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 0604756N *I Ship Self Def (Engage: Hard Kill)*							
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	610.388	52.815	43.303	96.937	-	96.937	120.542	79.394	190.523	165.559	Continuing	Continuing
0167: *5in Rolling Airframe Missile*	203.589	1.250	1.315	12.705	-	12.705	14.425	13.317	6.064	0.833	Continuing	Continuing
0173: *NATO Sea Sparrow*	374.017	30.863	41.988	84.232	-	84.232	106.117	66.077	144.459	146.384	Continuing	Continuing
3342: *Griffin Missile*	32.782	20.702	-	-	-	-	-	-	-	-	-	53.484
9081: *Phalanx CIWS SEARAM*	0.000	-	-	-	-	-	-	-	40.000	18.342	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

This program element provides funding for the development of systems that fulfill a portion of the third phase of the Ship Self Defense: Engage Hard Kill. Development in this line will focus on hard kill capabilities in which missiles are used to intercept incoming Anti-Ship Cruise Missiles (ASCM). Missile and system improvements necessary to meet their requirements are being addressed via NATO SEASPARROW Missile System (NSSMS) (0173), Rolling Airframe Missile (RAM) (0167), Phalanx Close-In Weapon System (CIWS) SeaRAM (9853A), Griffin, Javelin and Spike missile (3342). Missile improvements include improved kinematic performance plus advanced seeker and low elevation fusing/warhead capability improvements. CIWS System improvements include Technology Refresh for current fleet population and Next Generation CIWS. New system developments include integration of Griffin missile into Patrol Coastal (PC) and Littoral Combat Ship Missile Module, and development and/or qualification of shoulder launched missile system.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	64.079	50.209	82.731	-	82.731
Current President's Budget	52.815	43.303	96.937	-	96.937
Total Adjustments	-11.264	-6.906	14.206	-	14.206
• Congressional General Reductions	-	-0.006			
• Congressional Directed Reductions	-	-6.900			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-4.058	-			
• SBIR/STTR Transfer	-1.710	-			
• Program Adjustments	-	-	20.100	-	20.100
• Rate/Misc Adjustments	-0.001	-	-5.894	-	-5.894
• Congressional General Reductions Adjustments	-5.495	-	-	-	-

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 0604756N *I Ship Self Def (Engage: Hard Kill)*

Change Summary Explanation

The funding increase in FY15 supports the implementation of RAM changes identified in the Integrated Combat System Failure Review Board (CSFRB) report known as the Fire Control Loop Improvement Project (FCLIP). These funds support RAM System Engineering, design analysis and testing of the combat system changes in support of the FCLIP process. Funding will deliver software baseline changes to the RAM Block 1A and Block 2 Missiles, launcher software updates and updated interface to the combat system. FY15 funding increases also supports ESSM block 2 risk reduction and dual band transceiver development. The increases were offset by a decrease to the ESSM program due to Department decision to reduce contracted services and a decrease due to underexecution.

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 0604756N / *Ship Self Def (Engage: Hard Kill)*	Project (Number/Name) 0167 / *5in Rolling Airframe Missile*	

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
0167: *5in Rolling Airframe Missile*	203.589	1.250	1.315	12.705	-	12.705	14.425	13.317	6.064	0.833	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 RAM program is an international cooperative program with the government of the Federal Republic of Germany. The purpose of this program is to develop, test, and field a surface-to-air self-defense system utilizing a dual mode, passive radio frequency/infrared RAM. The baseline system (Block 0) provides a self-defense system to counter ASCMs. RAM Block 0/1 provide defense capability against active and passive anti-ship missiles, very low altitude missiles, and maneuvering missiles through the utilization of passive radio frequency and infrared seekers and a maritime optimized fuse. The RAM Block 1A software update and the Mk 49 MOD 3 launcher upgrade program provide an additional asymmetric capability against helicopters, aircraft and surface craft. The RAM Block 2 upgrade program is a cooperative requirement of the U.S. and Federal Republic of Germany, as agreed to in an international Memorandum of Understanding (MOU), and allows RAM to counter emerging highly maneuverable ASCM threats utilizing advanced seeksers while maintaining all the proven capabilities of RAM Block 0/1/1A's accurate terminal guidance, proven lethality, and no shipboard post launch dependence. Funding supports formal Developmental and Operational Testing (DT/OT) scheduled through FY16, data analysis, operational/test driven studies, support of combat system performance analysis, identification of operationally relevant improvements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Rolling Airframe Missile Block 2 Development and Test	1.164	1.236	12.628
Articles:	-	-	-
FY 2013 Accomplishments: Funded Block 2 integrated Operational Test and Evaluation (OT&E) (Development and Operational) IT-C1 and IT-C3 testing, analysis, incorporation of any changes and associated efforts to achieve Initial Operational Capability (IOC) decision.			
FY 2014 Plans: Funds ongoing integrated OT&E (Development and Operational) IT-C2 testing, analysis, incorporation of any changes and associated efforts to achieve IOC decision and support a Full Rate Production (FRP) decision.			
FY 2015 Plans: Funds ongoing Integrated OT&E (Development and Operational) IT-C5 testing, analysis, incorporation of any changes and associated effirts to achieve IOC decision and support a FRP decision. Funds also support RAM Systems Engineering, design analysis and testing of the combat system changes in support of the FCLIP process. Funding will deliver software baseline changes to the RAM Block 1A and Block 2 Missiles, launcher software updates and updated interface to the combat system.			
Title: Rolling Airframe Missile Block 2 Travel	0.086	0.079	0.077

