

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2003	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT NUMBER AND NAME SURFACE SHIP TORPEDO DEFENSE / 0603506N				PROJECT NUMBER AND NAME Surface Ship Torpedo Defense F0225/F9037/F2854		
COST (\$ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	18.054	14.321	48.347	53.730	52.520	34.964	24.834	12.867
Tripwire Torpedo Defense F2854	12.037	9.975	0.000	0.000	0.000	0.000	0.000	0.000
Micro Electromechanical Systems F9037	1.489	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Surface Ship Torpedo Defense F0225	4.528	4.346	48.347	53.730	52.520	34.964	24.834	12.867
Defense Emergency Response Funds (DERF) Funds: Not Applicable								
A. Mission Description and Budget Line Justification: Project F0225/F2854/F9037 develops Tripwire AN/WSQ-11 Torpedo Defense System (TDS) which will provide the Tripwire towed sensors and processors to detect threat torpedo and provide launch orders for associated Anti-Torpedo Torpedo (ATT) All-Up-Round (AUR) countermeasure. The AN/WSQ-11 TDS will be integrated with the AN/SLQ-25A (NIXIE) Towed Torpedo Countermeasure. The Micro Electromechanical Systems provides an improved safe and arm capability for the ATT AUR. The AN/WSQ-11 is planned for installation on large deck ships, i.e. CVN, amphibious (LHA, LHD, LPD, LSD, AGF, LCC)/Combatant Logistic Forces (AOE), and selected DDG-51 Class ships without towed array. The AN/WSQ-11 is planned for fleet introduction in FY08 with a Block I (1X1 Capability). A salvo Block II (2X2) capability is planned for FY09 initial development. The AN/WSQ-11 TDS is closely linked with the ONR FNC program (Platform Protection and Littoral ASW) which provide advance technology inserts at key transition points in the AN/WSQ-11 schedule.								

R-1 SHOPPING LIST - Item No.

42

UNCLASSIFIED

Budget Item Justification
(Exhibit R-2a, page 1 of 8)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME Surface Ship Torpedo Defense, 0603506N	PROJECT NUMBER AND NAME Surface Ship Torpedo Defense F0225/F9037/F2854		
B. Accomplishments/Planned Program				
	FY 02 (F9037)	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.489			
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px; margin-top: 10px;">Developed the Micro-Electromechanical safe and arm device for the ATT warhead.</div>				
	FY 02 (F0225)	FY 03 (F0225)	FY 04 (F0225)	FY 05 (F0225)
Accomplishments/Effort/Subtotal Cost	4.528	4.346	48.347	53.730
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> FY02-Continue Development of ATT AUR, and low cost afterbody components. Complete development of AN/SLQ-25A EC16 and Littoral Cables for Surface Combatants . FY04-Continue Development of ATT AUR for Surface Ships. Conduct Prototype testing. Award ATT contract and Initiate ADM fabrication for ATT AUR. FY05-Complete fabrication of ADM ATT AURs. Conduct In-water testing of ADM units. Initiate design of EDMs. FY04-Continue Development of Tripwire Sensors and TDCL processor for large Deck Ships and selected DDG-51 Class Ships. Complete ADM development and Conduct in-water testing of ADM. FY05-Continue Development of Tripwire EDM Sensors and TDCL processor. Initiate design and testing of EDMs. FY04-05 Award Contract for AN/WSQ-11 System Integrator. </div>				
	FY 02 (F2854)	FY 03 (F2854)	FY 04 (F2854)	FY 04 (F2854)
Accomplishments/Effort/Subtotal Cost	12.037	9.975		
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> FY02-Continue Development of Tripwire Sensors and TDCL processor and for large Deck Ships and selected DDG-51 Class Ships. Develop Tripwire Prototype and Conduct Prototype testing. FY03-Continue Development of ATT AUR. Complete development of AN/SLQ-25A EC16 and Littoral Cables for Surface Combatants . </div>				

R-1 SHOPPING LIST - Item No.

42

UNCLASSIFIED

UNCLASSIFIED

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2003
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C. PROGRAM CHANGE SUMMARY:

	FY 2002	FY 2003	FY 2004	FY 2005
Funding:				
Previous President's Budget: (FY 03 Pres Controls)	18.552	3.244	3.256	4.687
Current BES/President's Budget: (FY04/05 Pres Controls)	18.054	14.321	48.347	53.730
Total Adjustments	-0.498	11.077	45.091	49.043
Summary of Adjustments				
POM 04 increases			48.160	52.097
Congressional Add		11.400		
Economic Assumptions/Bus. Process Reform	-0.113	-0.323	-1.369	-1.354
Reprogrammings	-0.094		-1.700	-1.700
SBIR/STTR Transfer	-0.291			
Subtotal	-0.498	11.077	45.091	49.043

Schedule:

See Milestone Chart

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 42

UNCLASSIFIED

UNCLASSIFIED

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D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN BLI: 221300										
Surface Ship Torpedo Defense - SSTO			11.277	11.025	16.083	20.928	17.485	17.655		
WPN BLI: 311300										
Surface Ship Torpedo Defense - SSTO					3.978	5.815	5.921	8.270		

E. ACQUISITION STRATEGY:

The project develops Surface Ship Torpedo Defense (SSTO) capabilities using a spiral development approach. Through a process of upgrades to the existing AN/SLQ-25A NIXIE, and design of torpedo detection, classification and localization (DCL) processing and an Anti-Torpedo Torpedo (ATT), the AN/WSQ-11 System will be developed. Upgrades to the AN/SLQ-25A will be performed by the Original Equipment Manufacture (OEM). ATT development will be executed by ARL/PSU during preliminary design. A competitive contract will be awarded for the design completion and LRIP fabrication. AN/WSQ-11 System Integration of the Tripwire and ATT subsystems will be competitively awarded following Milestone B.

