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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy	DATE: February 2012
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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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	35.284	6.631	64.079	-	64.079	30.412	17.061	6.510	6.697	Continuing	Continuing
0167: <i>5in Rolling Airframe Missile</i>	1.537	1.280	1.297	-	1.297	1.322	1.345	1.343	1.369	Continuing	Continuing
0173: <i>NATO Sea Sparrow</i>	11.747	5.351	32.005	-	32.005	29.090	15.716	5.167	5.328	Continuing	Continuing
3342: <i>Griffin Missile</i>	22.000	-	30.777	-	30.777	-	-	-	-	0.000	52.777

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), Phalanx CIWS SeaRAM (9853A), Griffin and Spike missile (3342). 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. New system developments include integration of Griffin missile into Patrol Craft (PC) and development of Spike missile system. Missile systems demonstration to include Javelin, Spike and Griffin to assess weapons effectiveness in a maritime environment.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	5.860	6.631	4.059	-	4.059
Current President's Budget	35.284	6.631	64.079	-	64.079
Total Adjustments	29.424	-	60.020	-	60.020
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	29.500	-			
• SBIR/STTR Transfer	-0.046	-			
• Program Adjustments	-	-	60.052	-	60.052
• Rate/Misc Adjustments	-	-	-0.032	-	-0.032
• Congressional General Reductions	-0.030	-	-	-	-
Adjustments					

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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)	
<p><u>Change Summary Explanation</u></p> <p>FY 2011 Reprogramming increase provides funding for Cyclone Patrol Craft (PC) integration with Griffin Missile System (GMS) and DEMO of Javelin, Spike and Griffin.</p> <p>FY 2013 increase provides funds for Evolved Sea Sparrow Missile BLK1 (ESSM) Test, ESSM BLK 1 integration into SSDS MK2 upgrade on LHDs, risk reduction efforts for ESSM BLK 2, and Stalker Long Range Electro Optic (EO)/Infra Red (IR)/Laser Range Finder (LRF) System. Funding also increased for Cyclone Patrol Craft (PC) integration with Griffin Missile System (GMS) and development of Spike Missile System to support a CENTCOM requirement.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy								DATE: February 2012			
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>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0167: <i>5in Rolling Airframe Missile</i>	1.537	1.280	1.297	-	1.297	1.322	1.345	1.343	1.369	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
<p>The purpose of this program is to develop a surface-to-air self-defense system utilizing a dual mode, passive Radio Frequency/Infrared 5" 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 2011-2017 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.</p>											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2011	FY 2012	FY 2013	
Title: 5in Rolling Airframe Missile Block 2 Development and Test								1.452	1.165	1.184	
Articles:								0	0	0	
FY 2011 Accomplishments:											
FY 2011 funds continued development and support of RAM Block 2 upgrade.											
FY 2012 Plans:											
FY 2012 funds test efforts											
FY 2013 Plans:											
FY 2013 funds test efforts											
Title: 5in Rolling Airframe Missile Block 2 Travel								0.085	0.115	0.113	
Articles:								0	0	0	
FY 2011 Accomplishments:											
FY 2011 funds travel.											
FY 2012 Plans:											
FY 2012 funds travel											
FY 2013 Plans:											

