CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification									DATE: **February 2005**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**						R-1 ITEM NOMENCLATURE 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				
COST ($ in Millions)	FY2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total
Total PE Cost	**51.774**	**66.059**	**45.931**	**7.136**	**6.308**	**5.495**	**0.780**	**0.227**		**183.710**
0166 SPS (radars)	**3.008**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		**3.008**
0166 Shipboard Protection System (SPS)/ 0166 Underwater Intrusion Detection Sonar*	**0.000**	**3.907**	**5.450**	**3.551**	**6.308**	**5.495**	**0.780**	**0.227**		**25.718**
9394 Integrated Radar Optical Surveillance (IROS3)*	**4.096**	**10.078**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		**14.174**
9587 Autonomous Unmanned Surface Vessel*	**0.000**	**1.480**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		**1.480**
9588 Directed Energy User Scrutiny Equipment*	**0.000**	**2.476**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		**2.476**
2178/QRCC	**44.670**	**44.750**	**40.481**	**3.585**	**0.000**	**0.000**	**0.000**	**0.000**		**133.486**
2178 QRCC/ 9589 IDEA	**0.000**	**3.368**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		**3.368**

*Project Unit 0166 Underwater Intrusion Detection Sonar is a FY05 Congressional Add for $1.0M

*Project Unit 9394 Integrated Radar Optical Sighting and Surveillance System (IROS3) is a FY04/05 Congressional Add.

*Project Unit 9587Autonoumous Unmanned Surface Vessel is a FY05 Congressional Add fpr $1.5M

*Project Unit 9588 Directed Energy User Scrutiny Equipment is a FY05 Congressional Add for $2.5M

*Project Unit 9589 Integrated Display and Enhanced Architecture is a FY05 Congressional Add for $3.4M

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program element consolidates programmatic efforts related to Detect and 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 I include: Integrated Surface Surveillance System, and Non-lethal weapons/devices. The surface surveillance system integrates electro-optic/ infrared (EO/IR) sensors, radar, and stabilized guns into a common tactical surveillance system. 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 2005**
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 2005**		
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/radars					
COST ($ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total
Project Cost	**3.008**	**3.907**	**5.450**	**3.551**	**6.308**	**5.495**	**0.780**	**0.227**		**28.726**
RDT&E Articles Qty										

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project provides funding for the SPS Improvement Program:

AN/SPQ-9B: This program develops and tests performance and reliability upgrades for search radar equipment to meet the evolving threat. The AN/SPQ-9 radar supports surface engagement capability to effectively detect and track sea-skimming, low radar cross-section, high-speed targets in heavy clutter environments. The radar interfaces with ship combat systems via either the MK-86 GFCS, Ship Self Defense System (SSDS), or Cooperative Engagement Capability (CEC) on CG47, CV/CVN, LHD, LPD 17 and DDG 51 class ships. The AN/SPQ-9B uses a high resolution, track-while-scan, X-Band, pulse Doppler radar to provide real time acquisition and automatic tracking of multiple targets. A lightweight antenna assembly has also been furnished as an engineering change. (FY2004 Funding)

Shipboard Protection System (SPS): develops an integrated, shipboard, suite of systems designed to detect, identify, and engage asymmetric threats. Capabilities for Increment I include: Integrated Surface Surveillance System, and Non-lethal weapons/devices. The surface surveillance system integrates EO/IR sensors, radar, and stabilized guns into a common tactical surveillance system. 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: Explores Commercial Off The Shelf (COTS) products to provide detection/enganagement of subsurface threats including swimmers and other underwater asymmetric threats.

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2005**
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 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	3.008	0.000	0.000	0.000
RDT&E Articles Quantity				

AN/SPQ-9B Integration into AEGIS Baseline 7 Phase 1/MK 160 Gun Computer System. Evaluation of commercial upgrade to SPS-73 radar.
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	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.959	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 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	2.948	4.450	2.051
RDT&E Articles Quantity				

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

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.000	1.500
RDT&E Articles Quantity				

Swimmer Detection System - Increment II System integration, test and analysis.

TOTAL		3.008	3.907	5.450	3.551	

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2005**
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 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget	1.875	2.955	1.953	0.000
FY06 President's Budget	3.008	3.907	5.450	3.551
Total Adjustments	1.133	0.952	3.497	3.551
Summary of Adjustments				
Misc. Adjustments	-0.049	-0.007		
BTR	1.186			
Congressional Adjustments	-0.004	0.959		
Programmatic Adjustments			3.497	3.551
Subtotal	1.133	0.952	3.497	3.551

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 SHOPPING LIST-Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2005**
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	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
OPN LINE 202600 (AN/SPQ-9B)	19.210	11.513	5.913	2.564	14.605	15.453	15.734	16.082	CONT.	CONT.
OPN LINE 812800 (Physical Security Equipment)	3.017	17.517	59.558	60.151	86.215	47.605	74.683	96.190	CONT.	CONT.

