#### **CLASSIFICATION:**

EXHIBIT R-2, RDT&E Budget Item Justification	-				DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	R-1 ITEM NO SURFACE			ENSE / 06		2003				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		
Total PE Cost	\$39.997	\$53.770	\$47.039	\$37.721	\$28.949	\$12.412	\$12.720	\$12.969		
Tripwire Torpedo Defense										
2854	\$2.479	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000		
SLQ-25A Torpedo Countermeasure Set Upgrades										
9514	\$0.000	\$3.367	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000		
Surface Ship Torpedo Defense										
0225	\$37.518	\$50.403	\$47.039	\$37.721	\$28.949	\$12.412	\$12.720	\$12.969		

A. Mission Description and Budget Line Justification: Projects 0225/2854 develops the 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 the associated Anti-Torpedo Torpedo (ATT) All-Up-Round (AUR) countermeasure. The AN/WSQ-11 TDS will incorporate the functionality of the AN/SLQ-25A (NIXIE) Towed Torpedo Countermeasure. 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 TDS development approach espouses an Evolutionary Acquisition strategy of providing incremental surface ship torpedo defense capability to the fleet. The first increment of TDS capability (simple salvo capability) is planned for fleet introduction in FY11. The AN/WSQ-11 TDS is closely linked with the ONR FNC program (Platform Protection and Littoral ASW) which provides advance technology inserts at key transition points in the AN/WSQ-11 schedule.

#### **CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification							DATE:			
•							February 2	2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND NAME									
RDT&E, N / BA-4	SURFACE	SHIP TOR	PEDO DEF	ENSE / 06		Surface Shi	Surface Ship Torpedo Defense 0225/2854/9514			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		
Total PE Cost	\$39.997	\$53.770	\$47.039	\$37.721	\$28.949	\$12.412	\$12.720	\$12.969		
Tripwire Torpedo Defense										
2854	\$2.479	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000		
SLQ-25A Torpedo Countermeasure Set Upgrades										
9514	\$0.000	\$3.367	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000		
Surface Ship Torpedo Defense										
0225	\$37.518	\$50.403	\$47.039	\$37.721	\$28.949	\$12.412	\$12.720	\$12.969		

A. Mission Description and Budget Line Justification: Projects 0225/2854 develops the 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 the associated Anti-Torpedo Torpedo (ATT) All-Up-Round (AUR) countermeasure. The AN/WSQ-11 TDS will incorporate the functionality of the AN/SLQ-25A (NIXIE) Towed Torpedo Countermeasure. 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 TDS development approach espouses an Evolutionary Acquisition strategy of providing incremental surface ship torpedo defense capability to the fleet. The first increment of TDS capability (simple salvo capability) is planned for fleet introduction in FY11. The AN/WSQ-11 TDS is closely linked with the ONR FNC program (Platform Protection and Littoral ASW) which provides advance technology inserts at key transition points in the AN/WSQ-11 schedule.

#### **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-4	Surface Ship Torpedo Defense, 0603506N	Surface Ship Torpedo Def	fense 0225/2854/9514

## **B. Accomplishments/Planned Program**

	FY 04 (0225)	FY 05 (0225)	FY 06 (0225)	FY 07 (0225)
Accomplishments/Effort/Subtotal Cost	33.636	43.913	40.699	31.211
RDT&E Articles Quantity	N/A	N/A	N/A	N/A

## AN/WSQ-11 SYSTEM

FY04 - Award two Industry contracts for conduct of Tripwire DCL at-sea DEMO; Initiate ARL PSU development of ATT ADM.

FY05 - Conduct DCL DEMO trials; Continue ATT ADM development and initial in water trials.

FY06 - Conduct final DCL DEMO and continue ATT ADM in-water trials; Award post MS B competitive contract for AN/WSQ-11 development.

FY07 - Initiate AN/WSQ-11 system integration development.

