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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification				DATE: February 2006			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	R-1 Item Nomenclature 0603506N / SURFACE SHIP TORPEDO DEFENSE						
COST (\$ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	54.624	53.133	40.627	31.829	20.045	29.267	30.466
Surface Ship Torpedo Defense 0225	51.320	46.333	40.627	31.829	20.045	29.267	30.466
SLQ-25A Torpedo Countermeasure Set Upgrades 9514	3.304	0.000	0.000	0.000	0.000	0.000	0.000
Low Cost Component Development for Anti-Torpedo Torpedo 0225C	0.000	3.000	0.000	0.000	0.000	0.000	0.000
SLQ-25A Torpedo Countermeasure Improvement Program 9514C	0.000	1.700	0.000	0.000	0.000	0.000	0.000
Integrated Multi-Platform Sonar System 9799N	0.000	2.100	0.000	0.000	0.000	0.000	0.000

A. Mission Description and Budget Line Justification: Project 9514 continues upgrades to the AN/SLQ-25A torpedo countermeasure system as funded by congressional adds. Project 0225 continues development of components of the AN/WSQ-11 Torpedo Defense System. The AN/WSQ-11 TDS development approach espouses an Evolutionary Acquisition strategy of providing incremental surface ship torpedo defense capability to the fleet. Two contracted DCL DEMO systems, developed in FY05-06, as well as the Anti-Torpedo Torpedo (ATT) initial EDM-1 design, will be evaluated during at-sea trials in FY06 as risk mitigation demonstrations. Results of the at-sea demonstrations will lead to an AN/WSQ-11 TDS FY07 specification development and subsequent at-sea evaluations of DCL component integration with the AN/SLQ-25A system. In FY07, Project 0225 commences development of the Common Very Lightweight Torpedo (CVLWT) design as a continuation of the ATT 6 ¾ EDM-1 design developed under the AN/WSQ-11 TDS project. A common warhead design is planned that will allow for development of the CVLWT to accommodate multi- mission applications. The development of the ATT is the first EDM-2 derivative of the CVLWT as a funded acquisition program with planned IOC FY13. The planned CVLWT acquisition strategy will also accommodate subsequent development of the Compact Rapid Attack Weapon (CRAW) to be launched from the VTUAV airframe associated with the Littoral Combat Ship or other unmanned vehicles for ASW missions as well as other mission requirements requiring a compact ASW / torpedo defense weapon. Both the CRAW and AN/WSQ-11 TDS / ATT are closely linked with the ONR FNC programs (Sea Shield FNC's) which provide advance technology inserts at key transition points in support of the planned CRAW and AN/WSQ-11 ATT and DCL schedules.

(U) Project 9514 - FY05 Congressional Add: Completes development of AN/SLQ-25A enhanced EC-16 and littoral cable.

(U) Project 0225C - FY06 Congressional Add: Continue ATT component design cost reduction, conduct component affordability study, and procure ATT selected afterbody components for first ATT EDM units.

(U) Project 9514C - FY06 Congressional Add: Finalize resolution of dual tow and mutual interference issues associated with the recent AN/SLQ-25A EEC 16 performance upgrade.

(U) Project 9799N - FY06 Congressional Add: Evaluate feasibility of employing wireless technology to coordinate exchange of torpedo defense acoustic detection and tracking information.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603506N / SURFACE SHIP TORPEDO DEFENSE	PROJECT NUMBER AND NAME 0225 Surface Ship Torpedo Defense	
B. Accomplishments/Planned Program			
	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	8.185	35.526
RDT&E Articles Quantity	N/A	N/A	N/A
<u>ATT / Common Very Lightweight Torpedo (CVLWT)</u> FY06 - Develop CDD requirements. Initiate CVLWT warhead design. FY07 - Initiate EDM-2 and warhead development.			
	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	25.003	30.750	2.600
RDT&E Articles Quantity	N/A	N/A	N/A
<u>ANTI-TORPEDO TORPEDO (ATT)</u> FY05 - Complete EDM-1 design. Develop 6 3/4 EDM-1 sonar array , guidance and control, propulsion components. Build first EDM-1 unit. FY06 - Build remaining EDM-1 units (9). Continue in water testing (CT2 and CT3) EDM-1 units and post trials analysis. Conduct Torpedo DCL integrated platform display data exchange demo. FY07 - Conduct CT-4 in water trial. Select CVLWT EDM-2 design and develop ATT as first derivative of CVLWT.			
	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	25.819	7.098	1.751
RDT&E Articles Quantity	N/A	N/A	N/A
<u>TRIPWIRE</u> FY05 - Conduct preliminary DCL DEMO component trials (Trials 1 &2). FY06 - Conduct DCL DEMO final sea trials and post trial analysis. FY07 - Develop Tripwire sensor and DCL specifications. Conduct component trials (DD-3 & 4).			
	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.498	0.300	0.750
RDT&E Articles Quantity	N/A	N/A	N/A
<u>AN/WSQ-11 TDS</u> FY05 - Initial draft CDD requirements. FY06 - Complete CDD requirements. FY07 - Develop AN/WSQ-11 TDS system specifications.			

