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

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	50.778	5.860	6.631	-	6.631	4.059	4.147	4.236	4.302	Continuing	Continuing
0167: <i>5in Rolling Airframe Missile</i>	31.952	1.547	1.280	-	1.280	1.295	1.326	1.356	1.374	Continuing	Continuing
0173: <i>NATO Sea Sparrow</i>	6.876	4.313	5.351	-	5.351	2.764	2.821	2.880	2.928	Continuing	Continuing
9999: <i>Congressional Adds</i>	11.950	-	-	-	-	-	-	-	-	0.000	11.950

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). ENGAGEMENT: Missile and system improvements necessary to meet their requirements are being addressed via NATO SEASPARROW Missile System (NSSMS) (0173), 5" Rolling Airframe Missile (RAM) (0167), and Phalanx CIWS SeaRAM (9853A). Missile improvements include improved kinematic performance plus advanced seeker and low elevation fusing/warhead capability improvements. System improvements include incorporation of Phalanx detection capability into RAM system (SeaRAM), future concepts studies and self-destructing ammunition, and Future Phalanx Next Generation Improvements. FY 2010 Congressional Add provides funding for Next Generation Phalanx with Laser Demo.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	46.044	5.860	6.209	-	6.209
Current President's Budget	50.778	5.860	6.631	-	6.631
Total Adjustments	4.734	-	0.422	-	0.422
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	6.000	-			
• SBIR/STTR Transfer	-1.188	-			
• Program Adjustments	-	-	0.614	-	0.614
• Section 219 Reprogramming	-0.077	-	-	-	-
• Rate/Misc Adjustments	-	-	-0.192	-	-0.192
• Congressional General Reductions Adjustments	-0.001	-	-	-	-

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Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *PHALANX CIWS Future Concepts/Next Gen*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

	FY 2010	FY 2011
	11.950	-
	11.950	-
	11.950	-

Change Summary Explanation

FY 2010 Section 219 reduction realigns funds to comply with FY 2009 Defense Authorization Act
 FY 2010 RAM Block 2 BTR increase realigns funds to complete RAM Block 2 development
 FY 2012 Program Adjustments increase provides funds for ESSM Test and Evaluation efforts

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

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i>	PROJECT 0167: <i>5in Rolling Airframe Missile</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
0167: <i>5in Rolling Airframe Missile</i>	31.952	1.547	1.280	-	1.280	1.295	1.326	1.356	1.374	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The purpose of this program is to develop a surface-to-air self-defense system utilizing a dual mode, passive Radio Frequency/Infrared 5" Rolling Airframe Missile (RAM). The baseline system (Block 0) provides a self-defense capability against active radar-guided anti-ship missiles and was developed on an equal cost share basis with the Government of the Federal Republic of Germany. The RAM Block 1 provides a capability against passive anti-ship missiles, very low altitude missiles, and maneuvering missiles through the incorporation of an infrared all-the-way mode seeker and improved fuze. The RAM Block 1 MOD 3 upgrade program, which provides an additional capability against helicopters, aircraft and surface craft, is a Cooperative requirement of the U.S. and Federal Republic of Germany agreed to in a Memorandum of Agreement (MOA) signed by both parties. FY 2010-2016 funding continues development and testing of a Block 2 upgrade to the RAM. This upgrade will allow RAM to regain battle space lost to emerging, more maneuverable ASCM threats. This system is designed to counter anti-ship cruise missile raids and other threats to provide for ship survivability with accurate terminal guidance, proven lethality, and no shipboard post launch dependence.