	FY 04 (0225)	FY 05 (0225)	FY 06 (0225)	FY 07 (0225)
Accomplishments/Effort/Subtotal Cost	2.012	4.400	4.302	4.410
RDT&E Articles Quantity	N/A	N/A	N/A	N/A

## ANTI-TORPEDO TORPEDO (ATT)

FY04 - Continue ATT Component Testing; Initiate fabrication of ATT ADM units.

FY05 - Continue fabrication of ADM ATT AURs; Conduct first In-water testing of ADM units. (CT-1).

FY06 - Continue in water testing (CT2 and CT3) ADM units and initiate post MS B EDM development.

FY07 - Continue ATT EDM development and CT-4 and CT-5 trials.

	FY 04 (0225)	FY 05 (0225)	FY 06 (0225)	FY 07 (0225)
Accomplishments/Effort/Subtotal Cost	1.870	2.090	2.038	2.100
RDT&E Articles Quantity	N/A	N/A	N/A	N/A

### TRIPWIRE

FY04 - Initiate build of DCL DEMO prototypes by selected industry companies.

FY05 - Conduct initial in water trials of competing DEMO developments (Trials 1 &2).

FY06 - Conduct competitive DEMO sea trial; Initiate post MS B EDM development.

FY07 - Continue Tripwire EDM development and TT-1 trial.

	FY 04 (2854)	FY 05 (9514)	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	2.479	3.367	0.000	0.000
RDT&E Articles Quantity	N/A	N/A	N/A	N/A

### Congressional Plus-Up

FY04 - Develop the AN/SLQ-25A enhanced EC-16 and littoral cable.

FY05 - Complete development of AN/SLQ-25A enhanced EC-16 and littoral cable.

## **CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMEN	IT NUMBER AN	D NAME		PROJECT NUMBER	•
RDT&E, N / BA-4	Surface Ship Torped	Defense, 0603	506N		Surface Ship Torpedo	Defense 0225/2854/9514
C. PROGRAM CHANGE SUMMARY:						
Funding:		FY 2004	FY 2005	FY 2006	FY 2007	
FY05 President's Budget:		44.891	46.896	47.475	39.617	
FY06 President's Budget:		39.997	53.770	47.039	37.721	
Total Adjustments	=	(4.894)	6.874	(0.436)	(1.896)	
Summary of Adjustments						
Reprogrammings		(3.722)	0.000	0.000	0.000	
Miscellaneous Adjustments		(1.172)	(0.526)	(0.436)	(0.296)	
Sea Trial Rephasing		0.000	0.000	0.000	(1.600)	
SLQ-25A Torpedo CM set Upg	rades Congressional Add	0.000	3.400	0.000	0.000	
Subtotal		(4.894)	2.874	(0.436)	(1.896)	
Schedule: See Milestone Chart						
Technical: Not Applicable						

#### CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:				
									February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EI	LEMENT NUM	BER AND NAM	1E	PROJECT N	UMBER AND	NAME				
RDT&E, N / BA-4		Surface Ship 7	Torpedo Defen	se, 0603506N		Surface Ship	Torpedo De	fense 0225/2	854/9514			
D. OTHER PROGRAM FUNDING SUMMARY: <u>Line Item No. &amp; Name</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To <u>Complete</u>	Total <u>Cost</u>		
OPN BLI: 221300 Surface Ship Torpedo Defense - SSTD	13.643	33.169	22.898	8.394	5.791	10.037	4.580	4.690	CONT.	CONT.		
WPN BLI: 311300 Surface Ship Torpedo Defense - SSTD	0.000	0.000	3.994	5.865	6.002	8.412	8.595	8.782	CONT.	CONT.		

### E. ACQUISITION STRATEGY:

The project develops Surface Ship Torpedo Defense (SSTD) 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). ATT development will be executed by ARL/PSU for prelimary design and ADM development. AN/WSQ-11 System continued development and integration of the Tripwire and ATT subsystems will be competitively awarded to a single prime contractor in FY06 following Milestone B.