E. ACQUISITION STRATEGY:

AN/SPQ-9B Radar is a directed sole source contract to Northrop Grumman Norden Systems for LRIP, and upon successful completion of TECHEVAL/OPEVAL, entering into Full Rate Production. Lockheed Martin will develop AN/SPQ 9B integration into AEGIS Baseline 7 Phase 1/MK 160 Gun Computer System.

Shipboard Protection System (SPS) develops an integrated, shipboard, suite of systems designed to detect, identify, and engage asymmetric threats. Capabilities for Increment I include: Integrated Surface Surveillance System, and Non-lethal weapons/devices. The surface surveillance system integrates EO/IR sensors, radar, and stabilized guns into a common tactical surveillance system. 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:

NORTHROP GRUMMAN CORP.
NORDEN SYSTEMS
MELVILLE, N.Y. 11747
PRIME CONTRACTOR

LOCKHEED MARTIN CORP
NE&SS-SURFACE SYSTEMS
MOORESTOWN, N.J.
SPQ-9B/AEGIS INTEGRATION

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2005**

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 04 Cost	FY 04 Award Date	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				0.200	01/05	0.500	11/05	0.250	11/06	Continuing	Continuing	TBD
Hardware/Software Development	WX	NSWC Dahlgren				0.959	02/05	0.400	11/05	0.326	11/06	Continuing	Continuing	TBD
Hardware/Software Development	FFP	Unknown				1.300	04/05	0.750	11/05	0.750	11/06	Continuing	Continuing	TBD
Hardware/Software Development														
Subtotal Product Development			0.000	0.000		2.459		1.650		1.326		0.000	0.000	TBD

Remarks:

Engineering Services	WX	NSWC Crane				0.200	11/04	0.525	11/05	0.400	11/06	Continuing	Continuing	TBD
Engineering Services	WX	NSWC Dahlgren				0.258	01/05	0.750	11/05	0.550	11/06	Continuing	Continuing	TBD
Engineering Services	FFP	Unknown				0.500	04/05	0.750	11/05	0.500	11/06	Continuing	Continuing	TBD
Engineering Services														
ILS Functions	WX	NSWC Dahlgren				0.200	02/05	0.200	11/05	0.200	11/04	Continuing	Continuing	TBD
ILS Functions														
ILS Functions														
Subtotal Support			0.000	0.000		1.158		2.225		1.650		0.000	0.000	TBD

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)

DATE: **February 2005**

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 04 Cost	FY 04 Award Date	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						0.750	11/05			Continuing	Continuing	TBD
T&E Functions	WX	NWSC Dahlgren						0.250	11/05			Continuing	Continuing	TBD
T&E Functions														
Subtotal T&E			0.000	0.000		0.000		1.000		0.000		0.000	0.000	
Remarks:														
Management Support	Various	Various				0.240	11/05	0.500	11/06	0.500	11/07	Continuing	Continuing	TBD
Travel						0.050	11/05	0.075	11/05	0.075	11/05	Continuing	Continuing	TBD
Subtotal Management			0.000	0.000		0.290		0.575		0.575		0.000	0.000	TBD
Remarks:														
Total Cost			0.000	0.000		3.907		5.450		3.551		0.000	12.908	
Remarks:														

CLASSIFICATION:

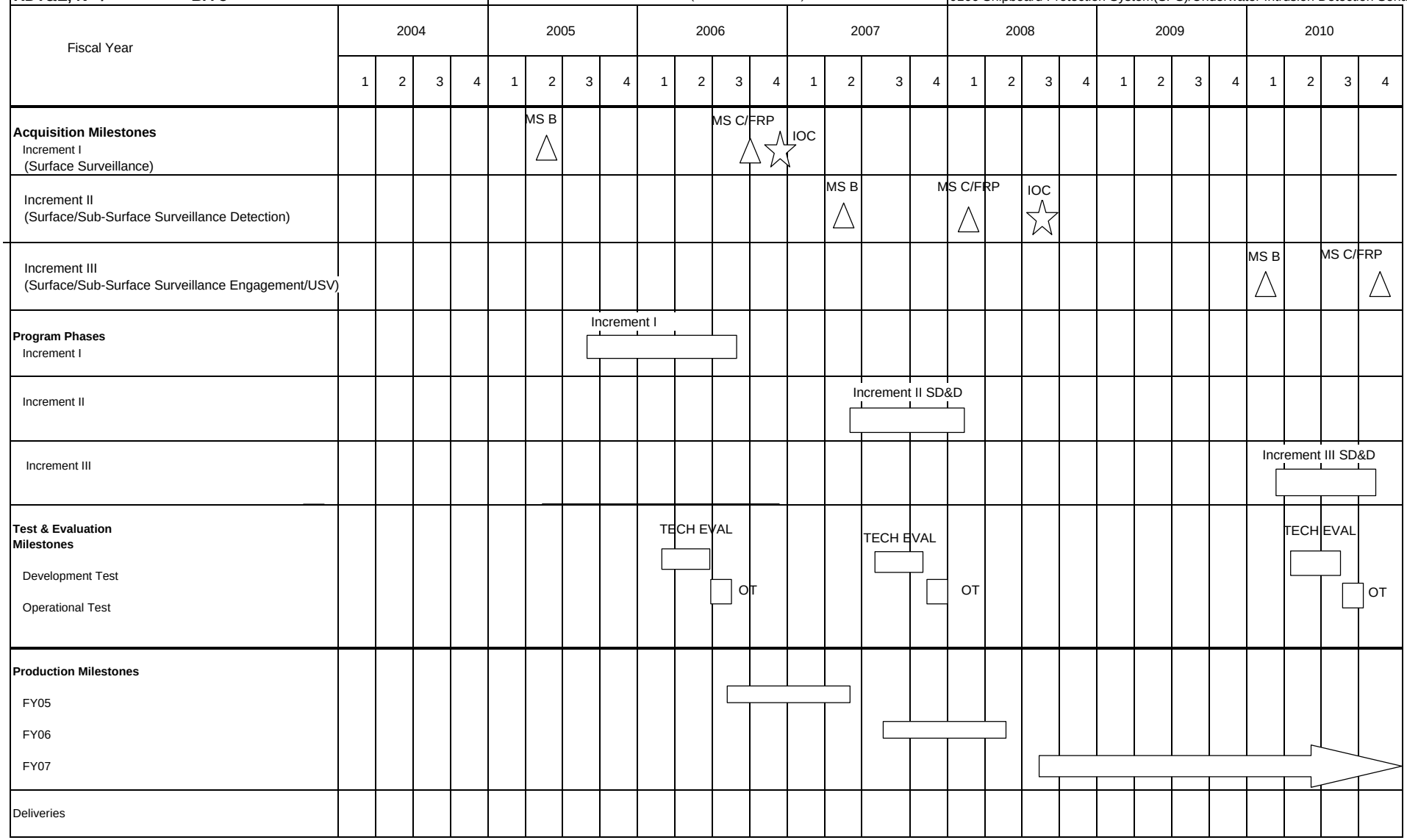
EXHIBIT R4, Schedule Profile

DATE: **February 2005**

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



R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2005**		
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 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Milestone B (Increment I)		2nd QTR						
SD&D (Increment I)			3rd QTR					
DT (Increment I)			2nd-3rd QTR					
OT (Increment I)			3rd QTR					
Milestone C/FRP (Increment I)			4th QTR					
IOC (Increment I)			4th QTR					
Milestone B (Increment II)				2nd QTR				
SD&D (Increment II)				2nd QTR	1st QTR			
DT (Increment II)				3rd QTR				
OT (Increment II)				4th QTR	1st QTR			
Milestone C/FRP (Increment II)					1st QTR			
IOC (Increment II)					3rd QTR			
Milestone B (Increment III)							1st QTR	
SD&D (Increment III)							1st-4th QTR	
DT (Increment III)							2nd-3rd QTR	
OT (Increment III)							3rd-4th QTR	
Milestone C/FRP (Increment III)							4th QTR	
IOC (Increment III)								2nd QTR

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: **February 2005**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME 9394 Integrated Radar Optical Sighting and Surveillance System (IROS3)					
COST ($ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total
Project Cost	**4.096**	**10.078**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		**14.174**
RDT&E Articles Qty										

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

IROS3: Congressional Add: Integrated Radar Optical Sighting and Surveillance System (IROS3) development. IROS3 (concept demonstrator) integrates EO/IR sensors, radar, and stabilized guns into a common tactical situational awareness system. This funding will develop an enhanced detection, tracking and engagement of surface targets.

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2005**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	9394 Integrated Radar Optical Sighting and Surveillance System (IROS3)

B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	4.096	10.078	0.000	0.000
RDT&E Articles Quantity				

Congressional Add FY04/05: Integrated Radar Optical Sighting and Surveillance System (IROS3) development. IROS3 integrates EO/IR sensors, radar, and stabilized guns into a common tactical situational awarness system.