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

	FY 2010	FY 2011	FY 2012
<p>Title: 5in Rolling Airframe Missile Block 2 Development and Test</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: FY 2010 funds continued development and support of RAM Block 2 upgrade.</p> <p>FY 2011 Plans: FY 2011 funds continued development and support of RAM Block 2 upgrade.</p> <p>FY 2012 Plans: FY 2012 funds test efforts</p>	31.835 0	1.432 0	1.205 0
<p>Title: 5in Rolling Airframe Missile Block 2 Travel</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: FY 2010 funds travel.</p> <p>FY 2011 Plans: FY 2011 funds travel.</p> <p>FY 2012 Plans:</p>	0.117 0	0.115 0	0.075 0

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i>	PROJECT 0167: <i>5in Rolling Airframe Missile</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
FY 2012 funds travel			
Accomplishments/Planned Programs Subtotals	31.952	1.547	1.280

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN 5238: RAM	7.535	11.805	4.321	0.000	4.321	1.199	0.526	0.540	1.232	0.000	673.758
• WPN 2242: RAM	69.728	74.976	66.197	0.000	66.197	67.288	68.688	82.923	84.319	2,526.900	3,659.144

D. Acquisition Strategy

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

E. Performance Metrics

Successfully achieve Milestone C. Successfully achieve Development/Operational Milestones.

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

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i>	PROJECT 0167: <i>5in Rolling Airframe Missile</i>
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/CPFF	Raytheon:Tucson/Louisville	7.434	-		-		-		-	0.000	7.434	
Primary Hardware Dev Support	WR	China Lake:CA	1.266	-		-		-		-	0.000	1.266	
Block 1 Eng/Interface Support	SS/CPFF	Raytheon:Tucson/Louisville	0.400	-		-		-		-	0.000	0.400	
Block 1 MOD 3 Interface Support	C/CPFF	JHU/APL:MD	0.981	-		-		-		-	0.000	0.981	
Block 2 Upgrade	SS/CPAF	Raytheon:Tucson/Louisville	133.271	1.258	Jan 2011	-		-		-	0.000	134.529	
Block 2 Upgrade	WR	China Lake/ NRL/ Dahlgren:CA/VA	15.157	0.087	Mar 2011	-		-		-	0.000	15.244	
Block 2 Upgrade	C/CPFF	JHU/APL:md	1.300	-		-		-		-	0.000	1.300	
Block 2 Product Support	WR	China Lake/NRL/ Dahlgren:CA/VA	3.498	0.087	Mar 2011	0.059	Oct 2011	-		0.059	Continuing	Continuing	Continuing
Subtotal			163.307	1.432		0.059		-		0.059			

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies and Analyses	Various	various:various	1.210	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			1.210	-		-		-		-			

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DT&E/OT&E/FOT&E/	SS/CPAF	Raytheon:Tucson/Louisville	13.787	-		0.562	Oct 2011	-		0.562	0.000	14.349	
FOT&E	WR		4.674	-		-		-		-	0.000	4.674	

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

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

PROJECT

0167: *5in Rolling Airframe Missile*

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i>	PROJECT 0167: <i>5in Rolling Airframe Missile</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0167				
MS C/LRIP	4	2011	4	2011
IOC	1	2013	1	2013
FRP	1	2015	1	2015
CTV -2 Firing	1	2010	1	2010
CTV-3 Firing	2	2010	2	2010
CTV-4 Firing	4	2010	4	2010
GTV-1 Firing	3	2011	3	2011
GTV-2 Firing	4	2011	4	2011
GTV-3 Firing	2	2012	2	2012
DT/OT-IIC	2	2012	4	2012
OT-D-1 Firing	4	2012	4	2012
MSST Testing	2	2014	4	2014
ECPs/Improvement Studies	2	2015	4	2016

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

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i>	PROJECT 0173: <i>NATO Sea Sparrow</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
0173: <i>NATO Sea Sparrow</i>	6.876	4.313	5.351	-	5.351	2.764	2.821	2.880	2.928	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This project encompasses three (3) primary efforts to enhance ship self defense:

1. **EVOLVED SEASPARROW MISSILE (ESSM):** 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 Anti-Ship Cruise Missile 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 VLS to fire from a single cell with 4 ESSM (QuadPack); and modifications to the NATO SEASPARROW Missile System (NSSMS) to provide ESSM capability.

