CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification								DATE: **February 2006**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**						R-1 ITEM NOMENCLATURE 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				
COST ($ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		
Total PE Cost		**68.193**	**56.642**	**10.050**	**6.270**	**5.444**	**0.744**	**0.138**		
0166 Shipboard Protection System (SPS)/ 0166 Underwater Intrusion Detection Sonar		**3.884**	**5.368**	**6.516**	**1.973**	**1.719**	**0.000**	**0.000**		
2178 QRCC		**47.305**	**39.874**	**3.534**	**0.000**	**0.000**	**0.000**	**0.000**		
3172 Joint Non-Lethal Weapons		**0.000**	**0.000**	**0.000**	**4.297**	**3.725**	**0.744**	**0.138**		
9394 Integrated Radar Optical Surveillance (IROS3)		**9.836**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		
9587 Autonomous Unmanned Surface Vessel		**1.444**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		
9588 Directed Energy User Scrutiny Equipment		**2.417**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		
9589 IDEA		**3.307**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		
9999N/Congressional Adds		**0.000**	**11.400**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program element consolidates currently ongoing and planned programmatic efforts related to Detect & 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.

Shipboard Protection System (SPS) develops an integrated shipboard, suite of systems designed to detect, identify, and engage asymmetric threats. Capabilities for Increment 1 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 assymetric threats. Non-lethal weapons: NLW assist in determining intent and target discrimination. SPS is to be fielded in increments through evolutionary acquisition, as defined in DoD Instruction (DoDINST) 5000.2. The incremental approach facilitates the early delivery of economically practical and militarily useful integrated technologies. Future increments with enhanced capabilities will be developed as DoD/commercial research and development capabilities mature and resources permit. 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-2, RDT&E Budget Item Justification	DATE: **February 2006**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**	R-1 ITEM NOMENCLATURE 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)

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.

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: **February 2006**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME 0166 Shipboard Protection System (SPS)/Underwater Intrusion Detection Sonar					
COST ($ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		
Project Cost		**3.884**	**5.368**	**6.516**	**1.973**	**1.719**	**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): develops an integrated shipboard, suite of systems designed to detect, identify, and engage asymmetric threats. Capabilities for Increment I include: Surface Surveillance System, ROSAM 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 assymetric threats. Non-lethal weapons: NLW assist in determining intent and target discrimination. SPS is to be fielded in increments through evolutionary acquisition, as defined in DoD Instruction (DoDINST) 5000.2. The incremental approach facilitates the early delivery of economically practical and militarily useful integrated technologies. Future increments with enhanced capabilities will be developed as DoD/commercial research and development capabilities mature and resources permit. 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.

Underwater Intrusion Detection Sonar: Congressional Add: Designs, develops and prototypes a portable subsurface defense system to detect threats including swimmers and other underwater asymmetric threats.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	0166 Shipboard Protection System (SPS)/Underwater Intrusion Detection Sonar

B. Accomplishments/Planned Program

		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.995	0.000	0.000
RDT&E Articles Quantity				

Underwater Intrusion Detection Sonar (Congressional Add) FY05: Explores Commercial Off The Shelf (COTS) products to provide detection/enganagement of subsurface threats including swimmers and other asymmetric threats.

		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		2.889	3.923	2.666
RDT&E Articles Quantity				

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

		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.000	1.445	0.850
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)

		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.000	0.000	3.000
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.

TOTAL			3.884	5.368	6.516	

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	0166 Shipboard Protection System (SPS)/Underwater Intrusion Detection Sonar

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2005	FY 2006	FY 2007
FY 2006 President's Budget:	3.907	5.450	3.551
FY 2007 President's Budget:	3.884	5.368	6.516
Total Adjustments	-0.023	-0.082	2.965
Summary of Adjustments			
Other General Provisions	-0.003	-0.025	
Programmatic Adjustments	-0.020		2.920
Congressional 1% reduction		-0.057	
Revised rates & inflation indices			0.045
Subtotal	-0.023	-0.082	2.965

Schedule:

Not Applicable

Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	0166 Shipboard Protection System (SPS)/Underwater Intrusion Detection Sonar

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	Prior Years	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
OPN LINE 812800 (Physical Security Equipment)	3.017	20.549	53.471	30.300	59.486	58.337	85.295	98.362	CONT.	CONT.

