

## CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification									DATE: February 2007	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5						R-1 ITEM NOMENCLATURE 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				
COST (\$ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost		64.570	26.649	33.064	36.522	27.265	33.148	37.091	36.832	
0166 Shipboard Protection System (SPS)		5.255	6.491	1.971	1.723	0.000	0.000	0.000	0.000	
2178/QRCC/9589 IDEA		52.289	13.583	26.772	31.042	25.377	30.999	33.644	34.358	
3172 Joint Non-Lethal Weapons		0.000	0.000	4.321	3.757	1.888	2.149	3.447	2.474	
9999N/Congressional Adds		7.026	6.575	0.000	0.000	0.000	0.000	0.000	0.000	
<b>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</b>										
<p>This program element consolidates currently ongoing and planned programmatic efforts related to Detect &amp; Control aspects of Ship Self Defense (SSD) to facilitate effective planning and management of these efforts and to exploit the synergistic relationship inherent in each. Analysis and demonstration have established that surface SSD based on single-sensor detection point-to-point control architecture performs marginally against current and projected Anti-Ship Cruise Missile (ASCM) threats. The supersonic seaskimming ASCM reduces the effective battle space to the horizon and the available reaction time-line to less than 30 seconds from first opportunity to detect until the ASCM impacts its target ship. Against such a threat, multi-sensor integration is required for effective detection, and parallel processing is essential to reduce reaction time to acceptable levels and to provide vital coordination/integration of hardkill and softkill assets.</p> <p><b>Shipboard Protection System (SPS)</b> develops an integrated shipboard, suite of systems designed to detect, identify, and engage asymmetric threats. Capabilities include: Surface Surveillance System, MK 49 Mod 0 stabilized gun mounts and Non-lethal weapons/devices. The surface surveillance system integrates EO/IR sensors, and radar into a common tactical surveillance system. Stabilized guns: provide integrated lethal engagement capability against asymmetric threats. Non-lethal weapons: NLW assist in determining intent and target discrimination. SPS is to be fielded in blocks through evolutionary acquisition. The block approach facilitates the early delivery of enhanced situational awareness capability. Future blocks will introduce lethal and non-lethal effectors with total detect to engage capability integration. The SPS "End State System" will provide Navy vessels with the ability, in foreign and domestic ports, to protect themselves from attacks by asymmetric threats. This ability requires that information necessary to seamlessly execute the detect-to-engage sequence be collected, processed, communicated, and acted upon before threats reach their objectives.</p>										

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These SSD projects address and coordinate the detect and control functions necessary to meet the rigorous SSD requirements within a development structure dedicated to systems engineering.

**DETECTION:** Improvements in coordinated sensor performance to increase the probability of detecting low altitude, low observable targets is to be achieved through the synergism gained from the integration of dissimilar sensor sources. Multi-sensor integration is being addressed through the efforts of Quick Reaction Combat Capability (QRCC) (2178), while sensor improvements are addressed through the SPS Improvements (0166). These provide improvements to both active and passive detection.

**CONTROL:** Multi-sensor integration, parallel processing and the coordination of hardkill/softkill capabilities in an automated response to the ASCM threat are the cornerstones of Ship Self Defense System (SSDS) being developed through QRCC (2178) efforts. In addition, that project provides for the central system engineering management of SSD developments, including efforts required to integrate SSDS with the Advanced Combat Direction System (CDS) for those ships having a CDS.

**B. PROGRAM CHANGE SUMMARY:**

Funding:	FY 2006	FY 2007	FY 2008	FY 2009
President's Budget (PB-07):	56.642	10.050	6.270	5.444
Current BES Budget (PB Controls FY08/09)	64.570	26.649	33.064	36.522
Total Adjustments	7.928	16.599	26.794	31.078
Summary of Adjustments				
Other General Provisions	-0.144	-0.085	0.159	0.335
Program Adjustment	8.072	16.684	26.635	30.743
Subtotal	7.928	16.599	26.794	31.078

Schedule: N/A

Technical: N/A

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification								DATE: <b>February 2007</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N/BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME 0166 Shipboard Protection System (SPS)					
COST (\$ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Project Cost		5.255	6.491	1.971	1.723	0.000	0.000	0.000	0.000	
RDT&E Articles Qty										

**A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:**

This project provides funding for the SPS Improvement Program:

Shipboard Protection System (SPS) is an integrated shipboard, suite of systems designed to detect, identify, and engage asymmetric threats. Capabilities include: Surface Surveillance System, MK 49 Mod 0 stabilized gun mounts and Non-lethal weapons/devices. The surface surveillance system integrates EO/IR sensors, and radar into a common tactical surveillance system. Stabilized guns provide integrated lethal engagement capability against asymmetric threats. Non-lethal weapons assist in determining intent and target discrimination. SPS is to be fielded in blocks through evolutionary acquisition. The block approach facilitates the early delivery of enhanced situational awareness capability. Future blocks will introduce lethal and non-lethal effectors with total detect to engage capability integration. The SPS "End State System" will provide Navy vessels with the ability, in foreign and domestic ports, to protect themselves from attacks by asymmetric threats. This ability requires that information necessary to seamlessly execute the detect-to-engage sequence be collected, processed, communicated, and acted upon before threats reach their objectives.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2007</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	PROJECT NUMBER AND NAME 0166 Shipboard Protection System (SPS)

**B. Accomplishments/Planned Program**

	FY06	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	4.904	1.536	1.971	1.723
RDT&E Articles Quantity				

Shipboard Protection System - System design, development, integrate, analyse and evaluate the SPS system.