2. **NATO SEASPARROW - MK 91 Rearchitecture/SDSMS:** The MK 91 Rearchitecture Program integrates NSSMS into the Ship Self Defense System (SSDS) Architecture to provide ship missile defense utilizing an open architected system. This effort consists of combining the Firing Officer Console and Radar Set Console functionality into a single Advanced Display System Console (AN/UYQ-70); modifying the Signal Data Processor and eliminating the MK 157 Computer Signal Data Converter and System Evaluation and Trainer, and redistributing this functionality within SSDS compatible microprocessors. This approach will eliminate the analog, point-to-point architecture, limited input-output channel and computer processing reserve deficiencies resident in the existing MK 57 NSSMS, and is required for ESSM. This modification also allows for full exploitation of the capabilities of the future ESSM and provides significant reductions (over 50%) in NSSMS cost of ownership and manning requirements.

3. **Amphibious Self-Defense AAW Probability of Raid Annihilation (PRA) Improvement-** The Amphibious Self-Defense AAW PRA Improvement program provides the L-Class Amphibious ships (LHA, LHD, LSD) with an improved PRA through full integration of the weapons and sensors of the combat system. This improvement introduces the Multi-Sensor Integration (MSI) unit that receives fire control and sensor data from ship radars, fuses them into an integrated radar picture and provides composite track reports to the combat system. MK 15 CIWS is upgraded to a Baseline 2 Radar Upgrade configuration with a much improved search and track radar. No longer stand-alone, CIWS will be integrated into the sensor suite and provide fire control quality search and track data to the combat system via the MSI unit. As a fallback measure, CIWS Baseline 2 Radar Upgrade can also report directly to the MK 23 Target Acquisition Radar Threat Evaluation Weapons Assignment (TEWA) providing fire control quality track data at a very fast update rate for targets to the horizon. Target Acquisition System (TAS) itself will receive an upgrade of its Open System Module unit to accommodate direct inputs from both the MSI and CIWS units. This improvement program provides full integration of the combat system and will meet or exceed threat detection and designation requirements through 2020. Use of the MSI will provide stable track data through a composite track picture reported to the combat system. Without this improvement, PRA of the L-Class ships would continue to degrade to an unsatisfactory point in the mid term.

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

	FY 2010	FY 2011	FY 2012
Title: NATO Sea Sparrow integration testing	6.306	4.000	5.031
Articles:	0	0	0

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i>		PROJECT 0173: <i>NATO Sea Sparrow</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2010
FY 2010 Accomplishments: Continue ESSM SSDS integration testing on CVN platforms. Conduct US-unique 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 2011 Plans: Continue ESSM SSDS integration testing on CVN platforms. Conduct US-unique 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 2012 Plans: Continue ESSM SSDS integration testing on CVN platforms. Conduct US-unique 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.				
Title: NATO Sea Sparrow Amphibious Self-Defense AAW improvements				0.263
Articles:				0
FY 2010 Accomplishments: Conduct Amphibious Self-Defense AAW improvement for LHD 1-6 and LHA class ships leveraging the MK 15 CIWS Baseline 2 Radar upgrade program, the MSIT unit developed for the Self-Defense Test Ship and the RAM MOD 3 Launcher upgrade program, L-class PRA will be greatly enhanced. Improvements to the MK 23 TAS made to support and integrate the RAM Mod 3 Launcher will be leveraged to integrate the MSI unit and the CIWS Baseline 2 GFCS. The MSI will have the greatest positive impact on PRA as composite track data will be developed and provided to the combat system. The short range air radar picture will be significantly improved through the use of the CIWS upgraded search and track radar providing track data at a very fast update rate.				
Title: NATO Sea Sparrow Combat System Integraton Technical Direction Agent (TDA)				0.307
Articles:				0
FY 2010 Accomplishments:				0.313
				0
				0.320
				0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
<p>Provided funding for the Combat System Integration TDA who provided engineering support for combat system performance and risk mitigation. The TDA leveraged it's technical expertise & leadership to cover a broad range of activities such as defining near-term and future requirements for current systems and future upgrades, maintained system performance models to evaluate system improvements, threat changes and operational environment conditions, verifying models and simulations to promote the program success and continued to maintain NATO SEASPARROW Program Office (NSPO) essential research and engineering capabilities and corporate memory.</p> <p><i>FY 2011 Plans:</i> Provides funding for the Combat System Integration TDA who will provide engineering support for combat system performance and risk mitigation. The TDA will leverage it's technical expertise & leadership to cover a broad range of activities such as defining near-term and future requirements for current systems and future upgrades, maintain system performance models to evaluate system improvements, threat changes and operational environment conditions, verify models and simulations to promote program success through application of rigorous and disciplined systems engineering principles and practices in a consistent manner across system elements over the program life cycle, make prudent use of authoritative technical expertise for advice and independent review, identify a range of technically acceptable alternatives to resolve engineering issues, assist in development of T&E planning, and continue to maintain NSPO essential research and engineering capabilities and corporate memory.</p> <p><i>FY 2012 Plans:</i> Provides funding for the Combat System Integration TDA who will provide engineering support for combat system performance and risk mitigation. The TDA will leverage it's technical expertise & leadership to cover a broad range of activities such as defining near-term and future requirements for current systems and future upgrades, maintain system performance models to evaluate system improvements, threat changes and operational environment conditions, verify models and simulations to promote program success through application of rigorous and disciplined systems engineering principles and practices in a consistent manner across system elements over the program life cycle, make prudent use of authoritative technical expertise for advice and independent review, identify a range of technically acceptable alternatives to resolve engineering issues, assist in development of T&E planning, and continue to maintain NSPO essential research and engineering capabilities and corporate memory.</p>			
Accomplishments/Planned Programs Subtotals	6.876	4.313	5.351