F. MAJOR PERFORMERS:

See attached R3

R-1 SHOPPING LIST - Item No. 42

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification					DATE:			
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /N/BA-4					Surface Ship Torpedo Defense F0225/F9037/F2854			
	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09
AN/WSQ-11 System	<div>△</div> <div>Revised ORD</div>	<div>△</div> <div>WSQ-11 Spec</div>	<div>△</div> <div>MS B</div> <div>△</div> <div>WSQ-11 Sys Int. Contract Award</div>	<div>△</div> <div>System Trials-1</div>	<div>△</div> <div>CDR</div> <div>△</div> <div>MS C</div>	<div>△</div> <div>LRIP</div>	<div>△</div> <div>Block 1 FRP</div>	<div>△</div> <div>Block 1 FRP</div>
					<div>△</div> <div>System Trials -2</div>	<div>△</div> <div>System Trials -3</div>	<div>△</div> <div>TECHEVALOPEVAL</div>	<div>△</div> <div>System Trials-4</div>
Tripwire	<div>△</div> <div>Spec Development</div>	<div>△</div> <div>ADM</div>	<div>△</div> <div>ADM</div>	<div>△</div> <div>EDMs</div>	<div>△</div> <div>Software Ver 1.0 Complete</div>	<div>△</div> <div>Software Ver 2.0</div>		
	<div>△</div> <div>Prototype Testing</div>	<div>△</div> <div>ADM Testing</div>	<div>△</div> <div>EDM Testing</div>	<div>△</div> <div>Software Ver 1.0 Complete</div>	<div>△</div> <div>Software Ver 2.0</div>			
Anti-Torpedo Torpedo	<div>△</div> <div>Prototype Design</div>	<div>△</div> <div>Spec</div> <div>△</div> <div>Prototype</div>	<div>△</div> <div>ATT Contract Award</div>	<div>△</div> <div>ADM</div>	<div>△</div> <div>EDM</div>			<div>△</div> <div>ATT Block 2</div>
			<div>△</div> <div>Prototype Testing</div>	<div>△</div> <div>ADM Testing</div>	<div>△</div> <div>EDM Testing</div>			

R-1 SHOPPING LIST - Item No. 42

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 5 of 8)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2003		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-4			Surface Ship Torpedo Defense, 0603506N				Surface Ship Torpedo Defense F0225/F9037/F2854					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Ancillary Hardware Development	CPFF	ST Productions, Farmingdale, NJ		2.610	01/03						2.610	
Systems Engineering	WR	NUWC, Newport, RI		0.750	01/03	0.850	01/04	0.900	01/05		2.500	
Systems Engineering	CPFF	PSU, State College, PA		7.922	02/03	17.019	01/04	26.136	01/05		51.077	
Systems Engineering	CPFF	JHU, Baltimore , MD		0.081	02/03	0.100	01/04	0.100	01/05		0.281	
Systems Engineering	WR	NSWC, Indian Head, MD		1.250	02/03	5.270	01/04	4.250	01/05		10.770	
Systems Engineering	WR	NUWC/Keyport,WA		0.600	02/03	0.200	01/04	0.400	01/05		1.200	
Systems Engineering	WR	FTSCLANT/Norfolk, VA		0.108	02/03	0.100	01/04	0.100	01/05		0.308	
Systems Engineering WSQ-11	CPFF	Competitive Award Prime Contractor TBD				23.708	06/04	20.244	01/05		43.952	
											0.000	
											0.000	
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											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.000	13.321		47.247		52.130		0.000	112.698	
Remarks:												

R-1 SHOPPING LIST - Item No. 42

UNCLASSIFIED

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 6 of 8)

UNCLASSIFIED

February 2003

R-1 SHOPPING LIST - Item No. 42

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 7 of 8)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2003				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4			PROGRAM ELEMENT Surface Ship Torpedo Defense, 0603506N			PROJECT NUMBER AND NAME Surface Ship Torpedo Defense F0225/F9037/F2854						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation								0.400	01/05		0.400	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.400		0.000	0.400	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support				0.600	01/03	0.650	01/04	0.650			1.900	
Travel				0.100		0.150		0.150			0.400	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.700		0.800		0.800		0.000	2.300	
Remarks:												
Total Cost			0.000	14.321		48.347		53.730		0.000	116.398	
Remarks:												

R-1 SHOPPING LIST - Item No. 42

UNCLASSIFIED

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 8 of 8)