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy							DATE: February 2012					
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						
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2011		FY 2012		FY 2013	
FY 2013 funds travel												
Accomplishments/Planned Programs Subtotals							1.537		1.280		1.297	
C. Other Program Funding Summary (\$ in Millions)												
Line Item		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPN 5238: RAM		6.763	3.128	1.185	0.000	1.185	0.502	0.761	1.768	1.542	Continuing	Continuing
• WPN 2242: RAM		99.649	66.197	66.769	0.000	66.769	67.652	82.923	84.345	85.799	Continuing	Continuing
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 2013 Navy										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)				PE 0604756N: Ship Self Def (Engage: Hard Kill)				0167: 5in Rolling Airframe Missile					
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	134.529	-		-		-		-	0.000	134.529	
Block 2 Upgrade	WR	China Lake/ NRL/ Dahlgren:CA/VA	15.244	-		-		-		-	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	3.577	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			164.731	-		-		-		-			
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	1.113	Jan 2012	0.591	Nov 2012	-		0.591	0.000	15.491	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy										DATE: February 2012			
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					
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
FOT&E	WR	China Lake/PHD:CA/CA	4.674	-		-		-		-	0.000	4.674	
Test Support	WR	China Lake/PHD:CA/CA	11.059	0.052	Jan 2012	0.593	Oct 2012	-		0.593	Continuing	Continuing	Continuing
Miscellaneous	Various	various:various	5.733	-		-		-		-	0.000	5.733	
Subtotal			35.253	1.165		1.184		-		1.184			
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
Travel	Allot	Program Office:VA	0.998	0.115	Jan 2012	0.113	Oct 2012	-		0.113	Continuing	Continuing	Continuing
Defense Acquisition Workforce Development Fund	Various	various:various	0.147	-		-		-		-	0.000	0.147	
Subtotal			1.145	0.115		0.113		-		0.113			
			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			202.339	1.280		1.297		-		1.297			
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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 2013 Navy			DATE: February 2012
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	2	2012	2	2012
IOC	1	2014	1	2014
FRP	3	2016	3	2016
GTV-1 Firing	4	2011	4	2011
GTV-1A Firing	1	2012	1	2012
GTV-2 Firing	1	2012	1	2012
GTV-3 Firing	4	2012	4	2012
DT/OT-IIC	4	2012	2	2013
OT-D-1 Firing	4	2012	1	2013
MSST Testing	1	2015	4	2015
ECPs/Improvement Studies	3	2016	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy								DATE: February 2012			
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 0173: NATO Sea Sparrow			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0173: NATO Sea Sparrow	11.747	5.351	32.005	-	32.005	29.090	15.716	5.167	5.328	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 (5) 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 (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 NSSMS to provide ESSM capability.											
2. NATO SEASPARROW - MK 91 Rearchitecture: 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 Technical Design Agent.											
3. 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.											
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 Global War on Terrorism. 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.											
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 Anti-Ship Cruise Missile (ASCM)s, Anti-Ship Ballistic Missiles (ASBMs), surface and asymmetrical.											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2011	FY 2012	FY 2013	
Title: NATO Sea Sparrow integration testing								4.000	5.096	9.356	
								Articles: 0	0	0	
FY 2011 Accomplishments:											

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
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 0173: NATO Sea Sparrow		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
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. FY 2013 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 SEASPARROW Objective Configuration Articles: Description: 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. FY 2013 Plans: Begin engineering development of the OC. Specific efforts in 2013 will include requirements definition, completion of the requirements review followed by design definition with the preliminary design review completing in the 4th Quarter of FY 13.		-	-	8.9030
Title: NATO Sea Sparrow Combat System Integraton Technical Direction Agent (TDA) Articles: FY 2011 Accomplishments: 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		0.2470	0.2550	0.2630

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
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. FY 2012 Plans: Provides funding for the TDA who will provide engineering support for combat system performance and risk mitigation. FY 2013 Plans: Provides funding for the TDA who will provide engineering support for combat system performance and risk mitigation.				
Title: STALKER LONG RANGE EO/IR/LRF SYSTEM Articles: Description: 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 GWOT. 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. FY 2011 Accomplishments: N/A FY 2013 Plans: FY 2013 Plans: Productize and test Stalker Long Range EO/IR/LRF system for LLTV replacement in the fleet.		7.500 0	-	5.483 0
Title: Evolved SEASPARROW Blk 2 Risk Reduction Articles: FY 2013 Plans: Perform Risk Reduction with consortium partners to reduce technology risk, determine and mature the appropriate set of technologies to be integrated into a full system.		-	-	8.000 0
Accomplishments/Planned Programs Subtotals		11.747	5.351	32.005