E. ACQUISITION STRATEGY:

Shipboard Protection System (SPS) develops an integrated shipboard, suite of systems designed to detect, identify, and engage asymmetric threats. Capabilities for Increment I include: Surface Surveillance System, MK49 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 assymetric threats. Non-lethal weapons: NLW assist in determining intent and target discrimination. SPS is to be fielded in increments through evolutionary acquisition, as defined in DoD Instruction (DoDINST) 5000.2. The incremental approach facilitates the early delivery of economically practical and militarily useful integrated technologies. Future increments with enhanced capabilities will be developed as DoD/commercial research and development capabilities mature and resources permit. 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.

F. MAJOR PERFORMERS:

TBD

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: **February 2006**				
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)/Underwater Intrusion Detection Sonar						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware/Software Development	WX	NSWC Crane				0.100	01/05	0.050	11/05	0.000	11/06	Continuing	Continuing	TBD
Hardware/Software Development	WX	NSWC Dahlgren				0.200	02/05	0.050	11/05	0.050	11/06	Continuing	Continuing	TBD
Hardware/Software Development	FFP	Northrop Grumman				0.213	08/05	0.084	12/05	0.100	11/06	Continuing	Continuing	TBD
Hardware/Software Development	WX	NAVAIR/KDH				0.995								
Subtotal Product Development			0.000	0.000		1.508		0.184		0.150		0.000	0.000	TBD
Remarks:														
Engineering Services	WX	NSWC Crane				0.337	11/04	0.100	11/05	0.075	11/06	Continuing	Continuing	TBD
Engineering Services	WX	NSWC Dahlgren				0.358	01/05	0.100	11/05	0.100	11/06	Continuing	Continuing	TBD
Engineering Services	FFP	Northrop Grumman				1.193	08/05	3.454	02/06	2.266	11/06	Continuing	Continuing	TBD
Engineering Services										3.000	11/06			
ILS Functions	WX	NSWC Dahlgren				0.200	02/05	0.000	11/05	0.000	11/06	Continuing	Continuing	TBD
ILS Functions														
ILS Functions														
Subtotal Support			0.000	0.000		2.088		3.654		5.441		0.000	0.000	TBD
Remarks:														

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)

DATE: **February 2006**

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)/Underwater Intrusion Detection Sonar

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
T&E Functions	WX	COMOPTEVFOR						1.195	11/05	0.600		Continuing	Continuing	TBD
T&E Functions	WX	NWSC Dahlgren						0.250	11/05	0.250		Continuing	Continuing	TBD
T&E Functions														
Subtotal T&E			0.000	0.000		0.000		1.445		0.850		0.000	0.000	
Remarks:														
Management Support	Various	Various				0.250	11/05	0.050	11/06	0.050	11/07	Continuing	Continuing	TBD
Travel						0.038	11/05	0.035	11/05	0.025	11/05	Continuing	Continuing	TBD
Subtotal Management			0.000	0.000		0.288		0.085		0.075		0.000	0.000	TBD
Remarks:														
Total Cost			0.000	0.000		3.884		5.368		6.516		0.000	15.768	
Remarks:														