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 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0167 / *5in Rolling Airframe Missile*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Articles:	-	-	-
FY 2013 Accomplishments: Funded Program Office (PO) travel to support program/testing as required by program schedule and in accordance with travel reduction mandate.			
FY 2014 Plans: Funds PO travel to support program/testing as required by program schedule and in accordance with travel reduction mandate.			
FY 2015 Plans: Funds PO travel to support program/testing as required by program schedule and in accordance with travel reduction mandate.			
Accomplishments/Planned Programs Subtotals	1.250	1.315	12.705

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 5238: *RAM GMLS*	1.074	0.491	-	-	-	-	-	-	-	Continuing	Continuing
• WPN 2242: *RAM*	60.371	65.943	80.792	-	80.792	82.249	83.748	104.438	106.518	Continuing	Continuing
• OPN 5231: *Ship Missile Support Equipment*	-	-	4.373	-	4.373	1.655	1.436	1.460	1.490	Continuing	Continuing

Remarks

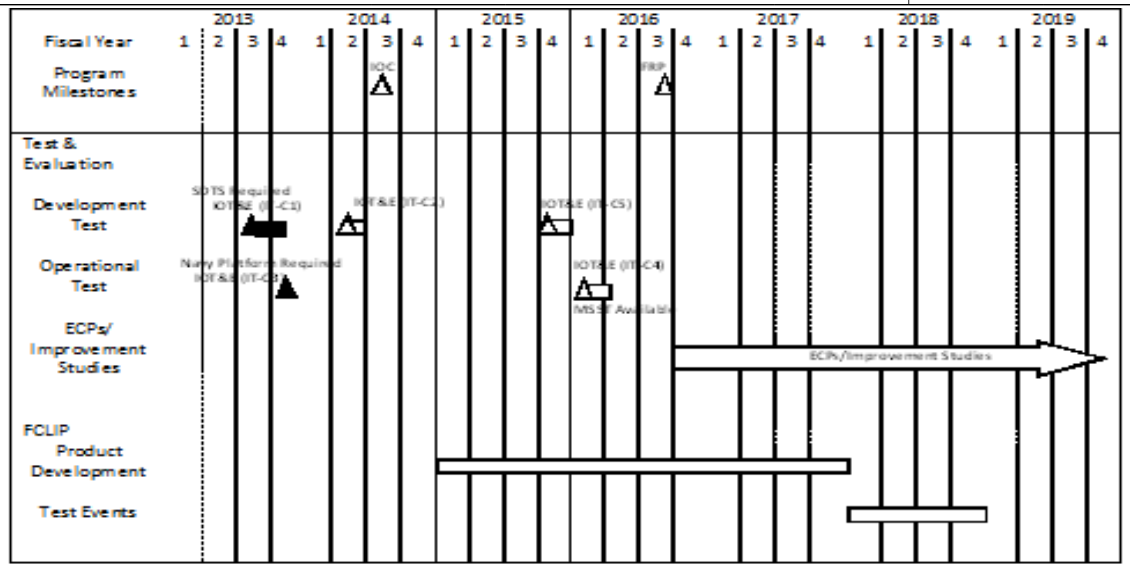
D. Acquisition Strategy

The RAM Program uses directed sole source contracts with Raytheon Missile Systems Company, Tucson, AZ.