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget	4.200	0.000	0.000	0.000
FY06 President's Budget	4.096	10.078	0.000	0.000
Total Adjustments	-0.104	10.078	0.000	0.000
Summary of Adjustments				
Congressional Adjustments	-0.104	10.078		
Subtotal	-0.104	10.078	0.000	0.000

Schedule: Not Applicable
Technical: Not Applicable

D. OTHER PROGRAM FUNDING SUMMARY:

Not Applicable

E. ACQUISITION STRATEGY:

Not Applicable

F. MAJOR PERFORMERS:

Not Applicable

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2005**

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

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

PROJECT NUMBER AND NAME: 9394 Integrated Radar Optical Sighting and Surveillance System (IROS3)

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	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		2.047	11/03	1.900	03/05						3.947	TBD
Hardware/Software Development	WX	NSWC Dahlgren				0.678	03/05						0.678	TBD
Hardware/Software Development	FFP	Unknown				2.100	04/05						2.100	TBD
Hardware/Software Development														
Subtotal Product Development			0.000	2.047		4.678		0.000		0.000		0.000	6.725	TBD

Remarks: FY04 Congressional Add for IROS3
FY05 Congressional Add for IROS3

Engineering Services	WX	NSWC Crane		2.049	11/03	2.500	03/05						4.549	TBD
Engineering Services	WX	NSWC Dahlgren				0.900	03/05						0.900	TBD
Engineering Services	FFP	Unknown				2.000	04/05						2.000	TBD
Engineering Services														
ILS Functions														
ILS Functions														
ILS Functions														
Subtotal Support			0.000	2.049		5.400		0.000		0.000		0.000	7.449	TBD

Remarks: FY04 Congressional Add for IROS3 $4.096M
FY05 Congressional Add for IROS3 $10.078M

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)

DATE: **February 2005**

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

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

PROJECT NUMBER AND NAME: 9394 Integrated Radar Optical Sighting and Surveillance System (IROS3)

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	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														
T&E Functions														
T&E Functions														
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Management Support														
Travel														
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	TBD
Remarks:														
Total Cost			0.000	4.096		10.078		0.000		0.000		0.000	10.078	
Remarks:														

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: **February 2005**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME 9587 Autonomous Unmanned Surface Vessel (AUSV)					
COST ($ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total
Project Cost	**0.000**	**1.480**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		**1.480**
RDT&E Articles Qty										

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Autonomous Unmanned Surface Vessel (AUSV): Congressional Add: Develop/analyze concept demonstrator to support Anti-Terrorism Force Protection (ATFP) missions: protect harbors, coastal facilities (airports, nuclear power plants, inland waterways).

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2005**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	9587 Autonomous Unmanned Surface Vessel (AUSV)

B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	1.480	0.000	0.000
RDT&E Articles Quantity				

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

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget	0.000	0.000	0.000	0.000
FY06 President's Budget	0.000	1.480	0.000	0.000
Total Adjustments	0.000	1.480	0.000	0.000
Congressional Adjustments		1.480		
Subtotal	0.000	1.480	0.000	0.000

Schedule: Not Applicable
Technical: Not Applicable

D. OTHER PROGRAM FUNDING SUMMARY:

Not Applicable

E. ACQUISITION STRATEGY:

Not Applicable

F. MAJOR PERFORMERS:

Not Applicable

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2005**

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

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

PROJECT NUMBER AND NAME: 9587 Autonomous Unmanned Surface Vessel (AUSV)

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	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												
Hardware/Software Development	WX	NSWC Dahlgren				0.200	02/05					Continuing	Continuing	TBD
Hardware/Software Development	FFP	Unknown				0.750	02/05					Continuing	Continuing	TBD
Hardware/Software Development														
Subtotal Product Development			0.000	0.000		0.950		0.000		0.000		0.000	0.000	TBD

Remarks:

Engineering Services	WX	NSWC Crane												
Engineering Services	WX	NSWC Dahlgren				0.200	02/05					Continuing	Continuing	TBD
Engineering Services	FFP	Unknown				0.330	02/05					Continuing	Continuing	TBD
Engineering Services														
ILS Functions														
ILS Functions														
ILS Functions														
Subtotal Support			0.000	0.000		0.530		0.000		0.000		0.000	0.000	TBD

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)

DATE: **February 2005**

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

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

PROJECT NUMBER AND NAME: 9587 Autonomous Unmanned Surface Vessel (AUSV)