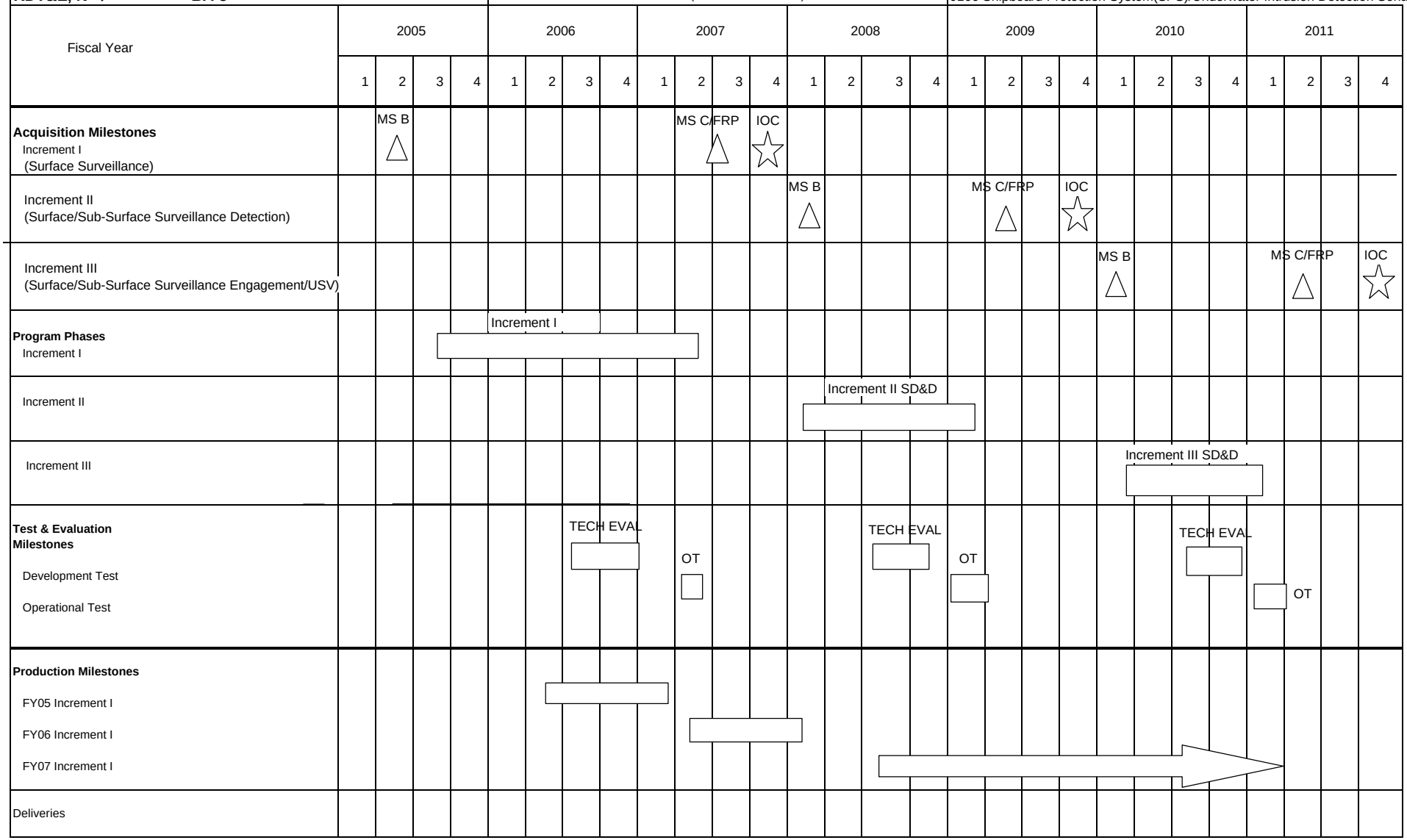
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2006**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-5**

PROGRAM ELEMENT NUMBER AND NAME: 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)

PROJECT NUMBER AND NAME: 0166 Shipboard Protection System(SPS)/Underwater Intrusion Detection Sonar



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2006**		
APPROPRIATION/BUDGET ACTIVITY **RDT& BA-5**	PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME 0166 Shipboard Protections System (SPS)/Underwater IDS			
Schedule Profile		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Milestone B (Increment I)		2nd QTR						
SD&D (Increment I)				2nd QTR				
DT (Increment I)			3rd-4th QTR					
OT (Increment I)				2nd QTR				
Milestone C/FRP (Increment I)				3rd QTR				
IOC (Increment I)				4th QTR				
Milestone B (Increment II)					1st QTR			
SD&D (Increment II)					1st-4th QTR			
DT (Increment II)					3rd-4th QTR			
OT (Increment II)						1st QTR		
Milestone C/FRP (Increment II)						2nd QTR		
IOC (Increment II)						4th QTR		
Milestone B (Increment III)							1st QTR	
SD&D (Increment III)							1st-4th QTR	
DT (Increment III)							3rd-4th QTR	
OT (Increment III)								1st QTR
Milestone C/FRP (Increment III)								2nd QTR
IOC (Increment III)								4th QTR

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2006**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	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 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total
2178/QRCC	**47.305**	**39.874**	**3.534**	**0.000**	**0.000**	**0.000**	**0.000**	**90.713**
2178 QRCC/ 9589 IDEA	**3.307**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**3.307**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Quick Reaction Combat Capability (QRCC) 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, Next Generation Computer Resources, 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-machine interface, commercially available local area network access units and circuit cards, and commercially available fiberoptic cabling.

SSDS MK1 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 (CIFF-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 to integrate with ACDS and Cooperative Engagement Capability (CEC) on CV(N), LPD-17, LHD and LHA ship classes.

