

CLASSIFICATION:		UNCLASSIFIED					
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION					DATE May 2009		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 4			R-1 ITEM NOMENCLATURE 0603506N/SURFACE SHIP TORPEDO DEFENSE				
COST (In Millions)			FY 2008	FY 2009	FY 2010		
Total PE Cost			32.668	51.545	57.538		
0225 / Surface Ship Torpedo Defense (SSTD)			22.641	48.992	57.538		
9999 / CONGRESSIONAL ADDS			10.027	2.553	0.000		
<p>A. MISSION DESCRIPTION:</p> <p>Project 0225 utilizes previous development of components of the AN/WSQ-11 Torpedo Defense System and applies them to a detect to engage hardkill torpedo defense system now called the Anti-Torpedo Torpedo Defense System (ATTDS) as specified in the Capability Development Document (CDD). This acquisition program espouses an evolutionary acquisition strategy of providing incremental surface ship torpedo defense capability to the fleet by implementing first on ships already equipped with sonar systems, fire control systems and launchers. Results of FY06 through FY08 at-sea demonstrations of Torpedo Detection Classification & Localization (TDCL) systems lead to a CRUDES TDCL system specification development in FY09. At sea testing of the EDM-1 design of the Anti-Torpedo Torpedo (ATT) variant of the Common Very Lightweight Torpedo (CVLWT) in FY07 and FY08 will facilitate design of the EDM-2 ATT which will be completed in FY10. Also in FY 09, an EDM of the ship components for CRUDES application will be developed. This EDM will leverage existing program of record systems on CRUDES to provide the TDCL system, a command and control system with user interface, a modified Surface Vessel Torpedo Tube launcher, and a canistered Anti-Torpedo Torpedo. The TDCL system will utilize a sensor set added to the AN/SLQ-25A (NIXIE) System, processing in the SQQ-89, as well as the hull mounted sonar already employed on these ships. The development of the ATT is the first derivative of the CVLWT as a funded acquisition program. An offensive warhead design is being investigated separately by ONR that will allow for a variant of the CVLWT to accommodate multi-mission (offensive & defensive) applications. The ATT as well as the TDCL development 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 ATTDS, and TDCL schedules.</p> <p>(U) Project 9B54A - FY08 Congressional Add: Accelerates development of the Anti-Torpedo Torpedo EDM-2 design effort and conducts additional in-water test events on ATT EDM-1 units.</p> <p>(U) Project 9B55A - FY08 Congressional Add: Apply industry cost affordability manufacturability practices (DFA/DFM) to the ATT system design similar to previous successful efforts to reduce ATT subsystem component manufacturing costs.</p> <p>(U) Project 9D21A - FY09 Congressional Add: Develop the Open Architecture (OA) supportability processes, methods, and tools required to facilitate the real-time capture and cataloging of sailor training, performance, and vocational skills data.</p> <p>(U) Project 9D22A - FY09 Congressional Add: Expand technology development of mobile countermeasures used for Surface Ship Torpedo Defense including device engineering, fabrication and testing capabilities to assess the effectiveness of Next Generation (mobile) Countermeasures.</p>							