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	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														
T&E Functions														
T&E Functions														
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Management Support														
Travel														
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	TBD
Remarks:														
Total Cost			0.000	0.000		1.480		0.000		0.000		0.000	1.480	
Remarks:														

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: **February 2005**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME 9588 Directed Energy User Scrutiny Equipment					
COST ($ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total
Project Cost	**0.000**	**2.476**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**		**2.476**
RDT&E Articles Qty										

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Directed Energy User Scrutiny Equipment: Congressional Add: Design and prototype the current non-lethal, millimeter wave transmitter technology of the Active Denial System (ADS) in an environmentally-controlled portable module. This includes developing system engineering enhancements based on lessons learned, engineering and integrating the ADS into the Navy's Ship Self Protection System (SSPS), which is currently the Integrated Remote Optical Sensor Surveillance System. Provide the initial capability to the user community for optimizing operational concepts and obtaining user feedback/requirements, and accomplish the engineering to ensure that the system is producible and sustainable under a marine environment. This effort will leverage the Energy Beam generation and pointing technology developed under the Air Force Research Laboratory (AFRL) funded ADS FY 02 Advanced Concept Technology Demonstration (ACTD) and will include efforts required to operate in the marine environment under the Navy's SSPS.

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2005**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	9588 Directed Energy User Scrutiny Equipment

B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	2.476	0.000	0.000
RDT&E Articles Quantity				

Congressional Add: Design and prototype the current non-lethal, millimeter wave transmitter technology of the Active Denial System (ADS) in an environmentally-controlled portable module.

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget	0.000	0.000	0.000	0.000
FY06 President's Budget	0.000	2.476	0.000	0.000
Total Adjustments	0.000	2.476	0.000	0.000
Summary of Adjustments				
Congressional Adjustments		2.476		
Subtotal	0.000	2.476	0.000	0.000

Schedule: Not Applicable
Technical: Not Applicable

D. OTHER PROGRAM FUNDING SUMMARY:

Not Applicable

E. ACQUISITION STRATEGY:

Not Applicable

F. MAJOR PERFORMERS:

Not Applicable

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE: **February 2005**

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

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

PROJECT NUMBER AND NAME: 9588 Directed Energy User Scrutiny Equipment

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	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				0.250	02/05						0.250	TBD
Hardware/Software Development	FFP	Raytheon				1.250	02/05						1.250	TBD
Hardware/Software Development														
Hardware/Software Development														
Subtotal Product Development			0.000	0.000		1.500		0.000		0.000		0.000	1.500	TBD

Remarks:

Engineering Services	WX	NSWC Crane				0.226	02/05						0.226	TBD
Engineering Services	FF	Raytheon				0.750	02/05						0.750	TBD
Engineering Services														
Engineering Services														
ILS Functions														
ILS Functions														
ILS Functions														
Subtotal Support			0.000	0.000		0.976		0.000		0.000		0.000	0.976	TBD

Remarks:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)

DATE: **February 2005**

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

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

PROJECT NUMBER AND NAME: 9588 Directed Energy User Scrutiny Equipment

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	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														
T&E Functions														
T&E Functions														
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Management Support														
Travel														
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	TBD
Remarks:														
Total Cost			0.000	0.000		2.476		0.000		0.000		0.000	2.476	
Remarks:														

R-1 SHOPPING LIST - Item No. 126

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: **February 2005**		
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 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
2178/QRCC	**44.670**	**44.750**	**40.481**	**3.585**	**0.000**	**0.000**	**0.000**	**0.000**
2178 QRCC/ 9589 IDEA	**0.000**	**3.368**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
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.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
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 04	FY 05	FY 06	FY07
Accomplishments/Effort/Subtotal Cost	22.155	26.590	0.000	0.000
RDT&E Articles Quantity				

Develop and deliver the computer program products for each of the SSDS MK 2 ship class variants (Mod 1 for Carriers and Mod 2 for LPDs). Conduct reviews of computer program systems engineering products to assess the computer program development and integration progress. Code each new or modified unit as specified in the detailed design, revise and compile the code until it compiles without errors. Conduct 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. Evaluate the test results and correct the code and retest, if necessary. Conduct a Formal Qualifications Test (FQT) before delivery to test certification facilities and continue to support testing efforts through computer program corrections and retest.

	FY 04	FY 05	FY 06	FY07
Accomplishments/Effort/Subtotal Cost	2.087	0.000	0.000	0.000
RDT&E Articles Quantity				

Conduct systems requirements analysis, and identify necessary functionality changes to adapt to the LHD class in-service ships.