E. Performance Metrics

Successfully complete DT/OT.
Achieve IOC decision and support a FRP decision.

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 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0167 / *5in Rolling Airframe Missile*



* IOC Moved from objective to threshold as outlines in the APB

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 0604756N / *Ship Self Def (Engage: Hard Kill)*				Project (Number/Name) 0173 / *NATO Sea Sparrow*			
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**
0173: *NATO Sea Sparrow*	374.017	30.863	41.988	84.232	-	84.232	106.117	66.077	144.459	146.384	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

This project encompasses six (6) primary efforts to enhance ship self defense:
1. Evolved SEASPARROW Missile (ESSM) Testing: A cooperative effort among 10 NATO SEASPARROW Nations and the U.S., to improve the capability of the SEASPARROW Missile to counter the low altitude, highly maneuverable ASCM threat. The program consists of evolving the SEASPARROW Missile through the development of a new rocket motor with tail control; thrust vector control and ordnance (warhead) upgrade; modifications to the MK 41 Vertical Launch System (VLS) to fire from a single cell with 4 ESSM (QuadPack); and modifications to the NATO SEASPARROW Surface Missile System (NSSMS) to provide ESSM capability.

2. NATO SEASPARROW Objective Configuration (OC). The OC Program consists of segmenting and automating the existing MK 57 NSSMS radars (MK 9 Track Illuminator System) and launchers (MK 29 Guided Missile Launching System). The program eliminates all MK 57 watch stations, reduces the required system hardware.

3. NATO SEASPARROW Technical Direction Agent - MK 91 Rearchitecture: The MK 91 rearchitecture program integrates NSSMS into the SSDS architecture to provide ship missile defense utilizing an open architected system technical design agent.

4. STALKER LONG RANGE Electro Optic (EO)/Infra Red (IR)/Laser Range Finder (LRF) System: Detects, acquires, classifies, identifies and determines intent of conventional,asymmetrical and advanced threats supporting Anti-Air Warefare (AAW), Anti-Surface Warefare (ASUW), Anti-terrorism/Force Protection (AT/FP) and Overseas Contingency Operations (OCO). Long Range Visible/Infra Red Sensors and Laser Range Finder provide multi-spectral target imagery and accurate range data in non-benign environments. Classification to the horizon, visual resolution of 1ft @ 10 nm and range resolution/rate within 1 ft/1kt/nm. This effort is in response to the NAVCENT Counter Swarm Urgent Operational Need (UON) to combat Fast Attack Craft/Fast Inshore Attack Craft (FAC/FIAC).

5. ESSM Block 2 Risk Reduction: ESSM Block 2 upgrade is a cooperative effort between U.S Navy and NATO SEASPARROW Consortium Nations. ESSM Block 2 upgrade replaces the largely obsolete guidance section with a dual mode Active/Semi-Active X-Band seeker capable of defeating future threat capabilities within the existing envelope, including; smaller signatures, increased raid sizes, and adverse environments including countermeasures. Threat types include; advanced ASCMs, Anti-Ship Ballistic Missiles (ASBMs), surface and asymmetrical.

6. Dual-Band Transceiver (DBT). The ESSM Block 2 missile will utilize a DBT for in-flight data communications. This two-way datalink enables control and management of the missile during flight. This DBT Leverages the new DDG-1000/CVN-78 X-Band Transceiver (XBT) to incorporate the functions to support S-Band Aegis data link (i.e. a Dual Band Transceiver). This solves the S-band obsolescence issues and gives one common transceiver across the ESSM inventory.