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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 0173: NATO Sea Sparrow			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• WPN 2307: ESSM	45.260	48.486	58.194	0.000	58.194	70.822	121.908	197.768	119.778	0.000	1,417.745
• OPN 5237: NATO SEA SPARROW	10.106	8.926	8.960	0.000	8.960	36.229	28.520	40.606	31.586	0.000	304.047
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 2013 Navy											DATE: February 2012			
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 0173: NATO Sea Sparrow						
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	6.640	0.600	Nov 2011	0.685	Dec 2012	-		0.685	0.000	7.925		
NATO OC - Hardware	SS/CPAF	Raytheon:RI	-	-		1.000	Nov 2012	-		1.000	0.000	1.000		
NATO OC System Engineering	SS/CPAF	Raytheon:RI	-	-		1.653	Nov 2012	-		1.653	0.000	1.653		
NATO OC - Software	SS/CPAF	Raytheon:RI	-	-		4.938	Nov 2012	-		4.938	0.000	4.938		
Stalker System Engineering	TBD	TBD:TBD	-	-		3.233	Nov 2012	-		3.233	0.000	3.233		
Stalker Hardware Engineering	TBD	TBD:TBD	7.500	-		1.250	Nov 2012	-		1.250	0.000	8.750		
Stalker Software Engineering	TBD	TBD:TBD	2.000	-		0.500	Nov 2012	-		0.500	0.000	2.500		
ESSM Blk 2 Risk reduction	WR	various:various	-	-		8.000	Nov 2012	-		8.000	0.000	8.000		
Subtotal			281.405	0.600		21.259		-		21.259	0.000	303.264		
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)				PE 0604756N: Ship Self Def (Engage: Hard Kill)				0173: NATO Sea Sparrow					
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
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	
NATO System TDA	SS/FP	APL:MD	1.220	0.255	Dec 2011	0.263	Nov 2012	-		0.263	Continuing	Continuing	Continuing
NATO OC	SS/FFP	APL:MD	-	-		0.300	Nov 2012	-		0.300	0.000	0.300	
Stalker -ISEA/TDA/RM&A	SS/FFP	various:various	-	-		0.300	Nov 2012	-		0.300	0.000	0.300	
NATO Engr Support OC	WR	various:various	-	-		0.400	Nov 2012	-		0.400	0.000	0.400	
Subtotal			16.763	0.255		1.263		-		1.263			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
Developmental Test & Evaluation	WR	NSWC CL:CA	15.698	1.217	Oct 2011	1.568	Dec 2012	-		1.568	Continuing	Continuing	Continuing
OPEVAL/TECHEVAL/Test Firings	WR	Corona, IHD, Dahlgren, SNSWC, PHD):various	11.878	-		2.310	Nov 2012	-		2.310	0.000	14.188	
Developmental Test & Evaluation	SS/FFP	APL:MD	2.979	0.510	Oct 2011	0.659	Oct 2012	-		0.659	Continuing	Continuing	Continuing
ESSM Test & Evaluation	C/CPAF	Raytheon:Tuscon	7.998	2.026	Nov 2011	3.056	Nov 2012	-		3.056	Continuing	Continuing	Continuing
Developmental Test & Evaluation	WR	Dahlgren:VA	0.418	-		-		-		-	0.000	0.418	0.836
ESSM Test & Evaluation	WR	Dahlgren/PHD:VA/CA	-	0.543	Nov 2011	0.560	Nov 2012	-		0.560	0.000	1.103	
NATO OC - Test & Evaluation	WR	Dahlgren/PHD:VA/CA	-	-		0.469	Nov 2012	-		0.469	0.000	0.469	
Stalker - Test & eval	WR	TBD:TBD	-	-		0.200	Nov 2012	-		0.200	0.000	0.200	
Subtotal			38.971	4.296		8.822		-		8.822			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy										DATE: February 2012			
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 0173: NATO Sea Sparrow					
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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-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	13.951	-		0.256	Dec 2012	-		0.256	Continuing	Continuing	Continuing
ESSM-Travel	Allot	Program Office:VA	2.782	0.200	Nov 2011	0.205	Oct 2012	-		0.205	Continuing	Continuing	Continuing
ESSM-Misc	Various	various:various	2.065	-		-		-		-	0.000	2.065	2.065
NATO Travel/Misc	Various	various:various	1.831	-		0.200	Oct 2012	-		0.200	0.000	2.031	
Defense Acquisition Workforce Development Fund	Various	various:various	0.047	-		-		-		-	0.000	0.047	
Subtotal			26.087	0.200		0.661		-		0.661			
			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			363.226	5.351		32.005		-		32.005			
Remarks Various used for multiple vendors and location under threshold.													

