW Cmbt Sys Integr*	**Project (Number/Name)** 1916 / *Surface ASW System Improvement*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-19): SQQ-89A(V)15 ACB-19 Dev./ Step Eval./PRT/Integ./Cert.	3	2017	4	2019
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-19): SQQ-89A(V)15 ACB-19 System Qualification Test (SQT)	2	2020	2	2020
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-19): SQQ-89A(V)15 ACB-19 Aegis Integration Event (AIE)	4	2020	4	2020
Surface Ship Enhanced Measurement Program (SSEMP): Surface Ship Enhanced Measurement Program (SSEMP) (continued)	1	2014	4	2020