	FY06	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.351	1.955	0.000	0.000
RDT&E Articles Quantity				

Test the SPS system, to include WESERB Testing, Developmental Testing (DT) , ground based testing, live fire testing, Ship integration test, Ship underway testing and Operational Testing (OT)

	FY06	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.000	3.000	0.000	0.000
RDT&E Articles Quantity				

Periscope Detection: This program modifies and improves a search radar to provide automatic periscope detection & discrimination while conducting surface search functions, such as navigation and piloting, surface target detection (ships, buoys, etc). The concept is to field a new capability without having to procure and qualify a new radar.

	FY06	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				

TOTAL		5.255	6.491	1.971	1.723	
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**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification	DATE: <b>February 2007</b>
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	PROJECT NUMBER AND NAME 0166 Shipboard Protection System (SPS)
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**C. OTHER PROGRAM FUNDING SUMMARY:**

<u>Line Item No. &amp; Name</u>	<u>Prior Years</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Complete</u>
OPN LINE 812800 (Physical Security Equipment)		22.488	13.386	2.721	23.560	48.496	57.513	6.298	62.118	CONT.

**D. ACQUISITION STRATEGY:**

Shipboard Protection System (SPS) is an integrated shipboard, suite of systems designed to detect, identify, and engage asymmetric threats. Capabilities include: Surface Surveillance System, MK 49 Mod 0 stabilized gun mounts and Non-lethal weapons/devices. The surface surveillance system integrates EO/IR sensors, and radar into a common tactical surveillance system. Stabilized guns provide integrated lethal engagement capability against asymmetric threats. Non-lethal weapons assist in determining intent and target discrimination. SPS is to be fielded in blocks through evolutionary acquisition. The block approach facilitates the early delivery of enhanced situational awareness capability. Future blocks will introduce lethal and non-lethal effectors with total detect to engage capability integration. The SPS "End State System" will provide Navy vessels with the ability, in foreign and domestic ports, to protect themselves from attacks by asymmetric threats. This ability requires that information necessary to seamlessly execute the detect-to-engage sequence be collected, processed, communicated, and acted upon before threats reach their objectives.

**E. MAJOR PERFORMERS:**

TBD

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2007				
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N / BA-5				0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				0166 Shipboard Protection System (SPS)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Hardware/Software Development	WX	NSWC Crane	0.100	2.000	06/06	0.100	02/07	0.564	11/07	0.280	11/08	Continuing	Continuing	TBD	
Hardware/Software Development	WX	NSWC Dahlgren	0.200	1.400	10/06	0.050	02/07	0.565	11/07	0.330	11/08	Continuing	Continuing	TBD	
Hardware/Software Development	FFP	Northrop Grumman	0.213	0.236	02/06								0.213	TBD	
Hardware/Software Development	WX	NAVAIR/KDH	0.995	0.400	11/06										
Hardware/Software Development	CPFF	COMGLOBAL		1.061	02/07										
Subtotal Product Development			1.508	5.097		0.150		1.129		0.610		0.000	0.213	TBD	
Remarks:															
Engineering Services	WX	NSWC Crane	0.337			1.208	02/07	0.100	11/07	0.075	11/08	Continuing	Continuing	TBD	
Engineering Services	WX	NSWC Dahlgren	0.358			1.233	02/07	0.100	11/07	0.100	11/08	Continuing	Continuing	TBD	
Engineering Services	FFP	Northrop Grumman	1.193												
Engineering Services	XFER	IWS Periscope Detection				3.000	11/06								
ILS Functions	WX	NSWC Dahlgren	0.200										0.200	TBD	
ILS Functions															
ILS Functions															
Subtotal Support			2.088	0.000		5.441		0.200		0.175		0.000	0.200	TBD	
Remarks:															

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)												DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)					PROJECT NUMBER AND NAME 0166 Shipboard Protection System (SPS)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
T&E Functions	WX	COMOPTEVFOR		0.008	11/05	0.575	02/07	0.295	11/07	0.600	11/08	Continuing	Continuing	TBD
T&E Functions	WX	NSWC Dahlgren		0.065	09/06	0.250	02/07	0.262	11/07	0.263	11/08	Continuing	Continuing	TBD
Subtotal T&E			0.000	0.073		0.825		0.557		0.863		0.000	0.000	
Remarks:														
Management Support	Various	Various	0.250	0.050	03/07	0.050	11/07	0.050	11/07	0.050	11/08	Continuing	Continuing	TBD
Travel			0.038	0.035	11/05	0.025	11/06	0.035	11/07	0.025	11/08	Continuing	Continuing	TBD
Subtotal Management			0.288	0.085		0.075		0.085		0.075		0.000	0.000	TBD
Remarks:														
Total Cost			3.884	5.255		6.491		1.971		1.723		0.000	14.069	
Remarks:														

CLASSIFICATION:

EXHIBIT R4, Schedule Profile		DATE: <b>February 2007</b>																																		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME																PROJECT NUMBER AND NAME																		
<b>RDT&amp;E, N / BA-5</b>		0604755N SHIP SELF DEFENSE (DETECT & CONTROL)																0166 Shipboard Protection System (SPS)																		
Fiscal Year	2006				2007				2008				2009				2010				2011				2012				2013							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
<b>Acquisition Milestones</b>	SD&D																MSC IOC																			
<b>Program Phases</b>	Block																																			
<b>Block 0</b> Acoustic Hailing Devices	△																																			
<b>Block 1</b> EOIR Sensors					△																															
<b>Block 2</b> Weapon Systems					△																															
<b>Block 3</b> Software Integration					△																															
<b>Test &amp; Evaluation Milestones</b>																																				
Development Test					TECH EVAL																															
Operational Test									OT																											
PCA									PCA																											
<b>Production Milestones</b>																																				
FY05 Systems (02)																																				
FY06 System (10)					2 Systems																															
FY07 Systems (01)									1 System																											
FY08 Systems (08)																																				
FY09 Systems (13)																																				
FY10 Systems (22)																																				
																FY09-FY13 Systems continue																				