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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 2013 Navy			DATE: February 2012
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	2011	2	2016
Expiration of Production MOU	1	2012	1	2012
MOU Extension	2	2012	3	2014
Page/Group/Row: FY 07FRP DELIVERIES	3	2011	3	2011
Page/Group/Row: FY 08 FRP DELIVERIES	3	2011	1	2012
Page/Group/Row: FY 09 FRP DELIVERIES	1	2012	3	2012
Page/Group/Row: FY 10 FRP DELIVERIES	3	2012	3	2013
Page/Group/Row: FY 11 FRP CONTRACT AWARD	4	2011	4	2011
Page/Group/Row: FY 11 FRP DELIVERIES	4	2013	1	2014
Page/Group/Row: FY 12 FRP CONTRACT AWARD	1	2012	1	2012
Page/Group/Row: FY 12 FRP DELIVERIES	1	2014	3	2014
Page/Group/Row: FY 13 FRP CONTRACT AWARD	1	2013	1	2013
Page/Group/Row: FY 13 FRP DELIVERIES	1	2015	1	2016
Page/Group/Row: FY 14 FRP CONTRACT AWARD	1	2014	1	2014
Page/Group/Row: FY14 FRP DELIVERIES	1	2016	3	2016
Page/Group/Row: FY 15 FRP CONTRACT AWARD	1	2015	1	2015
Page/Group/Row: FY15 FRP DELIVERIES	1	2017	3	2017
Page/Group/Row: FY 16 FRP CONTRACT AWARD	1	2016	1	2016
Page/Group/Row: FY 17 FRP CONTRACT AWARD	1	2017	1	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
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 3342: Griffin Missile			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3342: Griffin Missile	22.000	-	30.777	-	30.777	-	-	-	-	0.000	52.777
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
PEO IWS 3.0 established a new program office IWS 3S for Surface Missions which is primarily focused on developing and delivering Counter-Swarm Small Boat defense cpabilities for the Surface Fleet. IWS 3S has three (3) efforts supporting this mission area listed below:											
1. Rapid Deployment Capabilities (RDCs): - Cyclone Patrol Craft (PC) with Griffin Missile System (GMS)											
2. DEMO (Javelin-Spike-Griffin)											
3. NAWC China Lake Spike Shoulder Launched Missile System											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2011	FY 2012	FY 2013	
Title: Cyclone Patrol Craft (PC) with Griffin Missile System (GMS) Articles: FY 2011 Accomplishments: Preliminary system requirements determination, market research and team development. FY 2013 Plans: Complete lead PC design, develop training and logistics support, obtain safety approvals for system deployment and formulate the OCONUS AIT plan. Procurement planning for forward deployed PC hardware.								17.000	-	8.100	
								0		0	
Title: DEMO (Javelin-Spike-Griffin) Articles: FY 2011 Accomplishments: Test planning, test article procuremeent, target allocation, range coordination and developed data collection plan.								5.000	-	-	
								0			
Title: Spike Shoulder Launched Missile System Articles: FY 2013 Plans:								-	-	22.677	
										0	

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy							DATE: February 2012					
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 3342: Griffin Missile						
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2011		FY 2012		FY 2013	
Missile modifications, launcher development, architecture and warhead upgrade analysis. Plan environmental and safety qualification testing.												
Accomplishments/Planned Programs Subtotals							22.000		-		30.777	
C. Other Program Funding Summary (\$ in Millions)												
Line Item		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• WPN/2264: Griffin		0.000	0.000	0.000	0.000	0.000	8.000	0.500	0.500	0.500	0.000	9.500
• OPN/5421: Griffin		0.000	0.000	0.000	0.000	0.000	13.200	17.000	0.000	0.000	0.000	30.200
D. Acquisition Strategy The RDC'S will use a sole contract via the U.S. Army Joint Program Office to procure in production Griffin B Block II Missiles. In addition, the NSWC DD Battle Management System (BMS) will be integrated as the Weapon Control and Launcher Control System. IWS 3L will support 3S in developing and delivering launchers with gas management systems. China Lake will develop a shoulder launcher for Spike missile.												
E. Performance Metrics Successful completion of DT/OA for Griffin missile. Continued development of shoulder launcher and integration of Spike missile.												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy											DATE: February 2012			
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 3342: <i>Griffin Missile</i>						

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
PC Integration	WR	PHD:CA	-	-		3.113	Nov 2012	-		3.113	0.000	3.113	
Spike Development	WR	China Lake:CA	-	-		21.777	Nov 2012	-		21.777	0.000	21.777	
PC Integration	WR	Dahlgren:VA	-	-		4.687	Nov 2012	-		4.687	0.000	4.687	
Subtotal			-	-		29.577		-		29.577	0.000	29.577	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
Program Management Support	Various	various:various	-	-		1.200	Oct 2012	-		1.200	0.000	1.200	
Subtotal			-	-		1.200		-		1.200	0.000	1.200	

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		30.777		-		30.777	0.000	30.777	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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 3342: <i>Griffin Missile</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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 3342: Griffin Missile

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy			DATE: February 2012
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 3342: <i>Griffin Missile</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3342				
Missile Modifications Spike	1	2013	4	2014
Launcher Design and EDM Fabrication	1	2013	4	2014
Test Planning	1	2013	4	2014
System Requirements PC	1	2012	2	2012
Launcher Design	2	2012	4	2012
Restrained Fire Testing	3	2012	4	2012
WCS/BMS Dev and SW Mods	2	2012	4	2012
E3 Testing	4	2012	1	2013
INCO	1	2013	1	2013
GTV/STF	2	2013	2	2013
DT/OA	2	2013	2	2013
Complete PC Design, Trng, Safety, AIT Plans, Proc Planning	2	2013	4	2013