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EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)			DATE May 2009
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 4	R-1 ITEM NOMENCLATURE 0603506N/SURFACE SHIP TORPEDO DEFENSE		
B. PROGRAM CHANGE SUMMARY:			
Funding:	FY 2008	FY 2009	FY 2010
FY09 President's Budget	27.451	49.171	24.739
FY10 President's Budget	32.668	51.545	57.538
Total Adjustments	5.217	2.374	32.799
(U) Summary of Adjustments			
Congressional Rescissions	0.000	0.000	0.000
Congressional Adjustments	-1.490	2.420	0.000
SBIR/STTR/FTT Assessment	-0.438	0.000	0.000
Program Adjustments	7.145	0.000	33.644
Rate/Misc Adjustments	0.000	-0.046	-0.845
Total	5.217	2.374	32.799
C. OTHER PROGRAM FUNDING SUMMARY:			
Line Item No. and Name	FY 2008	FY 2009	FY 2010
OPN 2213			
Surface Ship Torpedo Defense - SSTD	9.950	19.600	2.184
WPN 3113			
Surface Ship Torpedo Defense - SSTD	0.013	0.000	0.000
D. ACQUISITION STRATEGY:			
<p>The project develops Surface Ship Torpedo Defense (SSTD) capabilities using an evolutionary acquisition incremental development approach. OPN: In FY08 - FY09, the OPN funding upgrades the existing AN/SLQ-25A NIXIE through ECP's performed by the Original Equipment Manufacture (OEM) and includes procurement and installation. The FY09 MS B approves the ATTDS as a system of systems to bring a hard kill torpedo defense system to surface ships. The previous EDM-1 Common Very Lightweight Torpedo (CVLWT) design brings in the hard-kill component of the ATTDS. The EDM-2 design started in FY08 and continuing through FY09 and into FY10. FY10 will develop the dedicated Anti-Torpedo Torpedo variant of the CVLWT. EDM-2 units to support the System Development and Demonstration phase of the program will be built by ARL/PSU. The offensive capability of the CVLWT either as common vehicle that accommodates both offensive and defensive missions or as a dedicated offensive vehicle may be acquired in a future acquisition cycle. Development of offensive capabilities are conducted by ARL/PSU and funded separately by ONR.</p>			

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EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE May 2009		
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 4		PROGRAM ELEMENT NUMBER AND NAME 0603506N/SURFACE SHIP TORPEDO DEFENSE			PROJECT NUMBER AND NAME 0225/Surface Ship Torpedo Defense (SSTD)		
COST (In Millions)	FY 2008	FY 2009	FY 2010				
Project Cost	22.641	48.992	57.538				
RDT&E Articles Qty	0	0	0				
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>Project 0225 utilizes previous development of components of the AN/WSQ-11 Torpedo Defense System and applies them to a Cruiser and Destroyer (CRUDES) based Torpedo Defense System. This development approach espouses an Evolutionary Acquisition strategy of providing incremental surface ship torpedo defense capability to the fleet by implementing first on ships already equipped with sonar systems, fire control systems and launchers. Subsequent increments will install this capability on large deck ships such as Amphibs, Carriers, and Combat Logistic Force (CLF) ships.</p>							

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B. ACCOMPLISHMENTS/PLANNED PROGRAM:				
		FY 2008	FY 2009	FY 2010
Accomplishments/Effort/Subtotal Cost		15.496	39.992	41.538
RDT&E Articles Quantity		0	0	0
ANTI-TORPEDO TORPEDO (ATT)				
<p>FY08- Initiate ATT EDM-2 design. Conduct warhead testing CT1-4 in-water trials. Continue ATT Launcher development.</p> <p>FY09- Continue ATT EDM-2 Design. Complete ATT Launcher development. Conduct DDG Demonstration. Complete CDD. Achieve MS B.</p> <p>FY10- Continue ATT EDM Build. Perform Critical Design Review (CDR).</p>				
		FY 2008	FY 2009	FY 2010
Accomplishments/Effort/Subtotal Cost		7.145	9.000	16.000
RDT&E Articles Quantity		0	0	0
SHIP SYSTEMS				
<p>FY08 - Initiate TDCL Performance Spec. Conduct ATT EDM-1 in-water test event.</p> <p>FY09 - Initiate Ship System EDM Design. Conduct DDG-51 TDCL Test Event. Generate ATTDS Spec. Initiate Ship System EDM Build.</p> <p>FY10 - Complete Ship Systems EDM design. Continue Ship System EDM Build. Conduct Critical Design Review (CDR).</p>				