**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification								DATE: <b>February 2007</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N/BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)			PROJECT NUMBER AND NAME 3172 Joint Non-Lethal Weapons				
COST (\$ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		0.000	0.000	4.321	3.757	1.888	2.149	3.447	2.474
3172 Non-Lethal Swimmer Engagement/Countermeasures		0.000	0.000	4.321	3.757	1.888	2.149	3.447	2.474

**A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:**

Joint Non-Lethal Weapons scope is to provide the Fleet (Ashore, Afloat and Expeditionary) with capabilities of a portable Maritime Swimmer Defense System to engage combat swimmers or unknown individuals underwater once they have been detected. This portion, of the Swimmer Defense, will develop the engagement operations and complete the swimmer defense picture for the fleet. The Swimmer Engagement Systems will integrate with the detection operations of the swimmer defense programs.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2007</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604755N Non-Lethal Weapons Tech Develop	PROJECT NUMBER AND NAME 3172 Joint Non-Lethal Weapons		
<b>B. Accomplishments/Planned Program</b>				
	FY06	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.000	0.000	3.809	2.232
RDT&E Articles Quantity				
Design, development, analyse and evaluate a portable Maritime Swimmer Engagement System and integrate into the swimmer detection system to complete the end to end swimmer defense program.				
	FY06	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.512	1.525
RDT&E Articles Quantity				
Test the swimmer engagement system, to include Developmental Testing (DT) , ship integration test, ship underway testing, expeditionary testing, facilities testing and Operational Testing (OT)				
	FY06	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				
	FY06	FY07	FY08	FY09
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				
TOTAL	0.000	0.000	4.321	3.757

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604755N Non-Lethal Weapons Tech Develop	PROJECT NUMBER AND NAME 3172 Joint Non-Lethal Weapons

**C. OTHER PROGRAM FUNDING SUMMARY:**

<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	To <u>Complete</u>	Total <u>Cost</u>
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		

**D. ACQUISITION STRATEGY:**

Joint Non-Lethal Weapons scope is to provide the Fleet (Ashore, Afloat and Expeditionary) with capabilities of a portable Maritime Swimmer Defense System to engage combat swimmers or unknown individuals underwater once they have been detected. This portion, of the Swimmer Defense, will develop the engagement operations and complete the swimmer defense picture for the fleet. The Swimmer Engagement Systems will integrate with the detection operations of the swimmer defense programs.

**E. MAJOR PERFORMERS:**

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2007				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME							
RDT&E, N / BA-5			0604755N Non-Lethal Weapons Tech Develop					3172 Joint Non-Lethal Weapons							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Hardware/Software Development	WX	NSWC Dahlgren						0.500	11/07	0.350	11/08	Continuing	Continuing	Unknown	
Hardware/Software Development	FFP	Prime Contractor Unknown						2.250	11/07	1.200	11/08	Continuing	Continuing	Unknown	
Subtotal Product Development			0.000	0.000		0.000		2.750		1.550		0.000	0.000		
Remarks:															
Engineering Services	WX	NSWC Dahlgren						0.350	11/07	0.375	11/08	Continuing	Continuing	Unknown	
Engineering Services	FFP	Prime Contractor Unknown						0.397	11/07	0.750	11/08	Continuing	Continuing	Unknown	
Engineering Services															
Engineering Services															
ILS Functions															
ILS Functions															
ILS Functions															
Subtotal Support			0.000	0.000		0.000		0.747		1.125		0.000	0.000		
Remarks:															

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)												DATE: February 2007		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604755N Non-Lethal Weapons Tech Develop					PROJECT NUMBER AND NAME 3172 Joint Non-Lethal Weapons						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
T&E Functions	WX	COMOPTEVFOR						0.350	11/07	0.600	11/08	Continuing	Continuing	TBD
T&E Functions	WX	NWSC Dahlgren						0.277	11/07	0.279	11/08	Continuing	Continuing	TBD
T&E Functions														
Subtotal T&E			0.000	0.000		0.000		0.627		0.879		0.000	0.000	
Remarks:														
Management Support	Various	Various						0.150	11/07	0.150	11/08	Continuing	Continuing	TBD
Travel								0.047	11/07	0.053	11/08	Continuing	Continuing	TBD
Subtotal Management			0.000	0.000		0.000		0.197		0.203		0.000	0.000	
Remarks:														
Total Cost			0.000	0.000		0.000		4.321		3.757		0.000	8.078	
Remarks:														