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 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0173 / *NATO Sea Sparrow*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Evolved SEASPARROW Missile (ESSM) testing	8.614	9.207	9.800
Articles:	-	-	-
FY 2013 Accomplishments: Conducted US-unique Developmental Test/Operational Testing (DT/OT) firings from Self Defense Test Ship (SDTS) and carriers (DT/OT-D2, DT/OT-D3). Conducted ESSM Aegis integration testing and DT/OT firings on Cruisers and Destroyers and SDTS (DT/OT-D4, DT/OT-D5, DT/OT-D6) in support of Aegis Modernization Program. Conducted ESSM DT/OT firings on SDTS (DT/OT-D7) in support of Ship Self Defense (SSDS) Open Architecture (OA) integration and uplink development. Provided the U.S. share of cooperative efforts associated with ESSM engineering studies and other development initiatives.			
FY 2014 Plans: Continue ESSM SSDS integration testing on CVN platforms. Conduct US-unique Developmental Test/Operational Testing (DT/OT) firings from SDTS and carriers (DT/OT-D2, DT/OT-D3). Conduct ESSM Aegis integration testing and DT/OT firings on Cruisers and Destroyers and SDTS (DT/OT-D4, DT/OT-D5, DT/OT-D6) in support of Aegis Modernization Program. Conduct ESSM DT/OT firings on SDTS (DT/OT-D7) in support of SSDS Open Architecture integration and uplink development. This provides for the U.S. share of cooperative efforts associated with ESSM engineering studies and other development initiatives.			
FY 2015 Plans: Begin integration testing on Zumwalt Combat System installed on the Self-Defense Test Ship. Conduct waterfront integration testing on DDG 1000 lead ship. Continue SSDS integration testing on LHA 6 class lead ship and SDTS. Continue ESSM Aegis Baseline 9 Integration verification testing on cruisers and destroyers. This provides for the U.S. share of cooperative efforts associated with ESSM engineering studies and other development initiatives.			
Title: NATO SEASPARROW Objective Configuration (OC)	8.903	4.080	-
Articles:	-	-	-
Description: NATO SEASPARROW OC. The OC program consists of segmenting and automating the existing Mk57 Mk9 TIS and the GMLS Mk29 Mod 5. The program eliminates all Mk57 watch stations, and reduces the required system hardware and passes control directly to SSDS Mk2 Mod (3C).			
FY 2013 Accomplishments: Developed the artifacts to support the OC program, team formation and tasking, contract supports including the Statement of Work (SOW) development, and all related review and adjudication of FY 13 meetings. Held several pre-review meetings and SE Integrated Product Team (IPT) Reviews and to date all requirements have been reviewed by the Technical Review Team/ Navy Review Team. Worked closely with Raytheon Integrated Defense System (RIDS), Portsmouth and RIDS Electronic Warfare			

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 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0173 / *NATO Sea Sparrow*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Center (EWC) to drive and monitor Design Agent (DA) efforts and tasking. Preparations ongoing to support a Mk57 Mod (14)/(15) System Requirements Review (SSR)/System Functional Review (SFR). ***FY 2014 Plans:*** The OC FY14 RDTE funding is allocated to complete the system engineering, software design and development activity associated with the NSSMS Mk9 TIS Radar Segmentation and Automation, including associated SSDS engineering and software development efforts. The SETR events planned include an October FY14 SSR/PDR and a CDR in March of FY14. Software code and unit test will proceed from CDR culminating in initial OCP2 software FQT/delivery in 3Q14. ***FY 2015 Plans:*** NA			
Title: NATO Sea Sparrow Combat System Integraton Technical Direction Agent (TDA) ***Articles:*** ***FY 2013 Accomplishments:*** Acted as the TDA for NSSMS/Mk91 Systems. JHU/APL provided engineering support for the development of the Mk57 Mod (14)/ (15) and other Combat Systems support including Risk Mitigation. NSSMS TDA and SSDS TDA groups provided a top level review and update of the LHD Class P&CR documents, along with participation in the review of all Artifacts for OC Program and OC System Engineering (SE) Integrated Product Team (IPT) group meetings to date. ***FY 2014 Plans:*** Continue as TDA for NSSMS/Mk91 System. Support will be provided to the OC ongoing efforts and well as any other N-20 directed combat systems support needs. APL will provide SE support in the development of the Mk29 Guided Missile Launching System (GMLS) Mid Life Upgrade. ***FY 2015 Plans:*** Continue as TDA for NSSMS/Mk91 System. Provide engineering support and support risk mitigation with the development of the Solid State Mk9 Tracker Illuminator System (TIS) Power Upgrade and Digital Receiver.	0.263 -	0.272 -	0.282 -
Title: STALKER LONG RANGE EO/IR/LRF SYSTEM ***Articles:*** ***Description:*** STALKER LONG RANGE EO/IR/LRF System: Detects, acquires, classifies, identifies and determines intent of conventional,asymmetrical and advanced threats supporting AAW, ASUW, (AT)/(FP) and OCO. Long Range Visible/IR Sensors and LRF provide multi-spectral target imagery and accurate range data in non-benign environments. Classification to the horizon, visual resolution of 1ft @ 10 nm and range resolution/rate within 1 ft/1kt/nm. This effort is in response to the NAVCENT Counter Swarm UON to combat (FAC/FIAC). Stalker will replace the Lowlight Level Television (LLTV) in the fleet.	5.083 -	2.429 -	1.500 -