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EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS							DATE May 2009			
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 4		PROGRAM ELEMENT NUMBER AND NAME 0603506N/SURFACE SHIP TORPEDO DEFENSE			PROJECT NUMBER AND NAME 0225/Surface Ship Torpedo Defense (SSTD)					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost (\$000)	FY 2009 Cost (\$000)	FY 2009 Award Date	FY 2010 Cost (\$000)	FY 2010 Award Date			
Systems Engineering	WR	NUWC, Newport, RI	10.440	7.449	DEC-08	8.400	DEC-09			
Systems Engineering ATT Dev.	CPFF	PSU/ARL, State College, PA	50.270	25.701	FEB-09	29.113	FEB-10			
Systems Engineering	CPFF	JHU/APL, Baltimore, MD	1.020	0.250	NOV-08	0.300	FEB-10			
Systems Engineering Warhead Dev.	WR	NSWC, Indian Head, MD	11.800	8.500	DEC-08	7.800	DEC-09			
Systems Engineering	WR	NUWC, Keyport, WA	7.631	2.495	DEC-08	3.300	DEC-09			
Systems Engineering TDCL	CPFF	Ultra, Braintree, MA	10.800	0.400	JUN-09	3.000	FEB-10			
Systems Engineering ATT	WR	ONR	0.835	0.000		0.100	JAN-10			
Systems Engineering TDCL	CPFF	AAC, Hauppauge, NY	0.000	1.200	JUN-09	3.000	FEB-10			
Systems Engineering	WR	OPTEVFOR, Norfolk, VA	0.123	0.150	FEB-09	0.150	FEB-10			
Systems Engineering	CPFF	ArgonST, Manassas, VA	0.800	0.000		0.000				
Systems Engineering TDCL	WR	NSWC, Dahlgren, VA	1.250	1.872	NOV-08	1.400	DEC-09			
Systems Engineering TDCL	WR	SPAWAR, San Diego, CA	0.225	0.000		0.000				
Systems Engineering	CPFF	UT/ARL	0.000	0.200	JAN-09	0.200	JAN-10			
Subtotal Product Development			95.194	48.217		56.763				
Remarks:										
Program Management Support	FFP	EG&G Gaithersburg, Md	2.846	0.000		0.000				
Program Management Support	C/CPAF	Tech-Marine Burke, VA	0.000	0.700	MAR-09	0.700	JAN-10			
Travel	PD	PMS 415	0.235	0.075	NOV-08	0.075	NOV-09			
Subtotal Management Services			3.081	0.775		0.775				
Remarks:										
Total Cost			98.275	48.992		57.538				

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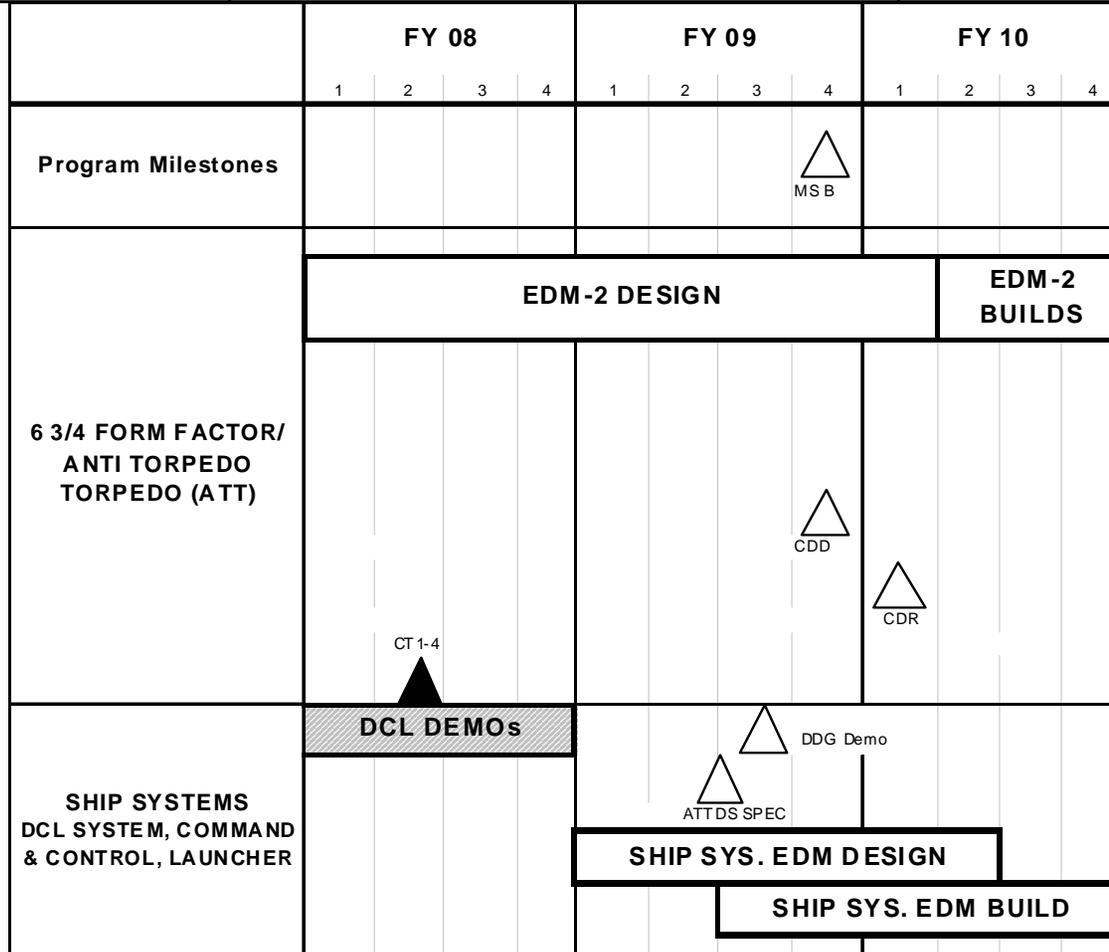
EXHIBIT R-4, SCHEDULE PROFILE