SSDS MK2 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 will integrate other ship self defense elements, such as the AN/SPQ-9B radar, and NATO Sea-sparrow missile system with the CEC, and Tactical Data Links, to improve joint interoperability. SSDS MK2 provides enhanced capabilities for Force Protection against air, and surface threats using both ownship and remote data in support of the 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 Battle Group Interoperability; and promote standardization. It will also introduce new shipboard tactical displays and support equipment.

The Navy, by direction of DOT&E, required LPD 17 Live Fire testing to be conducted on the Self Defense Test Ship (R). SSDS MK 2 self defense combat system will be tested against Anti Ship Cruise Missile threats in FY06-07 to support this effort.

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. The Ship Self Defense System (SSDS) MK 2 would rehost existing tactical computer program applications to the Open Architecture Computing Environment (OACE) specifications/ equipment suite prior to full migration and integration with other OA applications for implementation on future classes of ships.

The Integrated Display & Enhanced Architecture (IDEA) approach will be utilized for the development of a software-based capability to share displays across Naval subsystems. This capability would allow specific displays within SSDS/ACDS and selected displays of external systems to be displayed at designated locations, and to be interchanged among designated operator stations. 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 2/4 upgraded COTS display systems. The software architecture will conform to Navy Open Architecture guidelines.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	2178 Quick Reaction Combat Capability / 9589 Integrated Display Enhanced Architecture

B. Accomplishments/Planned Program

	FY 05	FY 06	FY07	
Accomplishments/Effort/Subtotal Cost	25.633	0.000	0.000	
RDT&E Articles Quantity				

Developed and delivered the computer program products for each of the SSDS MK 2 ship class variants (Mod 1 for Carriers and Mod 2 for LPDs). Conducted reviews of computer program systems engineering products to assess the computer program development and integration progress. Coded each new or modified unit as specified in the detailed design, revise and compile the code until it compiles without errors. Conducted a unit test for all new and modified software units, identify and document test cases describing their purpose, the functions being tested, the test environment, and the test results. Evaluated the test results and corrected the code and retest, if necessary. Conducted a Formal Qualifications Test (FQT) before delivery to test certification facilities and continued to support testing efforts through computer program corrections and retest.

	FY 05	FY 06	FY07	
Accomplishments/Effort/Subtotal Cost	15.160	24.321	3.534	
RDT&E Articles Quantity				

Conducted comprehensive combat system tests on SSDS MK 2 MOD 1 (CVN 76) at Wallops Island, including development tests, data collection, data extraction, data analysis and identifying computer program corrections.
Conducted at-sea DT/OT and FOT&E events onboard USS Reagan in FY05.
Completed all test preparations and documentation for LPD 17 configuration testing efforts planned in FY05.
Conduct land based and at-sea DT events for SSDS MK2 Mod 2 (LPD 17) in FY05 / FY06 / FY07, and conduct live fire testing on board the Self Defense Test Ship (R) in FY06 & FY07. Design Agent test, analyze, and fix for the computer software program in support of testing will be done as required to successfully complete MK 2 Mod 2 development.

	FY 05	FY 06	FY 07	
Accomplishments/Effort/Subtotal Cost	6.512	15.553	0.000	
RDT&E Articles Quantity				

Migration of SSDS MK 2 to OA Category 3 Computing Environment (OACE) and conduct a FQT before delivery to combat system facilities for System Integration Test (SIT), IV&V and certification testing. Conduct Environmental Qualification Test (EQT) on the OACE hardware.

	FY 05	FY 06	FY07	
Accomplishments/Efforts/Subtotal Cost	3.307			
RDT&E Articles Quantity				

Congressional Plus Up for Integrated Display Enhanced Architecture for SSDS/ACDS to be utilized for the development of a software-based capability to share displays across Naval subsystems.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	2178 Quick Reaction Combat Capability / 9589 Integrated Display Enhanced Architecture

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2005	FY 2006	FY 2007
FY 2006 President's Budget:	48.118	40.481	3.585
FY 2007 President's Budget:	50.612	39.874	3.534
Total Adjustments	2.494	-0.607	-0.051
Summary of Adjustments			
Other General Provisions	-1.033	-0.607	-0.069
Revised rates & inflation indices	0.000	0.000	0.018
Programmatic changes	3.527	0.000	0.000
Subtotal	2.494	-0.607	-0.051

Schedule:

PB05 FY05/FY06 controls support FOT&E test events.