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)			PROJECT NUMBER AND NAME 2178/Quick Reaction Combat Capability / 9589 Integrated Display Enhanced Architecture				
COST (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total
2178/QRCC	47.364	3.521	26.772	31.042	25.377	30.999	33.644	34.358	233.077
2178 QRCC/ 9589 IDEA	4.925	10.062	0.000	0.000	0.000	0.000	0.000	0.000	14.987
RDT&E Articles Qty									
<p><b>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</b></p> <p><b>The Quick Reaction Combat Capability (QRCC)</b> project implements an evolutionary acquisition of improved ship self defense capabilities against Anti-Ship Cruise Missiles (ASCMs) for selected ships. The Ship Self Defense System (SSDS) is the integrating element of QRCC. The design integrates several existing stand-alone Anti-Air Warfare (AAW) systems that do not individually provide the complete detection, control, and engagement capabilities needed against low flying, high speed ASCMs with low radar cross sections. The SSDS integration concept fulfills the need for an automated detection, quick reaction and multi-target engagement capability emphasizing performance in the littoral environment. SSDS replaces manual control of several self-defense systems with a single integrated capability under the computer-aided control of ship operators. System design emphasizes use of non-developmental items, commercial standards, Commercial Processors, computer program reuse and open system architecture. SSDS is a physically distributed, open system architecture computer network consisting of commercially available or previously developed hardware. It includes a command table that uses components of the Navy's AN/UYQ-70 standard display for human-system interface, commercially available local area network access units and circuit cards, and commercially available fiberoptic cabling.</p> <p><b>SSDS MK1</b> integrates the SPS-49A(V)1 radar, SPS-67(V)1 radar, AN/SLQ-32A electronic countermeasures system, Combat Identification, Friend or Foe-Self Defense (ClIFF-SD), Rolling Airframe Missile and Phalanx Close-In Weapon System and is installed on LSD41/49 class ships. SSDS MK1 successfully completed Operational Evaluation in June 1997. SSDS received Milestone III Approval for Full Rate Production (Mar 98) and authority to integrate with ACDS and Cooperative Engagement Capability (CEC) on CV(N), LPD-17, LHD and LHA ship classes.</p> <p><b>SSDS MK2</b> facilitates the incremental evolution and implementation of follow-on modifications. Development of SSDS MK2 consists of leveraging critical experiments and re-use of technology and software from SSDS MK1. SSDS MK2 is in development and integrates other ship self defense elements, such as CEC, AN/SPQ-9B radar, NATO Sea-sparrow system and Tactical Data Links for joint interoperability. SSDS MK2 provides enhanced capabilities for Self Defense against air, and surface threats using both ownship and remote data to address AAW Capstone requirements. SSDS MK2 becomes the integrated, coherent real time Command and Control System for Aircraft Carriers and Amphibious ships. It will increase operational capabilities; improve combat readiness and Strike Group/Expeditionary Strike Group Interoperability; and promote standardization. It also introduces new shipboard tactical displays and support equipment, and integrates advanced systems such as Evolved NATO Sea-sparrow missile system and SLQ-32 SEWIP.</p> <p>In order to meet the Navy's warfighting capabilities and modernization concepts described in SEA POWER 21, Navy Open Architecture (NOA) is being introduced. This is the first step in unifying a set of warfighting functions into a single architecture shared among many ship classes. This principle of commonality is a major mechanism for cost control and avoidances in the Navy's future warfighting systems. SSDS MK 2 would rehost existing tactical computer program applications to the Open Architecture Computing Environment (OACE) specifications/ equipment suite in conjunction with P3I Commercial off the Shelf (COTS) Tech Refresh cycles, prior to full migration and integration with other OA applications for implementation on future classes of ships. Tech Refresh cycles are driven by COTS obsolescence.</p> <p>Follow on Operational Test and Evaluation of SSDS Mk 2 has been conducted on the CVN Class and will be conducted on the LPD, LHD 7/8 and LHA 6 Class SSDS Combat Systems. Live Fire, Combat System end to-end testing will also be conducted, per direction of DOT&amp;E, on the Self Defense Test Ship. The SSDS MK 2 Self Defense Combat System will be tested on the Self Defense Test Ship against Anti Ship Cruise Missile threats in FY06/07 in the LPD 17 and CVN/LHD Class configurations to support this effort. These tests will serve as a transition phase to the Ship Self Defense Capstone Air Warfare T&amp;E Enterprise. Additional Self Defense Test Ship Live Fire tests against Anti Ship Cruise Missile threats are planned in FY08/09 and FY10/11 in the CVN/ESSM and LHA 6 configurations, per the Ship Self Defense Capstone Air Warfare T&amp;E Enterprise and DOT&amp;E direction. These tests will also provide statistical information for Open Architecture Migration and Probability of Raid Annihilation (Pra) calculations.</p> <p>The Integrated Display &amp; Enhanced Architecture (IDEA) approach will be utilized for the development of a software-based capability to share displays and improve Human System Interface capabilities across Naval subsystems and provide improved system information assurance capabilities. This would allow specific displays within SSDS/ACDS and selected displays of external systems to be displayed at alternate designated locations. Based on Open System architecture standards for networked systems, the IDEA software permits an operator to immediately reconfigure his workstation and assume the responsibilities of any other operator, minimizing the number of workstations. Proof of concept will be demonstrated with LHA 4 upgraded COTS display systems. Additionally IDEA will provide improved information assurance capabilities for system access, system integrity and intrusion detection. The software architecture will conform to Navy Open Architecture guidelines for application in CV/Amphibious SSDS/ACDS - based systems and CG/DDG - Aegis based systems, with AN/UYQ-70 or Thin Client displays.</p>									