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 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0173 / *NATO Sea Sparrow*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Tested Stalker Long Range EO/IR/LRF System on multiple ship configurations. Developed tactics, techniques and procedures, and different Concept of Operations (CONOPS). Determined optimum production configuration of controllers, video distribution, and changes in capability required for common system for LHA/LHD and CVN missions. Identified capability and configuration changes during developmental testing to avoid costly engineering changes during production. ***FY 2014 Plans:*** Transition Active/Passive Dual Imaging Sensor (AP/DIS IR) improvement to Stalker to improve environmetal performance via active/passive Short Wave Infra Red. System improves maritime target identification with increased range and resolution at night and through haze penetration/clutter reduction. ***FY 2015 Plans:*** Speed to Fleet			
Title: Evolved SEASPARROW Blk 2 Risk Reduction	8.000	26.000	65.650
Articles:	-	-	-
FY 2013 Accomplishments: Performed risk reduction with consortium partners to reduce technology risk, determine and mature the appropriate set of technologies to be integrated into a full system. ***FY 2014 Plans:*** Continue work on the risk reduction phase to prepare for entry into the Engineering, Manufacturing, and Development (E&MD) phase of the program in FY15 with a planned IOC of FY2020. Tasks include conducting critical experiments and analysis required to mature the design to support and conduct PDR; procuring laboratory and test assets; Hardware (H/W) and Software (S/W) development; and releasing the E&MD RFP. ***FY 2015 Plans:*** Complete the risk reduction phase and enter into the E&MD phase of the program with a planned IOC of FY2020. Tasks include completing Milestone B; continuing critical experiments and analysis required to further mature the design to support CDR in FY16; continuing H/W and S/W development; procuring long lead material to support flight test; planning and initiating ground based test program.			
Title: Dual Band Transceiver (DBT)	-	-	7.000
Articles:	-	-	-
FY 2013 Accomplishments:			

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 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0173 / *NATO Sea Sparrow*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** FY15 DBT development efforts will go towards requirements generation and flowdown; initiate critical item development specification and conducting critical experiments to mature the technology and design.			
Accomplishments/Planned Programs Subtotals	30.863	41.988	84.232

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
• WPN 2307: *ESSM*	48.233	76.749	119.434	-	119.434	99.697	102.307	101.938	134.479	Continuing	Continuing
• OPN 5237: *NATO SEA SPARROW*	8.227	58.368	-	-	-	-	-	-	-	Continuing	Continuing
• OPN 5231: *Ship Missile Defense*	-	-	24.749	-	24.749	39.803	30.802	31.339	31.950	-	158.643