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2012</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>						
• WPN 2307: <i>ESSM</i>	51.229	48.152	48.486	0.000	48.486	50.944	70.799	114.854	116.850	659.843	1,865.457
	13.514	11.121	8.926	0.000	8.926	8.957	8.274	8.313	8.493	0.000	193.198

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN 5237: <i>NATO SEA SPARROW</i>											

D. Acquisition Strategy

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

E. Performance Metrics

Successfully complete Developmental Test/Operational testing.

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

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i>	PROJECT 0173: <i>NATO Sea Sparrow</i>
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ESSM-Primary Hardware Development	C/CPAF	Raytheon:Tucson	143.356	-		-		-		-	0.000	143.356	
ESSM-Primary Hardware Development	C/CPAF	Raytheon:Tuscon	3.746	-		-		-		-	0.000	3.746	3.746
Amphib Self-Defense PRA Imp	Various	various:various	1.996	-		-		-		-	0.000	1.996	11.200
Ancillary Hardware Development	SS/CPAF	Lockhead/UDLP:various	46.706	-		-		-		-	0.000	46.706	46.706
Systems Engineering	Various	various:various	22.622	-		-		-		-	0.000	22.622	22.622
MK 29/ESSM Launcher upgrade	C/CPAF	Raytheon Sys:Tucson	8.521	-		-		-		-	0.000	8.521	8.521
NATO-Primary Hdw Dev	SS/CPAF	Raytheon Sys:Tucson	30.627	-		-		-		-	0.000	30.627	30.627
Software Development/Test	SS/CPAF	Raytheon Sys:Tucson	7.691	-		-		-		-	0.000	7.691	
Systems Engineering/Firing Spt	WR	Corona:CA	6.165	0.475	Nov 2010	0.582	Nov 2011	-		0.582	0.000	7.222	
Subtotal			271.430	0.475		0.582		-		0.582	0.000	272.487	

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support	WR	NSWC PHD:CA	3.568	-		-		-		-	0.000	3.568	
Engr Support1	WR	various:various	4.207	-		-		-		-	0.000	4.207	
MK 29/ESSM Launcher Support	WR	Dahlgren/PHD:VA/CA	0.375	-		-		-		-	0.000	0.375	
Engr Support2	WR	various:various	0.195	-		-		-		-	0.000	0.195	0.195
NATO-MK 91/SSDS Integ	WR	Dahlgren/PHD:VA/CA	0.834	-		-		-		-	0.000	0.834	
Engr Support3	WR	various:various	6.364	-		-		-		-	0.000	6.364	
Engr Support4	WR	APL:MD	0.907	0.313	Nov 2010	0.320	Oct 2011	-		0.320	Continuing	Continuing	Continuing
Subtotal			16.450	0.313		0.320		-		0.320			