	FY 04	FY 05	FY 06	FY07
Accomplishments/Effort/Subtotal Cost	11.140	15.160	25.068	3.585
RDT&E Articles Quantity				

Conduct 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. Conduct at-sea DT/OT and FOT&E events onboard USS Reagan in FY04 and FY05.
Complete 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 FY04 / FY05 / FY06, 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 development.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2005**
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 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	9.288	3.000	15.413	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.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000		0.000	0.000
RDT&E Articles Quantity				

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.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2005**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	PROJECT NUMBER AND NAME XLFN5HDFWLRQ&RPEDW&DSDELOLW QWHJUDWHG'LVSOD\(QKDQFHG$UFKLWHFWXUH

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget	36.162	45.199	10.591	0.000
FY06 President's Budget	44.670	44.750	40.481	3.585
Total Adjustments	8.508	-0.449	29.890	3.585
Summary of Adjustments				
Programmatic/Other Adjustments	8.508	-0.449	29.890	3.585
Subtotal	8.508	-0.449	29.890	3.585

Schedule:

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

Increase in FY04 is for SSDS OACE Migration Program Adjustments.
Increase in FY05 is for Congressional Plus for Integrated Display Enhanced Architecture for SSDS
Increase in FY06 is for SSDS LPD-17 Self Defense Test Ship Testing, and continued OACE development, integration test.

Technical:

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2005**
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 2004	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	57.258	41.872	33.428	57.287	48.003	72.043	55.317	81.074	.	684.053
SCN 2086 CV(N) / CVN 70	50.275	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	50.275
SCN 3036 LPD ship class	40.410	0.000	0.000	20.205	20.205	0.000	0.000	0.000	40.410	121.230
Related RDT&E:										
PE 0603382N / 0324 (Advanced Combat System Technology) Navy Enterprise OACE effort supported	12.659	66.951	30.16	30.753	31.923	32.631	33.396	34.047	CONT.	272.52
PE 0603658N / 2039 (Cooperative Engagement Capability CEC)	86.996	102.15	88.135	59.881	56.724	56.968	58.274	55.597	CONT.	564.725
PE 0604307N / 1447 (Aegis Surf Combatant Combat Sys Imp)	199.232	143.889	203.837	182.518	132.704	87.671	98.928	90.72	CONT.	1139.499

E. ACQUISITION STRATEGY:

LSD class procurements and installations are complete. These systems were procured under a Firm Fix Price (FFP) Contract. The FY00 requirements also include CVN 68 and 1 shore based trainer. 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 will be made using FFP contracts with the exception of those ships that would be receiving initial COTS tech Refresh hardware suites; then a CPAF type contract is necessary.
A new development contract is planned in FY 05 to support future SSDS MK 2 system/software upgrades.

F. MAJOR PERFORMERS:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**			PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME XLFN5 HDFWLRQ&RP EDW&DSDELOLW\ QWHJUDWHG' LVSOD\ (QKDQFHG$UFKLWHFWXUH							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	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	NAVSEA/DD-Dahlgren, VA	22.867	4.008	10/03	2.224	10/04	0.500	10/05	0.000	10/06	0.000	29.599	N/A
Systems Engineering	SS/FP	JHU/APL-Laurel, MD	32.545	0.299	11/03	2.779	11/04	0.500	11/05	0.000	11/06	0.000	36.123	N/A
Systems Engineering	WR	NAVSEA/PHD-Pt Hueneme,CA	14.033	0.718	10/03	0.300	10/04	0.500	10/05	0.000	10/06	0.000	15.551	N/A
Systems Engineering	WR	NAVSEA/Dam Neck-Dam Neck,	3.880	1.729	10/03	0.954	10/04	0.330	10/05	0.000	10/06	0.000	6.893	N/A
Systems Engineering	WR	NAVSEA/IH-Indian Head, MD	0.000	0.000	N/A	3.368	N/A	0.000	N/A	0.000	N/A	0.000	3.368	N/A
Systems Engineering	SS/FP	Lockheed Martin St. Paul, MN	0.400	2.808	05/04	0.000	01/00	0.400	10/05	0.000	10/06	0.000	3.608	N/A
Systems Engineering/Dev/Integrate	SS/CPAF	RSC(5108)-San Diego, CA	93.319	0.667	10/03	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	N/A	0.000	20.353	TBD
Systems Engineering/Dev/Integrate	SS/CPFF	RSC(5104)-San Diego, CA	7.216	16.469	10/03	16.722	10/04	0.000	10/05	0.000	10/06	0.000	40.407	TBD
Systems Engineering/Dev/Integrate	SS/CPAF	RSC (5132 Note (1))-San Diego,	8.562	6.389	05/04	0.000	10/04	12.233	10/05	0.000	10/06	0.000	27.184	TBD
Award Fees	SS/CPAF	RSC (5132 Note (1))-San Diego,	0.000	0.000	N/A	2.375	10/04	0.000	10/05	0.000	10/06	0.000	2.375	TBD
Award Fees	SS/CPAF	RSC(5108)-San Diego, CA	9.411	0.315	N/A	1.626	N/A	0.000	N/A	0.000	N/A	0.000	11.352	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	0.319	0.225	N/A	2.750	N/A	0.000	N/A	0.000	N/A	0.000	3.294	N/A
Subtotal Product Development			291.434	33.627		37.242		14.463		0.000		0.000	376.766	N/A