Remarks

D. Acquisition Strategy

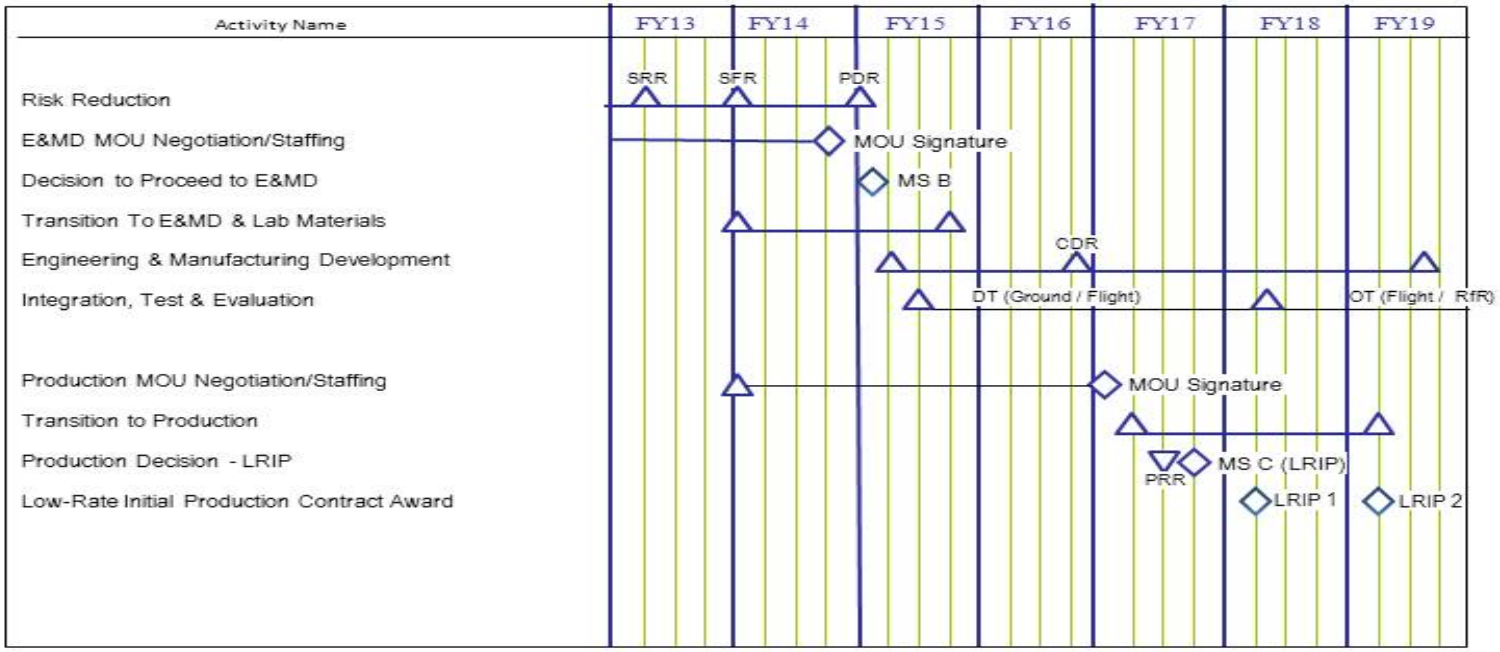
ESSM is a directed sole source contract to Raytheon Missile Systems Company. The MK 29 ESSM Launcher Upgrade and Rearchiture (REARC)/Ship Self Defense Syste (SSDS) Integration effort was a directed sole source contract to Raytheon Company Integrated Defense System.

E. Performance Metrics

Successfully complete Developmental Test/Operational testing.

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 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0173 / *NATO Sea Sparrow*

ESSM Block 2 POA&M



Attachment A

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 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0173 / *NATO Sea Sparrow*