Technical: N/A

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	XLFN5HDFWLRQ&RPEDW&DSDELOLW QWHJUDWHG'LVSOD\ (QKDQFHG$UFKLWHFWXUH

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
Ship Self Defense System OPN / 523900 , 523905 , 523906	37.833	28.960	56.668	47.359	71.382	54.359	80.092	298.18	684.053
SCN 2086 CV(N)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SCN 3036 LPD ship class	0.000	0.000	20.205	20.205	0.000	0.000	0.000	40.410	80.820
Related RDT&E:									
PE 0603382N / 0324 (Advanced Combat System Technology) Navy Enterprise OACE effort supported	61.474	29.705	12.38	22.552	23.213	23.897	25.853	CONT.	199.074
PE 0603658N / 2039 (Cooperative Engagement Capability CEC)	99.618	86.757	53.329	50.37	53.633	57.869	55.052	CONT.	456.628
PE 0604307N / 1447 (Aegis Surf Combatant Combat Sys Imp)	136.011	200.743	151.49	95.097	72.061	88.002	87.756	CONT.	831.16
PE 0603582N / 0164 (Common Network Interface CNI)	25.0	25.73	27.54	24.0	23.10	23.56	24.03	CONT.	172.96

E. ACQUISITION STRATEGY:

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 COTS tech Refresh hardware suites; then a CPAF type contract is necessary.
A new design agent and Life Cycle Maintenance contract was awarded in FY05 to support future SSDS MK 2 system/software maintenance and systems corrections.

F. MAJOR PERFORMERS:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2006			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME XLFN5HDFWLRQ&RPEDWFDSDELOLW\ QWHUDWHG LVSOD\ (QKDQFHG$UFKLWHFWXUH						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	WR/WX	NAVSEA/DD-Dahlgren, VA	26.875	7.331	10/04	1.746	10/05	0.000	10/06	0.000	35.952	N/A
Systems Engineering	SS/FP	JHU/APL-Laurel, MD	32.844	2.080	11/04	1.492	11/05	0.000	11/06	0.000	36.416	N/A
Systems Engineering	WR/WX	NAVSEA/PHD-Pt Hueneme,CA	14.751	2.456	10/04	2.000	10/05	0.000	10/06	0.000	19.207	N/A
Systems Engineering	WR/WX	NAVSEA/Dam Neck-Dam Neck, V.	5.609	1.258	10/04	1.576	10/05	0.000	10/06	0.000	8.443	N/A
Systems Engineering	WR/WX	NAVSEA/IH-Indian Head, MD	0.000	3.056	N/A	3.100	N/A	0.000	N/A	0.000	6.156	N/A
Systems Engineering	SS/FP	Lockheed Martin St. Paul, MN	3.208	0.000	01/00	1.000	10/05	0.000	10/06	0.000	4.208	N/A
Systems Engineering/Dev/Integrate	SS/CPAF	RSC(5108)-San Diego, CA	93.986	4.144	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	20.353	TBD
Systems Engineering/Dev/Integrate	SS/CPFF	RSC(5104)-San Diego, CA	23.685	0.000	10/04	0.000	10/05	0.000	10/06	0.000	23.685	TBD
Systems Engineering/Dev/Integrate	SS/CPAF	RSC (5132)-San Diego, CA	14.951	1.842	10/04	3.744	10/05	0.000	10/06	0.000	20.537	TBD
Award Fees	SS/CPAF	RSC (5132)-San Diego, CA	0.000	2.650	10/04	2.505	10/05	0.000	10/06	0.000	5.155	TBD
Award Fees	SS/CPAF	RSC(5108)-San Diego, CA	9.726	1.482	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	2.163	TBD
Risk Reduction / EMD	Various	Various	76.366	0.000	N/A	0.000	N/A	0.000	N/A	0.000	76.366	N/A
Misc.	Various	Various	0.544	1.822	N/A	0.000	N/A	0.000	N/A	0.000	2.366	N/A
Subtotal Product Development			325.061	28.121		17.163		0.000		0.000	370.345	N/A

Remarks:

QA/RMA	WR	NWAS Corona	8.950	0.415	N/A	0.150	N/A	0.000	N/A	0.000	9.515	
Subtotal Support			8.950	0.415	N/A	0.150	N/A	0.000	N/A	0.000	9.515	