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2007</b>																	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME																	
<b>RDT&amp;E, N / BA-5</b>	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	2178 Quick Reaction Combat Capability / 9589 Integrated Display Enhanced Architecture																	
<b>B. Accomplishments/Planned Program</b>																			
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">FY 06</th> <th style="text-align: center;">FY07</th> <th style="text-align: center;">FY08</th> <th style="text-align: center;">FY09</th> </tr> </thead> <tbody> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">14.259</td> <td style="text-align: center;">3.521</td> <td style="text-align: center;">13.772</td> <td style="text-align: center;">17.042</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						FY 06	FY07	FY08	FY09	Accomplishments/Effort/Subtotal Cost	14.259	3.521	13.772	17.042	RDT&E Articles Quantity				
	FY 06	FY07	FY08	FY09															
Accomplishments/Effort/Subtotal Cost	14.259	3.521	13.772	17.042															
RDT&E Articles Quantity																			
<p>Prepare and conduct comprehensive Land Based combat system tests on SSDS MK 2 CVN, LPD 17, LHD 7/8, LHA 6 and P3I COTs Tech Refresh OACE configurations at Wallops Island, including test preparation, integration, engineering and development tests, data collection and analysis, correction and verification of deficiencies in FY06 through FY13 in support of SSDS Combat System Certification, TEMP and Ship Self Defense Air Warfare Capstone Enterprise at-sea test events.</p> <p>Prepare, conduct and analyse At-Sea combat system tests for SSDS MK2 in LPD 17 and 18 and live fire testing on the Self Defense Test Ship in FY06/07. Prepare, conduct and analyse At-Sea combat system tests in support of the Ship Self Defense Air Warfare Capstone Enterprise for the SSDS MK2 LHD 7/8 configuration in FY07 /08, ESSM integration in FY07/08, P3I COTs Tech Refresh OACE integration in FY07/08/09, LHA 6 configuration in FY 07/08/09 and live fire testing on the Self Defense Test Ship in FY 09/10/11. Design Agent test, analyze, and fix for the computer software program in support of testing and Operation of the Ship Self Defense Facility Wallops Island will also be done as required to successfully complete MK 2 development.</p>																			
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">FY 06</th> <th style="text-align: center;">FY 07</th> <th style="text-align: center;">FY08</th> <th style="text-align: center;">FY09</th> </tr> </thead> <tbody> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">33.105</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						FY 06	FY 07	FY08	FY09	Accomplishments/Effort/Subtotal Cost	33.105	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 06	FY 07	FY08	FY09															
Accomplishments/Effort/Subtotal Cost	33.105	0.000	0.000	0.000															
RDT&E Articles Quantity																			
<p>Analysis, correction and test of deficiencies in SSDS Mk 2 MOD 1 and 2 software identified during Developmental/Operational Test and Evaluation and Certification. This also includes migration of SSDS MK 2 to OA Computing Environment (OACE), in conjunction with P3I Commercial off the Shelf ( COTs) Tech Refresh cycles with conduct of Factory Qualification Testing and Environmental Qualification Testing, before delivery to combat system facilities for System Integration Test, Initial Verification &amp; Validation, and Combat System integration and certification testing.</p>																			
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	FY 06	FY07	FY08	FY09															
Accomplishments/Efforts/Subtotal Cost	4.925	10.062	0.000	0.000															
RDT&E Articles Quantity																			
<p>Congressional Plus Up for Integrated Display Enhanced Architecture for SSDS/ACDS to be utilized for the development of a software-based capability in accordance with Navy OA standards to share displays across Naval subsystems and provide SSDS/ACDS System Information Assurance improvements.</p>																			
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">FY 06</th> <th style="text-align: center;">FY07</th> <th style="text-align: center;">FY08</th> <th style="text-align: center;">FY09</th> </tr> </thead> <tbody> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">13.000</td> <td style="text-align: center;">14.000</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						FY 06	FY07	FY08	FY09	Accomplishments/Effort/Subtotal Cost	0.000	0.000	13.000	14.000	RDT&E Articles Quantity				
	FY 06	FY07	FY08	FY09															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	13.000	14.000															
RDT&E Articles Quantity																			
<p>Conduct System Engineering, Design, Development, Software Rehost, Hardware/Software integration and Factory and Environmental Qualification of P3I COTs Tech Refresh cycle for SSDS MK 1 and MK2 upgrades to MOD 1C/2C/3C/4C/( )C configurations. This Tech Refresh cycle includes the first major refresh of SSDS MK 1 (designated as MOD ( )C) and migration to OACE. After FQT/EQT completion, system will be delivered for Test and Evaluation.</p>																			

CLASSIFICATION:

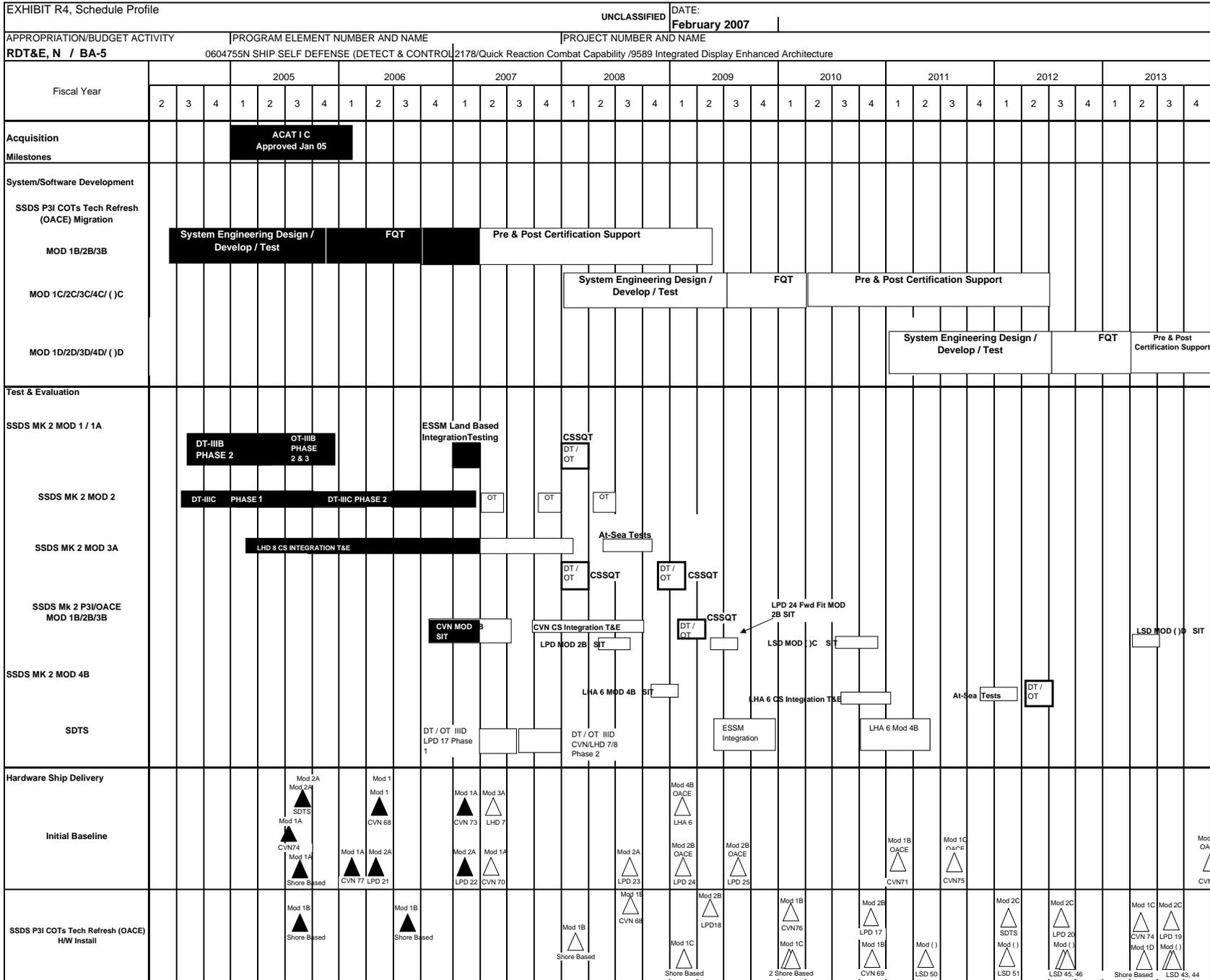
EXHIBIT R-2a, RDT&E Project Justification								DATE: <b>February 2007</b>			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N /</b>		<b>BA-5</b>			0604755N SHIP SELF DEFENSE (DETECT & CONTRO) 2178 Quick Reaction Combat Capability /9589 Integrated Display Enhanced Architecture						
<b>C. OTHER PROGRAM FUNDING SUMMARY:</b>											
<u>Line Item No. &amp; Name</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Complete</u>	<u>Total Cost</u>	
Ship Self Defense System OPN / 523900 , 523905 , 523906 (SSDS/CNI/AADS)	29.011	56.401	31.642	57.967	47.491	68.272	68.279	69.828	298.18	684.053	
Related RDT&E:											
PE 0603382N / 0324 (Advanced Combat System Technology) Navy Enterprise OACE effort supported	26.619	12.319	9.331	9.586	10.321	12.288	12.299	10.32	CONT.	80.464	
PE 0603658N / 2039 (Cooperative Engagement Capability CEC)	82.607	53.138	33.283	39.174	49.412	46.444	46.727	47.039	CONT.	304.058	
PE 0604307N / 1447 (Aegis Surf Combatant Combat Sys Imp)	197.233	140.669	142.81	132.101	158.783	137.595	104.669	98.572	CONT.	909.191	
PE 0603582N / 0164 (Common Network Interface CNI)	73.64	61.797	53.427	53.435	39.139	38.621	38.12	37.621	CONT.	395.8	
<b>D. ACQUISITION STRATEGY:</b>											
The first SSDS MK 2 system procurements took place under a Cost Plus Award Fee contract in FY99 for the CVN 76, LPD 17, LPD 18 and CVN 69. Follow-on procurements for additional ships of the CV(N), LPD and LHD classes are awarded on FFP contracts with the exception of those ships that will be receiving P3I COTS tech Refresh hardware suites, where the initial system Tech Refresh Development will occur under a CPFF type contract with ship COTs conversion equipment/kits procured on FFP contracts											
A new design agent and Life Cycle Maintenance CPFFcontract was awarded in FY05 to support future SSDS MK 2 system/software maintenance and systems corrections.											
<b>E. MAJOR PERFORMERS:</b>											

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2007				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
<b>RDT&amp;E, N / BA-5</b>			0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				2178 Quick Reaction Combat Capability /9589 Integrated Display Enhanced Architecture							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	WR/WX	NAVSEA/DD-Dahlgren, VA	34.206	6.343	10/05	0.170	10/06	0.899	10/07	0.952	10/08	0.000	42.570	N/A
Systems Engineering	SS/FP	JHU/APL-Laurel, MD	34.924	2.889	11/05	0.000	11/06	2.000	10/07	2.000	10/08	0.000	41.813	N/A
Systems Engineering	WR/WX	NAVSEA/PHD-Pt Hueneme,CA	17.207	1.696	10/05	0.000	10/06	0.000	10/07	0.000	10/08	0.000	18.903	N/A
Systems Engineering	WR/WX	NAVSEA/Dam Neck-Dam Neck, V	6.867	2.579	10/05	9.592	10/06	0.900	10/07	0.950	10/08	0.000	20.888	N/A
Systems Engineering/Dev/Integrate	WR/WX	NAVSEA/IH-Indian Head, MD	3.056	4.369	10/05	0.000	10/06	0.000	10/07	0.000	10/08	0.000	7.425	N/A
Display Development Kits	SS/FP	Lockheed Martin St. Paul, MN	3.208	0.750	10/05	0.000	10/06	0.800	10/07	0.700	10/08	0.000	5.458	N/A
Systems Engineering/Dev/Integrate	SS/CPFF	RSC(5110)-San Diego, CA	0.000	12.720	10/05	0.300	10/06	7.500	10/07	8.500	10/08	0.000	29.020	N/A
Systems Engineering/Dev/Integrate	SS/CPAF	RSC (5132)-San Diego, CA	16.793	3.783	10/05	0.000	10/06	0.000	N/A	0.000	N/A	0.000	20.576	TBD
Award Fees	SS/CPAF	RSC (5132)-San Diego, CA	2.650	0.953	10/05	0.000	10/06	0.000	N/A	0.000	N/A	0.000	3.603	TBD
Systems Engineering/Dev/Integrate	SS/CPAF	RSC(5108)-San Diego, CA	98.130	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	98.130	TBD
Systems Engineering/Dev/Integrate	SS/CPAF	RSC(5466)- San Diego, CA	20.353	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	20.353	TBD
Systems Engineering/Dev/Integrate	SS/CPFF	RSC(5104)-San Diego, CA	23.685	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	23.685	TBD
Award Fees	SS/CPAF	RSC(5108)-San Diego, CA	11.208	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	11.208	TBD
Award Fees	SS/CPAF	RSC(5466)- San Diego, CA	2.163	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	2.163	TBD
Risk Reduction / EMD	Various	Various	76.366	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	76.366	N/A
Misc.	Various	Various	2.366	0.090	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	2.456	N/A
Subtotal Product Development			353.182	36.172		10.062		12.099		13.102		0.000	424.617	N/A
Remarks:														
QA/RMA	WR	NWAS Corona	9.365	0.589	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	9.954	
Subtotal Support			9.365	0.589	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	9.954	
Remarks:														