### F. MAJOR PERFORMERS:

See attached R3

### CLASSIFICATION:

Exhibit R-3 Cost Analysis (pag	ie 1)							DATE:			February	2005		
APPROPRIATION/BUDGET ACTIVI		PROGRAM E	I EMENT			PROJECT N	NUMBER ANI	) NAME			i cordary	y 2000		
RDT&E. N / BA-4			Torpedo Defen	se. 0603506N			p Torpedo De		854/9514					
Cost Categories	Contract Method & Type	Performing	Total PY s Cost	FY 04 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
Ancillary Hardware Development	CPFF	ST Productions, Uniontown,	PA	0.992	04/04	2.400	04/05	0.000		0.000		CONT.	0.000	)
Systems Engineering	WX	NUWC, Newport, RI		1.500	11/03	1.994	10/05	1.200	12/05	1.200	12/06	CONT.	0.000	)
Systems Engineering ATT Dev.	CPFF	PSU/ARL, State College, PA		23.889	01/04	20.425	12/04	21.200	12/05	6.299	12/06	CONT.	0.000	)
Systems Engineering	CPFF	JHU/APL, Baltimore , MD		0.200	03/04	0.340	02/05	0.300	12/05	0.300	12/06	CONT.	0.000	)
Systems Engineering	WX	NSWC, Indian Head, MD		1.217	12/03	3.100	12/04	4.300	12/05	4.300	12/06	CONT.	0.000	)
Systems Engineering	WX	NUWC/Keyport,WA		0.597	12/03	1.200	12/04	0.500	12/05	0.500	12/06	CONT.	0.000	)
Systems Engineering DCL/ HPS	SBIR	AAC, Hauppauge, NY		7.442	05/04	9.092	01/05	2.600	01/05	0.000		CONT.	19.134	32.63
Systems Engineering DCL Demo	C/CPFF	Ultra, Braintree, MA	0.000		10.900	12/04	2.600	12/05	0.000		CONT.	13.500		
Systems Engineering WSQ-11	C/CPFF	Competitive Award Prime Contr	actor FY06	0.000		0.000		13.139	07/06	23.922	04/07	CONT.	TBD	)
Systems Engineering WSQ-11	WX	ONR	0.281	02/04	0.100	01/05	0.000		0.000		CONT.	0.000	)	
Systems Engineering WSQ-11	CPFF	BAE Systems, Rockville, MD		0.300	04/04	0.000		0.000		0.000		CONT.	0.000	)
Systems Engineering	CPFF	UT/ARL, Austin, TX		0.000		0.128	01/05	0.000		0.000	1	CONT.	0.000	)
														+
														<u> </u>
Subtotal Product Development			0.000	36.418	3	49.67	9	45.83	9	36.52	1	0.00	0.000	<u>J</u>
Remarks:														

## CLASSIFICATION:

Exhibit R-3 Cost Analysis											Februa	ry 2005		
APPROPRIATION/BUDGET A	CTIVITY	PF	ROGRAM ELEMENT			PROJECT N								
RDT&E, N / BA-4			rface Ship Torpedo Defe	nse, 0603506N		Surface Ship	Torpedo E	efense 0225/2	2854/9514					
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		Total Cost	Target Value of Contract
Development Support	ω 1,7ρυ	Location	0001	0001	Date	0001	Bailo	0001	Date	000.	Date	Complete	0.000	
Software Development													0.000	
Integrated Logistics Support													0.000	
Configuration Management													0.000	
Technical Data													0.000	
Studies & Analyses													0.000	
Miscellaneous				0.000		0.000		0.000		0.000			0.000	_
Miscellaneous				2.876		3.291		0.400		0.400		CONT.	0.000	
Award Fees													0.000	
													5.555	
Subtotal Support			0.00	00 2.87	6	3 291		0.400		0.400		0.000	0.000	
Subtotal Support  Remarks:			0.00	2.87	6	3.29		0.400		0.400		0.000	0.000	) <u> </u>