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

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i>	PROJECT 0173: <i>NATO Sea Sparrow</i>
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Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
Developmental Test & Evaluation	WR	NSWC CL:CA	15.033	0.665	Nov 2010	0.725	Nov 2011	-		0.725	Continuing	Continuing	Continuing
OPEVAL/TECHEVAL/Test Firings	WR	Corona, IHD, Dahlgren, SNSWC, PHD):various	11.878	-		-		-		-	0.000	11.878	
Developmental Test & Evaluation	SS/CPFF	APL:MD	2.604	0.375	Oct 2010	0.866	Oct 2011	-		0.866	Continuing	Continuing	Continuing
ESSM Test & Evaluation	C/CPAF	Raytheon:Tuscon	7.245	0.753	Dec 2010	2.648	Nov 2011	-		2.648	Continuing	Continuing	Continuing
Developmental Test & Evaluation	WR	Dahlgren:VA	0.418	-		-		-		-	0.000	0.418	0.836
Subtotal			37.178	1.793		4.239		-		4.239			

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
ESSM-ENGR SPT	WR	various:various	4.913	-		-		-		-	0.000	4.913	
ESSM-PM SPT	WR	various:various	0.498	-		-		-		-	0.000	0.498	0.498
ESSM-Support and Performing Activity	Allot	PHD/NAWC CL/ APL:CA/MD	12.419	1.532	Oct 2010	-		-		-	Continuing	Continuing	Continuing
ESSM-Travel	Allot	Program Office:VA	2.582	0.200	Oct 2010	0.210	Nov 2011	-		0.210	Continuing	Continuing	Continuing
ESSM-Misc	Various	various:various	2.065	-		-		-		-	0.000	2.065	2.065
NATO Travel/Misc	Various	various:various	1.831	-		-		-		-	0.000	1.831	
Defense Acquisition Workforce Development Fund	Various	various:various	0.047	-		-		-		-	0.000	0.047	
Subtotal			24.355	1.732		0.210		-		0.210			

	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		349.413	4.313	5.351	-	5.351		

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

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i>	PROJECT 0173: <i>NATO Sea Sparrow</i>
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	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
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Remarks
Various used for multiple vendors and location under threshold.

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i>	PROJECT 0173: <i>NATO Sea Sparrow</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i>	PROJECT 0173: <i>NATO Sea Sparrow</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0173				
Platform Intergration DT/OT	1	2010	2	2016
Expiration of Production MOU	1	2012	1	2012
MOU Extension	2	2012	3	2014
FY 06 FRP DELIVERIES	1	2010	3	2010
FY 07FRP DELIVERIES	3	2010	3	2011
FY 08 FRP DELIVERIES	3	2011	1	2012
FY 09 FRP DELIVERIES	1	2012	3	2012
FY 10 FRP CONTRACT AWARD	1	2010	1	2010
FY 10 FRP DELIVERIES	3	2012	3	2013
FY 11 FRP CONTRACT AWARD	4	2011	4	2011
FY 11 FRP DELIVERIES	4	2013	1	2014
FY 12 FRP CONTRACT AWARD	1	2012	1	2012
FY 12 FRP DELIVERIES	1	2014	3	2014
FY 13 FRP CONTRACT AWARD	1	2013	1	2013
FY 13 FRP DELIVERIES	1	2015	1	2016
FY 14 FRP CONTRACT AWARD	1	2014	1	2014
FY14 FRP DELIVERIES	1	2016	3	2016
FY 15 FRP CONTRACT AWARD	1	2015	1	2015
FY15 FRP DELIVERIES	1	2016	3	2016

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

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i>	PROJECT 9999: <i>Congressional Adds</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	11.950	-	-	-	-	-	-	-	-	0.000	11.950
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Congressional Add.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011
<i>Congressional Add:</i> PHALANX CIWS Future Concepts/Next Gen	11.950	-
<i>FY 2010 Accomplishments:</i> FY 2010 Congressional Add provides funding for Laser Phalanx		
Congressional Adds Subtotals	11.950	-

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

N/A

D. Acquisition Strategy

Not required for Congressional Adds.

E. Performance Metrics

Not required for Congressional Adds.