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-4	0603506N / SURFACE SHIP TORPEDO DEFENSE	0225 Surface Ship Torpedo Defense	
C. PROGRAM CHANGE SUMMARY:			
Funding:	FY 2005	FY 2006	FY 2007
FY 2006 President's Budget:	50.403	47.039	37.721
FY 2007 President's Budget:	51.320	46.333	40.627
Total Adjustments	0.917	-0.706	2.906
Summary of Adjustments			
General Provisions	-0.039	-0.706	0.000
Revised rates & inflation indices	0.000	0.000	0.249
SBIR	-1.163	0.000	0.000
Programmatic Changes	2.119	0.000	2.657
Subtotal	0.917	-0.706	2.906
Schedule:			
See Milestone Chart			
Technical:			
Not Applicable			

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EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2006																															
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-4			PROGRAM ELEMENT NUMBER AND NAME 0603506N / SURFACE SHIP TORPEDO DEFENSE			PROJECT NUMBER AND NAME 0225 Surface Ship Torpedo Defense																																	
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Line Item No. & Name</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2005</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2006</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2007</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2008</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2009</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2010</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2011</th> <th style="text-align: center; border-bottom: 1px solid black;">To Complete</th> <th style="text-align: center; border-bottom: 1px solid black;">Total Cost</th> </tr> </thead> <tbody> <tr> <td>OPN BLI: 221300 Surface Ship Torpedo Defense - SSTO</td> <td style="text-align: center;">33.144</td> <td style="text-align: center;">28.393</td> <td style="text-align: center;">8.404</td> <td style="text-align: center;">5.796</td> <td style="text-align: center;">10.050</td> <td style="text-align: center;">4.575</td> <td style="text-align: center;">4.687</td> <td style="text-align: center;">CONT.</td> <td style="text-align: center;">CONT.</td> </tr> <tr> <td>WPN BLI: 311300 Surface Ship Torpedo Defense - SSTO</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">3.941</td> <td style="text-align: center;">5.856</td> <td style="text-align: center;">6.015</td> <td style="text-align: center;">8.442</td> <td style="text-align: center;">8.621</td> <td style="text-align: center;">8.809</td> <td style="text-align: center;">CONT.</td> <td style="text-align: center;">CONT.</td> </tr> </tbody> </table> <p>E. ACQUISITION STRATEGY:</p> <p>The project develops Surface Ship Torpedo Defense (SSTO) capabilities using an evolutionary acquisition incremental development approach. The existing AN/SLQ-25A NIXIE is upgraded through ECP's performed by the Original Equipment Manufacture (OEM) and procured/ installed in the FY05 - FY09 time frame. In FY09 - FY11 components of the AN/WSQ-11 DCL design are procured for at-sea evaluation. The FY07 MS B approves the previous ATT 6 3/4 EDM-1 design as a Common Very Lightweight Torpedo (CVLWT) EDC-2 design to continue development as an Anti-Torpedo Torpedo which subsequently can also accommodate multi-missions. ATT development continues post MS C under ARL PSU as design agent with a competitive award to a single prime contractor to accomplish integration of the ARL PSU design into CVLWT LRIP builds for ATT operational testing. FY06-FY08 WPN procures SSTO acoustic decoy countermeasures for fleet use and Surface Warfare Development Group (SWDG) tactics development. FY09 - FY11 WPN provides CVLWT LRIP units for operational evaluation as ATT units.</p> <p>F. MAJOR PERFORMERS:</p> <p>See R-3</p>										Line Item No. & Name	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost	OPN BLI: 221300 Surface Ship Torpedo Defense - SSTO	33.144	28.393	8.404	5.796	10.050	4.575	4.687	CONT.	CONT.	WPN BLI: 311300 Surface Ship Torpedo Defense - SSTO	0.000	3.941	5.856	6.015	8.442	8.621	8.809	CONT.	CONT.
Line Item No. & Name	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost																														
OPN BLI: 221300 Surface Ship Torpedo Defense - SSTO	33.144	28.393	8.404	5.796	10.050	4.575	4.687	CONT.	CONT.																														
WPN BLI: 311300 Surface Ship Torpedo Defense - SSTO	0.000	3.941	5.856	6.015	8.442	8.621	8.809	CONT.	CONT.																														