DATE
May 2009

APPROPRIATION/BUDGET ACTIVITY
RDTEN/BA 4

PROGRAM ELEMENT NUMBER AND NAME
0603506N/SURFACE SHIP TORPEDO DEFENSE

PROJECT NUMBER AND NAME
0225/Surface Ship Torpedo Defense (SSTD)



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EXHIBIT R-4a, SCHEDULE DETAIL						DATE May 2009	
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 4		PROGRAM ELEMENT NUMBER AND NAME 0603506N/SURFACE SHIP TORPEDO DEFENSE			PROJECT NUMBER AND NAME 0225/Surface Ship Torpedo Defense (SSTD)		
Schedule Profile		FY 2008	FY 2009	FY 2010			
MILESTONE B			Q4				
CAPABILITIES DEVELOPMENT DOCUMENT (CDD)			Q4				
EDM-2 DESIGN		Q1-Q4	Q1-Q4	Q1			
CDR				Q1			
SYSTEM DEMO TRIAL							
MILESTONE C							
IN-WATER TRIALS (CT)		Q2					
DT/OT TESTS							
OT&E							
FRP							
IOC							
SHIP SYSTEMS							
DCL DEMOS		Q1-Q4					
DDG DEMO			Q3				
ATTDS SPEC			Q2-Q3				
EDM DESIGN			Q1-Q4	Q1-Q2			
EDM BUILD			Q3-Q4	Q1-Q4			

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B. ACCOMPLISHMENTS/PLANNED PROGRAM:			
	FY 2008	FY 2009	FY 2010
9B54A/Anti-Submarine Warfare (ASW) Enhancements	7.713	0.000	0.000
RDT&E Articles Quantity	0	0	0
Accelerates development of the Anti-Torpedo Torpedo EDM-2 design effort and conducts additional in-water test events on ATT EDM-1 units.			
	FY 2008	FY 2009	FY 2010
9B55A/Anti-Torpedo Torpedo (ATT)	2.314	0.000	0.000
RDT&E Articles Quantity	0	0	0
Apply industry cost affordability manufacturability practices (DFA/DFM) to the ATT system design similar to previous successful efforts to reduce ATT subsystem component manufacturing costs.			
	FY 2008	FY 2009	FY 2010
9D21A/ Supportability Training Services Infrastructure	0.000	1.596	0.000
RDT&E Articles Quantity	0	0	0
Develop the Open Architecture (OA) supportability processes, methods, and tools required to facilitate the real-time capture and cataloging of sailor training, performance, and vocational skills data.			
	FY 2008	FY 2009	FY 2010
9D22A/ Mobile Acoustic Decoys for Surface Ship Defense	0.000	0.957	0.000
RDT&E Articles Quantity	0	0	0
Expand technology development of mobile countermeasures used for Surface Ship Torpedo Defense including device engineering, fabrication and testing capabilities to assess the effectiveness of Next Generation (mobile) Countermeasures.			