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)					DATE: **February 2006**							
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 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR/WX	NAVSEA/PHD-Pt Hueneme,CA	34.738	7.610	10/04	4.793	10/05	3.534	10/06	0.000	50.675	N/A
Developmental Test & Evaluation	WR/WX	NAVSEA/DD,Dahlgren, VA	1.445	1.925	10/04	2.425	10/05	0.000	10/06	0.000	5.795	N/A
Developmental Test & Evaluation	WR/WX	NAVSEA DD, Wallops Island	19.303	3.147	10/04	1.598	10/05	0.000	10/06	0.000	24.048	N/A
Developmental Test & Evaluation	SS/FP	JHU/APL- Laurel, MD	5.283	1.245	N/A	1.596	N/A	0.000	N/A	0.000	8.124	N/A
Developmental Test & Evaluation	WR/WX	NAVSEA/CORONA, Corona CA	0.998	0.000	10/04	0.000	10/05	0.000	10/06	0.000	0.998	N/A
Developmental Test & Evaluation	WR/WX	OPTEVFOR	1.287	0.240	10/04	0.400	10/05	0.000	10/06	0.000	1.927	N/A
Developmental Test & Evaluation	SS/CPFF	RSC (5110)-San Diego, CA	0.000	4.125	10/04	10.220	10/05	0.000	10/06	0.000	14.345	65.471
Developmental Test & Evaluation	SS/CPFF	RSC (5456)-Tucson, AZ	0.000	2.180	03/05	0.000	N/A	0.000	N/A			
Misc.	Various	Various	4.184	0.150	N/A	0.000	N/A	0.000	N/A	0.000	4.334	N/A
Subtotal T&E			67.238	20.622		21.032		3.534		0.000	112.426	N/A
Remarks:												
Program Management Support			10.293	1.454	N/A	1.529	N/A	0.000	N/A	0.000	13.276	N/A
											0.000	N/A
Subtotal Management			10.293	1.454		1.529		0.000		0.000	13.276	N/A
Remarks:												
Total Cost			411.542	50.612	N/A	39.874	N/A	3.534	N/A	0.000	505.562	N/A
Remarks:												

R-1 SHOPPING LIST - Item No. 126

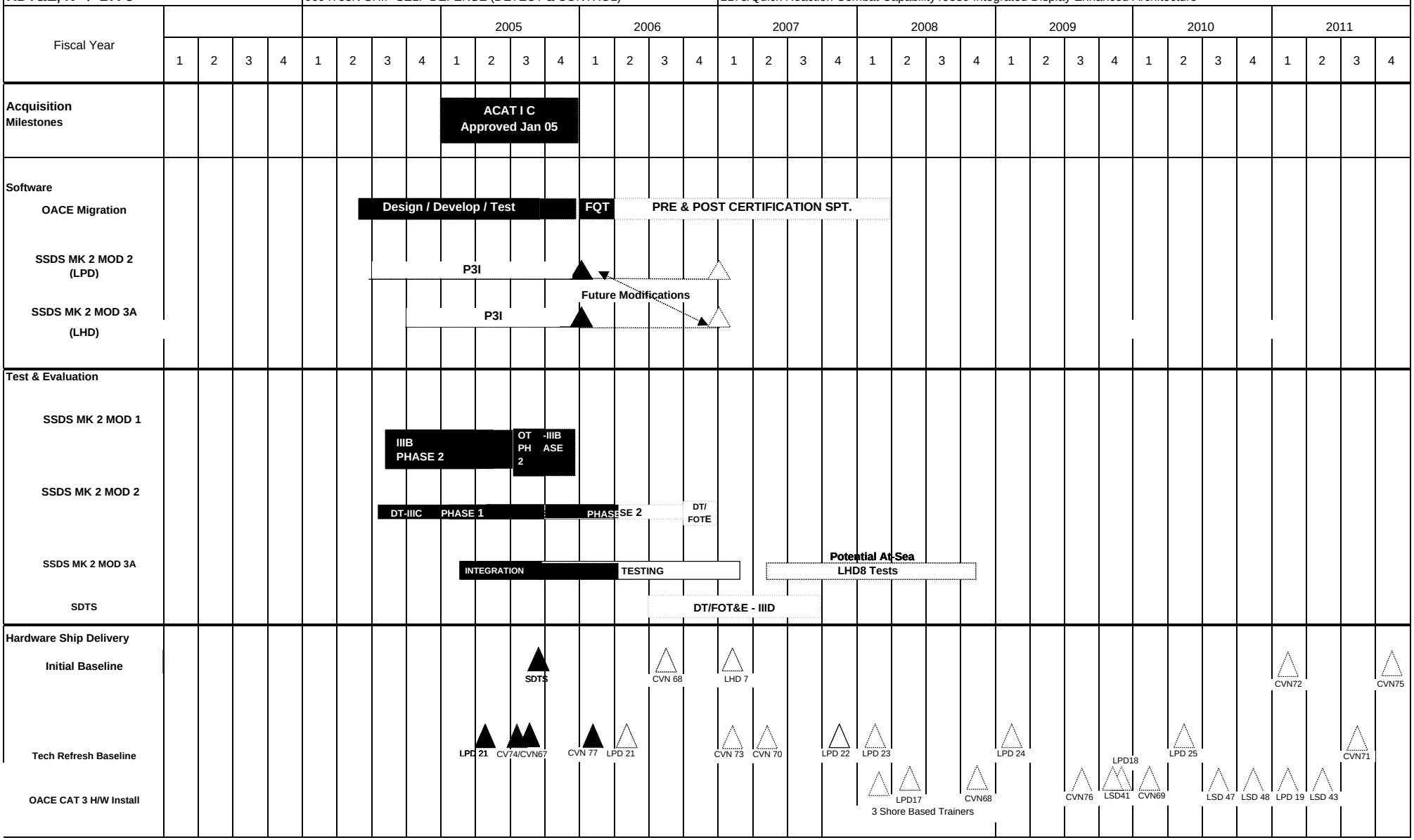
CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: **February 2006**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-5**