Remarks:
Note (1) New contract to perform Open Archectiture system modifications being negotiated.

QA/RMA	WR	NWAS Corona	8.640	0.310	N/A	0.360	N/A	0.150	N/A	0.000	N/A	0.000	9.460	
Subtotal Support			8.640	0.310	N/A	0.360	N/A	0.150	N/A	0.000	N/A	0.000	9.460	

Remarks:

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2) | DATE: **February 2005**

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 04 Cost	FY 04 Award Date	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	NAVSEA/PHD-Pt Hueneme,CA	28.905	5.833	10/03	2.369	10/04	5.728	10/05	3.585	10/06	0.000	46.420	N/A
Developmental Test & Evaluation	WR	NAVSEA/DD,Dahlgren, VA	1.105	0.340	10/03	0.500	10/04	2.425	10/05	0.000	10/06	0.000	4.370	N/A
Developmental Test & Evaluation	WR	NAVSEA DD, Wallops Island	17.928	1.375	10/03	2.642	10/04	2.599	10/05	0.000	10/06	0.000	24.544	N/A
Developmental Test & Evaluation	SS/FP	JHU/APL- Laurel, MD	4.383	0.900	N/A	1.245	N/A	2.596	N/A	0.000	N/A	0.000	9.124	N/A
Developmental Test & Evaluation	WR	NAVSEA/CORONA, Corona CA	0.998	0.000	10/03	0.000	10/04	0.000	10/05	0.000	10/06	0.000	0.998	N/A
Developmental Test & Evaluation	WR	OPTEVFOR	1.048	0.239	10/03	0.240	10/04	0.400	10/05	0.000	10/06	0.000	1.927	N/A
Developmental Test & Evaluation	SS/CPFF	RSC (5104)-San Diego, CA	0.000	0.000	N/A	2.570	10/04	11.320	10/05	0.000	10/06	0.000	13.890	65.471
Misc.	Various	Various	3.924	0.260	N/A	0.150	N/A	0.000	N/A	0.000	N/A	0.000	4.334	N/A
Subtotal T&E		**see Note (1) below in remarks**	58.291	8.947		9.716		25.068		3.585		0.000	105.607	N/A
Remarks:														
Program Management Support			8.507	1.786	N/A	0.800	N/A	0.800	N/A	0.000	N/A	0.000	11.893	N/A
													0.000	N/A
Subtotal Management			8.507	1.786		0.800		0.800		0.000		0.000	11.893	N/A
Remarks:														
Total Cost			366.872	44.670	N/A	48.118	N/A	40.481	N/A	3.585	N/A	0.000	503.726	N/A
Remarks:														