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2007				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME 2178 Quick Reaction Combat Capability / 9589 Integrated Display Enhanced Architecture							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR/WX	NAVSEA/PHD-Pt Hueneme,CA	42.348	8.506	10/05	3.521	10/06	5.898	10/07	8.140	10/08	0.000	68.413	N/A
Developmental Test & Evaluation	WR/WX	NAVSEA/DD,Dahlgren, VA	3.370	0.000	10/05	0.000	10/06	0.225	10/07	0.270	10/08	0.000	3.865	N/A
Developmental Test & Evaluation	WR/WX	NAVSEA DD, Wallops Island	22.450	2.702	10/05	0.000	10/06	2.500	10/07	2.700	10/08	0.000	30.352	N/A
Developmental Test & Evaluation	SS/FP	JHU/APL- Laurel, MD	6.528	1.307	N/A	0.000	N/A	1.970	10/07	2.400	10/08	0.000	12.205	N/A
Developmental Test & Evaluation	WR/WX	NAVSEA/CORONA, Corona CA	0.998	0.000	10/05	0.000	10/06	0.220	10/07	0.235	10/08	0.000	1.453	N/A
Developmental Test & Evaluation	WR/WX	OPTEVFOR	1.527	0.209	10/05	0.000	10/06	0.260	10/07	0.270	10/08	0.000	2.266	N/A
Developmental Test & Evaluation	SS/CPFF	RSC (5110)-San Diego, CA	4.125	0.000	10/05	0.000	10/06	1.200	10/07	1.525	10/08	0.000	6.850	65.471
Developmental Test & Evaluation	SS/CPFF	RSC (5456)-Tucson, AZ	2.180	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	2.180	2.180
Misc.	Various	Various	4.334	1.020	N/A	0.000	N/A	0.600		0.600		0.000	6.554	N/A
Subtotal T&E			87.860	13.744		3.521		12.873		16.140		0.000	134.138	N/A
Remarks:														
Program Management Support			11.747	1.784	N/A	0.000	N/A	1.800	N/A	1.800	N/A	0.000	15.331	N/A
													0.000	N/A
Subtotal Management			11.747	1.784		0.000		1.800		1.800		0.000	15.331	N/A
Remarks:														
Total Cost			462.154	52.289	N/A	13.583	N/A	26.772	N/A	31.042	N/A	0.000	585.840	N/A
Remarks:														



CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: <b>February 2007</b>				
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT			PROJECT NUMBER AND NAME					
<b>RDT&amp;E, N BA-5</b>	604755N SHIP SELF DEFENSE (DETECT & CONTROL)			2178/Quick Reaction Combat Capability / 9589 Integrated Enhanced Display Architecture					
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
<b>SSDS MK1/MK2 MOD 1B/2B/3B/4B TECH-REFRESH DEVELOPMENT</b>									
TEST TREADINESS REVIEW	1Q								
ENVIRONMENTAL QUALIFICATION TEST		2Q-4Q	1Q						
SOFTWARE/HARDWARE INTEGRATION & TEST	1Q-4Q								
FACTORY SYSTEM INTEGRATION TEST		1Q-3Q							
FACTORY QUALIFICATION TEST		3Q							
<b>SSDS T&amp;E LAND BASED TESTING</b>									
SYSTEM INTEGRATION TESTING		4Q	1Q-2Q						
FINAL CERTIFICATION READINESS REVIEW (FCRR)		3Q							
CERTIFICATION TESTING			2Q-4Q						
<b>SSDS MK1/MK2 MOD 1C/2C/3C/4C/( )C TECH-REFRESH DEVELOPMENT</b>									
SRR				2Q					
PDR				4Q	1Q				
CRITICAL DESIGN REVIEW					2Q				
TEST TREADINESS REVIEW						1Q			
ENVIRONMENTAL QUALIFICATION TEST					3Q-4Q	1Q-3Q			
SOFTWARE/HARDWARE INTEGRATION & TEST				4Q	1Q-3Q				
FACTORY SYSTEM INTEGRATION TEST					3Q-4Q				
FACTORY QUALIFICATION TEST						1Q			
<b>SSDS T&amp;E LAND BASED TESTING</b>									
SYSTEM INTEGRATION TESTING						2Q			
FINAL CERTIFICATION READINESS REVIEW (FCRR)						2Q			
CERTIFICATION TESTING						3Q-4Q	1Q-2Q		
<b>SSDS MK1/MK2 MOD 1D/2D/3D/4D/( )D TECH-REFRESH DEVELOPMENT</b>									
SRR							2Q		
PDR							4Q	1Q	
CRITICAL DESIGN REVIEW								2Q	
TEST TREADINESS REVIEW									1Q
ENVIRONMENTAL QUALIFICATION TEST								3Q-4Q	1Q-3Q
SOFTWARE/HARDWARE INTEGRATION & TEST							4Q	1Q-3Q	
FACTORY SYSTEM INTEGRATION TEST								3Q-4Q	
FACTORY QUALIFICATION TEST									1Q
<b>SSDS T&amp;E LAND BASED TESTING</b>									
SYSTEM INTEGRATION TESTING									2Q
FINAL CERTIFICATION READINESS REVIEW (FCRR)									2Q
CERTIFICATION TESTING									3Q-4Q

CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: <b>February 2007</b>					
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT			PROJECT NUMBER AND NAME					
<b>RDT&amp;E, N BA-5</b>	604755N SHIP SELF DEFENSE (DETECT & CONTROL)			2178/Quick Reaction Combat Capability / 9589 Integrated Enhanced Display Architecture					
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
<b>SSDS MK 2 MOD 1 (CV/CVNs) - CVN 76 Lead Ship (Legacy + ESSM)</b>									
FORMAL QUALIFICATION TEST (ESSM Integration)		3Q-4Q							
ESSM INTEGRATION/DEVELOPMENTAL TESTS		4Q	1Q-2Q						
COMBAT SYSTEM CERTIFICATION TESTING	1Q	4Q	1Q-2Q						
SHIPBOARD TEST EVENTS	1Q-4Q		4Q	1Q-2Q					
CSSQT	2Q			1Q					
<b>SSDS MK 2 MOD 2 (LPDs)</b>									
FORMAL QUALIFICATION TEST (FQT)	1Q					1Q			
INTEGRATION/DEVELOPMENTAL TESTS	2Q-4Q	1Q-4Q	4Q	1Q		2Q-3Q			
COMBAT SYSTEM CERTIFICATION TESTING		4Q	1Q		4Q	4Q			
SHIPBOARD TEST EVENTS	2Q-3Q	1Q-4Q	3Q-4Q				2Q		
CSSQT		4Q	3Q				3Q		
<b>SSDS MK 2 MOD 3A (LHDs) LHD 8 - Lead Ship (SCN)</b>									
DESIGN AGENT INTEGRATION TESTING	1Q-3Q								
FORMAL QUALIFICATION TEST (FQT)	3Q								
INTEGRATION TESTING	3Q-4Q								
ENGINEERING TESTING		1Q-4Q	1Q-4Q						
LHD 7 Backfit TEST READINESS REVIEW (TRR)		1Q							
LHD 7 Backfit CS CERTIFICATION TESTING		4Q							
LHD 8 CS CERTIFICATION TESTING				1Q-2Q					
SHIPBOARD TEST EVENTS				2Q-4Q	1Q				
CSSQT LHD 7			4Q						
CSSQT LHD 8					1Q				
<b>SSDS MK 2 MOD 4B LHA 6 - Lead Ship (SCN)</b>									
SYS ENGINEERING/SYSTEM DEVELOPMENT			2Q-4Q	1Q-4Q					
INTEGRATION TESTING					1Q-3Q				
ENGINEERING TESTING					4Q	1Q-4Q	1Q		
COMBAT SYSTEM CERTIFICATION TESTING							3Q-4Q		
SHIPBOARD TEST EVENTS								1Q-4Q	
CSSQT LHA 6									1Q-3Q
<b>SSDS OA Cat 3 Migration - CVN 68 Lead Ship</b>									
DESIGN AND DEVELOPMENT	1Q-4Q								
FORMAL QUALIFICATION TEST (FQT)		3Q							
INTEGRATION TESTING		4Q	1Q						
ENGINEERING TESTING		4Q	1Q-4Q						
COMBAT SYSTEM CERTIFICATION TESTING			4Q	1Q-2Q					
SHIPBOARD TEST EVENTS					3Q-4Q				
CSSQT					3Q				
<b>SDTS</b>									
DT/OT - IIID Ph 1 and 2		3Q-4Q	1Q-3Q						
ESSM Integration with Mod 1					3Q				
LHA 6 (SSDS Mk 2 Mod 4B)						3Q-4Q	1Q-2Q		

EXHIBIT R-2a, RDT&E Project Justification	DATE: <b>February 2007</b>
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N /BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	PROJECT NUMBER AND NAME Congressional Adds : VARIOUS
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**CONGRESSIONAL PLUS-UPS:**

	FY 06	FY 07	FY 08	FY 09
9587C				
Autonomous Unmanned Surface Vessel	1.928			

Congressional Add: Develop/analyze concept demonstrator to support ATRP missions: protect harbors, coastal facilities (airports, nuclear power plants, inland waterways).

	FY 06	FY 07	FY 08	FY 09
9852N				
Shipboard Swimmer Detection System	4.137			

Congressional Add: Evaluate commercial swimmer detection systems to futher provide risk reduction in support of the Navy's GWOT.

	FY 06	FY 07	FY 08	FY 09
9756C				
Centurion	0.961			

Congressional Add: Evaluate commercial swimmer detection systems to further provide risk reduction in support of the Navy's GWOT.

	FY 06	FY 07	FY 08	FY 09
9852C				
Shipboard Swimmer Defense System		2.391		

Congressional Add: Evaluate commercial swimmer detection systems to futher provide risk reduction in support of the Navy's GWOT.

	FY 06	FY 07	FY 08	FY 09
9A52N				
Reusable Unambiguous Swimmer Warning Vehicle		4.184		

Congressional Add: The RUSWV will provide US naval forces with an unambiguous warning to unidentified underwater swimmer and vehicle threats documented in existence today and those currently emerging.