### CLASSIFICATION:

								1						
Exhibit R-3 Cost Analysis (page	ge 3)							DATE:			February	y 2005		
APPROPRIATION/BUDGET ACTIV	ΊΤΥ		PROGRAM ELEMENT			PROJECT	NUMBER AN	D NAME						
RDT&E, N / BA-4			Surface Ship Torpedo Defe	ense, 0603506N		Surface Sh	ip Torpedo De	efense 0225/2						
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									_ = 5.1.5				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			0.00	00.00	0	0.0	00	0.000		0.000		0.000	0.000	,
												_		
Contractor Engineering Support													0.000	
Government Engineering Support													0.000	
Program Management Support	C/CPFF	EG&G Gaithersb	urg, Md	0.650	01/04	0.700	10/05	0.650	01/06	0.650	01/07	CONT.	0.000	
Travel		PMS 415		0.053	11/03	0.100	11/04	0.150	11/05	0.150	11/06	CONT.	0.000	
Transportation													0.000	
SBIR Assessment							_						0.000	
Subtotal Management			0.00	00 0.703		0.800		0.800		0.800		0.000	0.000	
Remarks:														
Total Cost			0.00	39.99	7	53.7	70	47.0	39	37.72	21	0.000	0.000	i
Remarks:														

## CLASSIFICATION:

EXHIBIT R-4, SCHEDULE PROFILE (page 1)						DATE: February 2005							
	R-1 ITEM NOMENCLATURE  Surface Ship Torpedo Defense 0225/2854/9514												
		FY04 Draft —	FY05	FY06	FY07	FY08	FY09	FY10	FY11				
	AN/WSQ-11 System	ORD	CDD	WSQ-11 WSQ-11 Spec Prime Contract Award	A A	CDR MS C	ST-3 S	LRIP	TE OT FRP 1st Incr.				
	Tripwire	Demo Contract Award	DCL Demo Pl	nase	EDM Build an TT-1 Software V 1.0 Complete	TT-2 TT-3 Software V 2.0 Complete	LRIP (2) TT-4 Software V 3.0 Complete	TT-5 Software V 4.0 Complete					
	Anti-Torpedo Torpedo	ADM Compor	ent Build and Testin	(10) CT-2 CT-3		nd Testing (20)	LRIP (60)  A A A A A A A A A A A A A A A A A A A	↑ ↑ CT-11 CT-12	<u> </u>				

## **CLASSIFICATION:**

Exhibit R-4a, Schedule Detail							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY   PROGRAM ELEMENT   PROJE						ROJECT NUMBER AND NAME				
RDT&E, N / BA-04	0603506N/SURFACE SHIP TORPEDO DEFENSE				0225/2854/9514 SURFACE SHIP TORPEDO DEFENSE					
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		
WSQ-11	1				1 1 2 2 2 2 2					
DRAFT ORD	Q1									
CAPABILITIES DEVELOPMENT DOCUMENT (CDD)		Q2								
WSQ-11 SPECIFICATION			Q1							
MILESTONE B			Q3					-		
PRIME CONTRACT AWARD			Q4					-		
SYSTEM DEVELOPMENT AND DEMONSTRATION (SD&D)			Q4	Q1-Q4	Q1-Q4	Q1				
PRELIMINARY DESIGN REVIEW (PDR)				Q2				-		
DESIGN READINESS REVIEW (DRR)				Q3						
CRITICAL DESIGN REVIEW (CDR)					Q3			-		
MILESTONE C					Q4			-		
INTEGRATION TESTING					Q1, Q3	Q2, Q4	Q1, Q2, Q3			
TRIPWIRE										
DEMO CONTRACT AWARD	Q3									
DEMO PHASE	Q4	Q1-Q4	Q1-Q3							
DEMO TESTING		Q1, Q3								
DEMO TRIAL			Q3							
SUB SYSTEM TESTING				Q3	Q1, Q4	Q2	Q2			
SOFTWARE DEVELOPMENT				Q2	Q3	Q3	Q3			
ANTI-TORPEDO TORPEDO (ATT)										
ADM COMPONENT BUILD AND TESTING (10)	Q1-Q4	Q1-Q4	Q1-Q2							
SUB SYSTEM TESTING	α, α,	Q3	Q2, Q3	Q2, Q4	Q1, Q3, Q4	Q2, Q3	Q2, Q3			
			,	, , ,	, , , , , ,	,	, , , , ,			
					1					