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Exhibit R-3 Cost Analysis (page 1)						DATE: February 2006							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4			PROGRAM ELEMENT 0603506N / SURFACE SHIP TORPEDO DEFENSE		PROJECT NUMBER AND NAME 0225 Surface Ship Torpedo Defense								
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	
Ancillary Hardware Development	CPFF	ARGONST, Uniontown, PA		2.128	07/05	1.700	05/06	0.000		CONT.	0.000		
Systems Engineering	WX	NUWC, Newport, RI		3.918	10/05	5.339	02/06	5.201	12/06	CONT.	0.000		
Systems Engineering ATT Dev.	CPFF	PSU/ARL, State College, PA		21.285	12/04	29.494	02/06	23.226	12/06	CONT.	0.000		
Systems Engineering	CPFF	JHU/APL, Baltimore , MD		0.667	02/05	0.300	03/06	0.300	12/06	CONT.	0.000		
Systems Engineering Warhead Dev.	WX	NSWC, Indian Head, MD		3.100	12/04	6.300	02/06	9.700	12/06	CONT.	0.000		
Systems Engineering	WX	NUWC, Keyport,WA		1.600	12/04	0.500	02/06	1.000	12/06	CONT.	0.000		
Systems Engineering DCL/ HPS	SBIR	AAC, Hauppauge, NY		9.092	01/05	1.000	02/06	0.000		CONT.	0.000		
Systems Engineering DCL Demo	C/CPFF	Ultra, Braintree, MA		10.900	12/04	7.300	02/06	0.000		CONT.	0.000		
Systems Engineering WSQ-11	WX	ONR		0.100	01/05	0.000		0.000		CONT.	0.000		
Systems Engineering WSQ-11	CPFF	BAE Systems, Rockville, MD		0.300	04/05	0.000		0.000		CONT.	0.000		
Systems Engineering	CPFF	UT/ARL, Austin, TX		0.128	01/05	0.000		0.000		CONT.	0.000		

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Exhibit R-3 Cost Analysis (page 3)								DATE: February 2006				
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-4			PROGRAM ELEMENT 0603506N / SURFACE SHIP TORPEDO DEFENSE			PROJECT NUMBER AND NAME 0225 Surface Ship Torpedo Defense						
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											0.000	
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		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	C/CPFF	EG&G Gaithersburg, Md		0.700	10/05	0.650	01/06	0.650	01/07	CONT.	0.000	
Travel		PMS 415		0.100	11/04	0.150	11/05	0.150	11/06	CONT.	0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.800		0.800		0.800		0.000	0.000	
Remarks:												
Total Cost			0.000	54.624		53.133		40.627		0.000	0.000	
Remarks:												

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Exhibit R-2, RDTE Budget Item Justification
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EXHIBIT R-4, SCHEDULE PROFILE (page 1)										DATE: February 2006													
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-4										PROGRAM ELEMENT NUMBER AND NAME 0603506N / SURFACE SHIP TORPEDO DEFENSE													
	FY 05			FY 06			FY 07			FY 08			FY 09			FY 10			FY 11				
COMMON VERY LIGHTWEIGHT TORPEDO (CVLWT) 6 3/4 FORM FACTOR	EDM-1 (10)										EDM-2 (25)										LRIP (60)		
	DESIGN COMPLETED		▲ EDM-1 (1)	△ EDM-1 (3)	△ EDM-1 (6)	In-Water Testing																	
ANTI-TORPEDO TORPEDO (ATT)											SD&D PHASE					LRIP PHASE							
				△ ICD CT1-1	△ CDD CT1-2	△ CT1-3	△ CR1-4	△ MS B	△ CT2-1	△ CT2-2	△ CT2-3	△ CT2-4	△ MS C CT2-5	△ CT2-6	△ CT2-7	△ LR-1	△ LR-2						
COMPACT RAPID ATTACK WEAPON (CRAW)														△ CR2-1			△ CR2-2					△ CR2-3	
TRIPWIRE COMPONENTS	DCL DEMO PHASE																						
	▲ DD-1	▲ DD-2	△ DT-1	△ DT-2	△ DD-3		△ DD-4	△ DD-5				△ DD-6		△ DD-7				△ DD-8					
			△ UK SSTO EVAL																				
AN/WSQ-11 SYSTEM																							
			△ ICD																				
			△ CDD		△ CDD		△ SPEC																

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603506N / SURFACE SHIP TORPEDO DEFENSE	PROJECT NUMBER AND NAME Congressional Plus-Ups	

CONGRESSIONAL PLUS-UPS:

	FY 06			
0225C				
Low Cost Component Development for Anti-Torpedo Torpedo	3.000			

FY06- Congressional Plus-Up Add to continue ATT component design cost reduction, to conduct component affordability study, and to procure ATT selected afterbody components for the first ATT EDM units.

	FY 06			
9514C				
SLQ-25A Torpedo Countermeasure	1.700			

FY06- Congressional Plus-Up Add to finalize resolution of dual tow and mutual interference issues associated with the recent AN/SLQ-25A EEC 16 performance upgrade. Evaluate under the 25A ROADMAP project feasibility of integrating the AN/SLQ-25A system with a SSTD DCL subsystem.

	FY 06			
9799N				
Integrated Multi-Platform Sonar system	2.100			

FY06- Congressional Plus-Up Add to evaluate feasibility of employing wireless technology to coordinate exchange of torpedo defense acoustic detection and tracking information. Intent is to examine feasibility of linking SSTD distributed sensors data within a battle group.

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