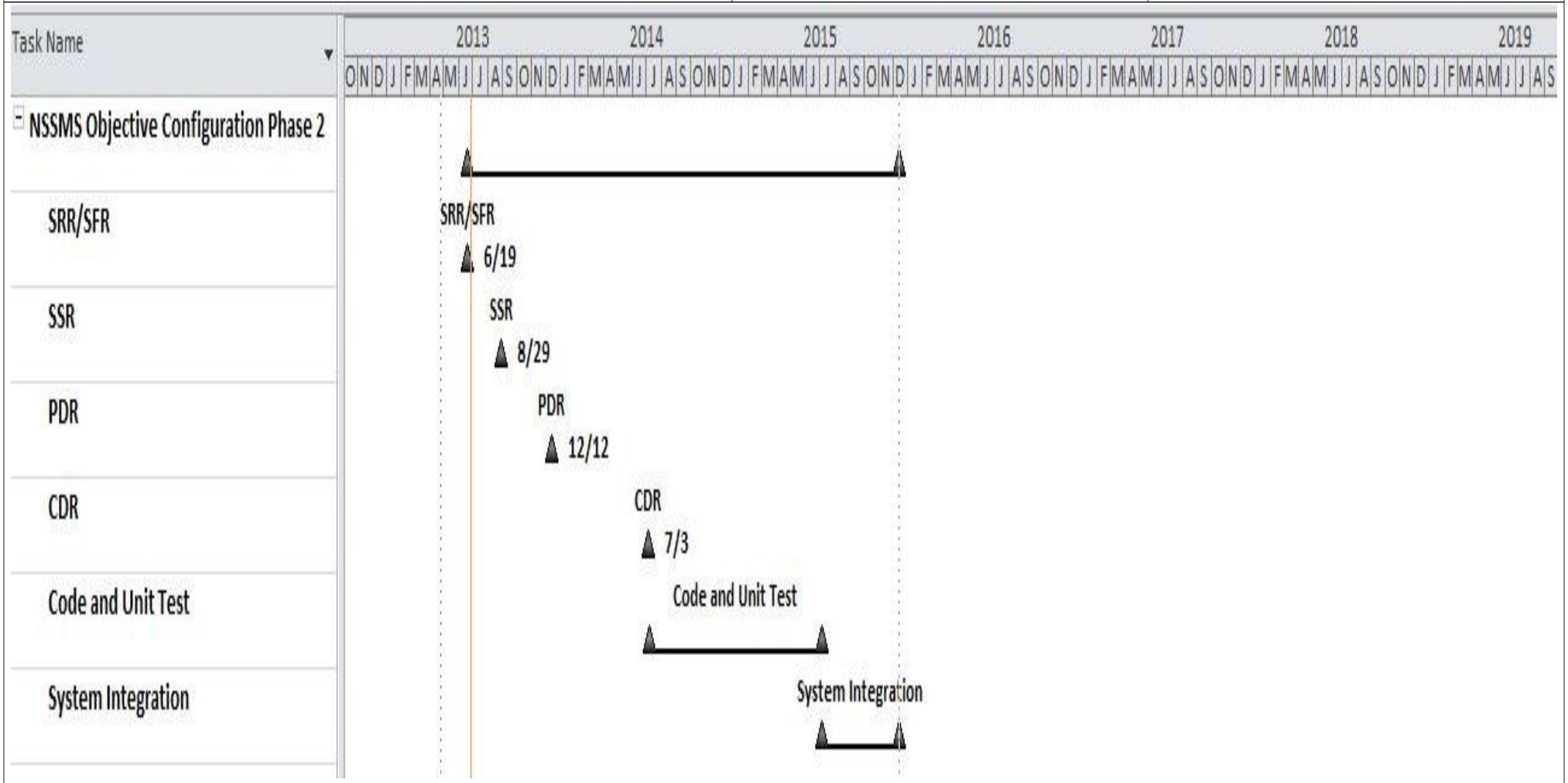


Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	Project (Number/Name) 3342 / *Griffin Missile*	

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
3342: *Griffin Missile*	32.782	20.702	-	-	-	-	-	-	-	-	-	53.484
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 purpose of this program is to develop and deliver Counter-Swarm Small Boat defense capabilities for the Surface Fleet. There are two (2) primary efforts supporting this mission area listed below:

1. Rapid Deployment Capabilities (RDCs)
- Patrol Coastal(PC) with Griffin Missile System (GMS)
- Littoral Combat Ship (LCS) Missile Module with GMS

2. Shoulder Launched Missile System

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Griffin Missile System (GMS) Rapid Deployment Capabilities (RDCs)	14.869	-	-
Articles:	-	-	-

FY 2013 Accomplishments:

Final year of PC Griffin RDTE funding. Mod 0 installed August 2013 and system IOC reached January 2014. Conducted Guided Test Vehicle (GTV)/structural test firing of Griffin missile and Quick Reaction Assessment (QRA) with Commander Operational Test and Evaluation Force (COMOPTEVFOR). Performed Delta live-fire testing events as required to prove out performance enhancements, comply with latest safety/Information Assurance directives and support Fleet required in-theater tests. Completed lead PC design, develop training and logistics support, obtain safety approvals for system deployment and formulate the OCONUS Alteration Installation Team (AIT) plan. Continued procurement planning for forward deployed PC hardware. Hardware and software upgrade continued to be implemented based on results of operational assessment. GMS fielded on PC ships. Continue to integrate a version of the Griffin missile with updated Operational Flight Software intended to improve performance against faster targets and in higher wind environments. This Mod 1 update included achieving full SAASM compliance, incorporating an "Indoctrination State" into the Battle Management Software (BMS), addressing Mod 0 sensor Boresight alignment issues, performing a service life analysis of the Griffin missile and incorporation of the sensor into the Patrol Coastal's dry air system. A live fire test of the Mod 1 system is planned for July 2014 and final certification of the system (including safety, logistics, Information Assurance) is planned for late September prior to the expiration of the RDTE funds. Live Fire testing events for PC GMS will occur in March 2014 in U.S. 5th Fleet (C5F) Area Of Responsibility (AOR).