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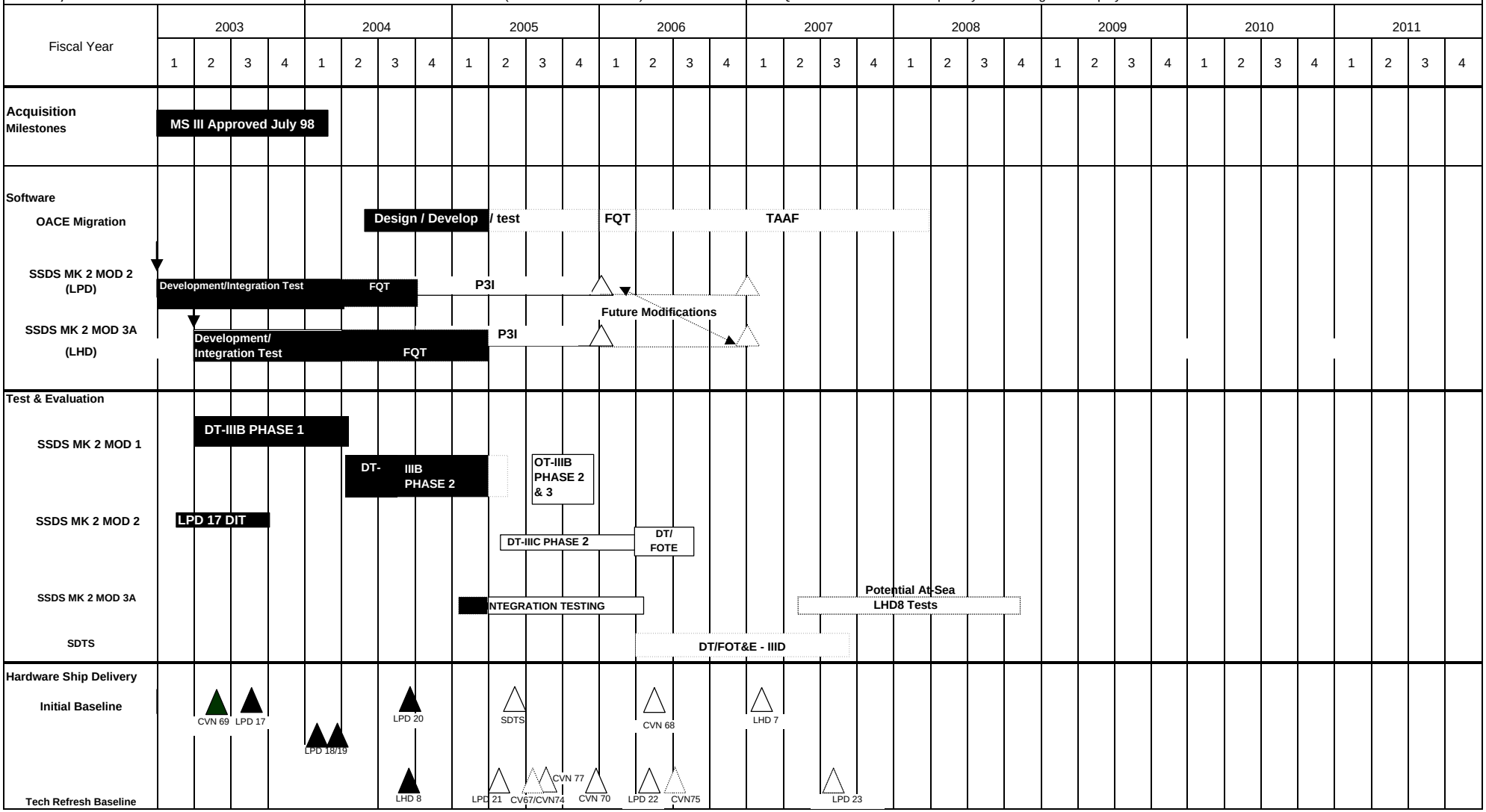
CLASSIFICATION:

EXHIBIT R4, Schedule Profile		DATE: **February 2005**
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



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* Efforts described with dotted lines in FY 06 support the SCN LHD-8 schedule

* SSDS MK2, CVN76 test event movement is in direct connection to ICAN Availability add.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2005**		
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 Enhanced Display Architecture			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
SSDS OACE Migration								
DESIGN AND DEVELOPMENT	1Q-4Q	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	2Q							
TEST READINESS REVIEW (TRR)	2Q	1Q						
CSIT TESTING	1Q-4Q	1Q						
ONBOARD TEST EVENTS / Phase II	2Q-4Q	1Q-4Q						
CSSQT		2Q						
SSDS MK 2 MOD 2 (LPDs)								
SYSTEM DEVELOPMENT								
INTEGRATION TESTING								
FORMAL QUALIFICATION TEST (FQT)	3Q							
LPD-17 (SCN) DIT								
INTEGRATION/DEVELOPMENTAL TESTS / Phase I	1Q-2Q							
TEST READINESS REVIEW (TRR)	2Q	2Q-3Q						
CSIT TESTING	3Q-4Q	1Q						
ONBOARD TEST EVENTS / Phase II		2Q-3Q	1Q-3Q					
CSSQT		4Q						
SSDS MK 2 MOD 3A (LHDs) LHD 8 - Lead Ship (SCN)								
SYS ENGINEERING/SYSTEM DEVELOPMENT	1Q-3Q	1Q-4Q	1Q-4Q					
INTEGRATION TESTING		2Q-4Q	1Q-3Q	1Q-4Q				
FORMAL QUALIFICATION TEST (FQT)		1Q2Q						
INTEGRATION/DEVELOPMENTAL TESTS / Phase I		2Q-4Q						
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			2Q-4Q	1Q-2Q				

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