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



CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2006**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N BA-5**	PROGRAM ELEMENT 604755N SHIP SELF DEFENSE (DETECT & CONTROL)			PROJECT NUMBER AND NAME 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
SSDS OACE Migration							
DESIGN AND DEVELOPMENT	1Q-4Q						
DEVELOPMENTAL TESTING AT WALLOPS	1Q-4Q						
FORMAL QUALIFICATION TEST (FQT)		1Q-2Q					
SIT		2Q-3Q					
VALIDATION & CERTIFICATION		4Q	1Q-4Q				
SSDS MK 2 MOD 1 (CV/CVNs)							
INTEGRATION/DEVELOPMENTAL TESTS / Phase I							
TEST READINESS REVIEW (TRR)	1Q						
CSIT TESTING	1Q						
ONBOARD TEST EVENTS / Phase II	1Q-4Q						
CSSQT	2Q						
SSDS MK 2 MOD 2 (LPDs)							
SYSTEM DEVELOPMENT							
INTEGRATION TESTING							
FORMAL QUALIFICATION TEST (FQT)							
LPD-17 (SCN) DIT							
INTEGRATION/DEVELOPMENTAL TESTS / Phase I							
TEST READINESS REVIEW (TRR)	2Q-3Q						
CSIT TESTING	1Q						
ONBOARD TEST EVENTS / Phase II	2Q-3Q	1Q-4Q					
CSSQT	3Q						
SSDS MK 2 MOD 3A (LHDs) LHD 8 - Lead Ship (SCN)							
SYS ENGINEERING/SYSTEM DEVELOPMENT	1Q-4Q	1Q-4Q					
INTEGRATION TESTING	2Q-4Q	1Q-3Q	1Q-4Q				
FORMAL QUALIFICATION TEST (FQT)	1Q-2Q						
INTEGRATION/DEVELOPMENTAL TESTS / Phase I	1Q-3Q						
TEST READINESS REVIEW (TRR)	3Q-4Q		3Q				
CSIT TESTING	3Q-4Q	1Q-4Q	1Q-2Q				
ONBOARD TEST EVENTS /Phase II (LHD 8 Unique)		1Q-4Q	1Q-3Q				
CSSQT LHD 8			4Q				
SDTS							
DT/FOT&E - IIID/LFT&E		3Q-4Q	1Q-3Q				

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	Congressional Adds : VARIOUS

CONGRESSIONAL PLUS-UPS:

		FY 06		
9587C				
Autonomous Unmanned Surface Vessel		2.000		

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

		FY 06		
9852N				
Shipboard Swimmer Detection System*		4.300		

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

		FY 06		
9589C				
Integrated Display Enhanced Architecture		5.100		

Congressional Plus UP for Integrated Enhanced Display Architecture for SSDS/ACDS to be utilized for the development of a software-based capability to share displays across Naval subsystems.

R-1 SHOPPING LIST - Item No. 126