FY 2014 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 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 3342 / *Griffin Missile*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
NA ***FY 2015 Plans:*** NA			
Title: Shoulder Launched Missile Systems	5.833	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Javelin Shoulder Launched Missile effort is to meet the requirement to qualify the Javelin Block I missile system for operational use aboard MSC ships. Javelin approval for deployment on ships will require limited delta qualification of selected Electromagnetic Radiation Operations (EMRO), Electromagnetic Vulnerability (EMV), and Hazards of Electromagnetic Radiation to Ordnance (HERO) environments and testing to those environments to qualify the system for safe operation on surface ships. Ship checks to determine firing locations and address MSC ship safety issues has been completed. Conducted HERO and EMV testing, Redstone Arsenal, AL. Final WSERB review will occur in February, 2014. ***FY 2014 Plans:*** NA ***FY 2015 Plans:*** NA			
Accomplishments/Planned Programs Subtotals	20.702	-	-

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
• WPN/2264: *Stand Off Precision Guided Munitions (SOPGM)*	-	6.278	1.810	-	1.810	0.436	0.435	0.443	0.453	Continuing	Continuing
• OPN/5543: *Items Less Than $5 Million*	0.639	5.799	6.562	-	6.562	5.186	2.087	1.681	1.790	Continuing	Continuing
• OMN/1D4D: *Griffin Missile System Budget*	-	1.567	2.888	-	2.888	2.982	3.281	3.791	3.826	-	18.335

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 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 3342 / *Griffin Missile*

D. Acquisition Strategy

RDCs consist of GMS integrated on PC and LCS. The Program Office manages development and integration of the GMS on surface ships. GMS consists of Griffin B Block II Missile procured via Raytheon sole source contract with U.S. Army Joint Attack Munitions System (JAMS) program office; BriteStar EO/IR Laser Designator procured by Navy Surface Weapon Center (NSWC) Crane on a FFP contract with Forward Looking Infra Red Systems. The Missile Launcher and Battle Management System are developed at NSWC Dahlgren and NSWC Corona.

NAWC China Lake is developing the China Lake Spike shoulder fired missile. Javelin missiles are procured through Marine Corps System Command (MARCORSYSCOM) and Armament Research Development and Engineering Center (ARDEC) program offices. Naval Surface Missions Program Office (PEO IWS3S) is qualifying the Javelin Missile for shipboard firing at Redstone Arsenal and NSWC Dahlgren.

E. Performance Metrics

Successful completion of QRA for GMS Mar 2013. Qualification of Javelin missile for use aboard Military Sealift Command ships.

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 0604756N / *Ship Self Def (Engage: Hard Kill)*				Project (Number/Name) 9081 / *Phalanx CIWS SEARAM*			
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**
9081: *Phalanx CIWS SEARAM*	-	-	-	-	-	-	-	-	40.000	18.342	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

CIWS Technology Refresh and Next Generation CIWS: CIWS fleet population exceeds 250 systems onboard nearly every USN surface combatant. In addition, CIWS continues to be installed on new construction surface ships with life expectancies of 25+ years. Basic system architecture is 20+ years old and is in need of technology refresh in order to avoid hardware obsolescence, maintain/improve reliability, and provide affordable spare parts so as to achieve acceptable Operational Availability for next 20+ years. In conjunction with Technology Refresh, a Next Generation CIWS effort (trade studies and initial requirements definition) is planned in order to define the follow-on CIWS system for future ships (and potentially backfit on newer fleet units) that can defeat the emerging anti-ship cruise missile threats at a lower overall life cycle cost. Given the sheer number of CIWS system deployed across the fleet, and the amount of time it would take to upgrade existing installations to any Next Generation CIWS configuration, both Technology Refresh efforts and Next Generation CIWS efforts are required to be executed at same time in order to maintain existing CIWS capability while Next Generation CIWS is developed and begins fielding.

B. Accomplishments/Planned Programs ($ in Millions)

N/A

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The Phalanx Close-In Weapons System (CIWS) is a fast reaction, rapid fire, computer controlled radar and 20mm gun designed to engage Anti-Ship Missiles (ASM). This funding provides support for CIWS System improvements to include Technology Refresh for current fleet population and Next Generation CIWS for future ships. This work will be completed via future sole source contracts to Raytheon Missile Systems.

E. Performance Metrics

Successfully complete Developmental Test/Operational Testing.