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CLASSIFICATION:

EXHIBIT R-2, RDT&E Project Justification						DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME Sub Acoustic Warfare Development/0101226N				PROJECT NUMBER AND NAME Submarine Defensive Warfare Systems/1265				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Cost
Project 1265/Sub Defensive Warfare Systems	4.819	11.322	8.527	2.164	4.313	7.622	7.837	8.009	CONT.	CONT.
RDT&E Articles Qty										

Defense Emergency Responses Funds (DERF): Not Applicable

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project develops a Submarine Defensive Warfare System (SDWS) to improve the effectiveness and survivability of all classes of US submarines. Acoustic Intercept consist of developing a new acoustic sensor, the Sparsely Populated Volumetric Array (SPVA), that will improve the performance of acoustic intercept systems and will provide a ranging capability for submarines through Acoustic Rapid COTS Insertion (ARCI) and Advanced Process Build (APB) software improvements. Submarine Littoral Warfare Weapon (SLWW) will enable engagement of air threats and potentially small boats through adaptation of an existing air-to-air missile for submarine launch. Anti-Torpedo Torpedo (ATT) will conduct a dynamic launch study to determine physical capability of the ATT All-Up-Round (AUR), as designed for Surface Ship Torpedo Defense application, to survive storage and launch environments for the CSA MK 2 Countermeasure Launcher. Next Generation Countermeasure (NGCM) efforts entails simulation and effectiveness analysis of new technologies from Future Naval Capability (FNC) and SBIR efforts at the Weapons Analysis Facility (WAF). The WAF analysis provides the US Navy with robust testing of new hardware and software within a detailed representation of complex acoustic environments.

UNCLASSIFIED

CLASSIFICATION:

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B. Accomplishments/Planned Program				
Acoustic Intercept	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.900	0.500	0.000	0.000
RDT&E Articles Quantity				
FY04 - Conduct SACA/ SPVA Sea-Test to confirm performance and validate configuration for FY06 production. FY05 - Participate in APB 05 Sea-Test.				
WAF Analysis	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.112	1.973	2.583	1.796
RDT&E Articles Quantity				
FY 04-07 - Continue to conduct countermeasure proofing and effectiveness analysis for designated torpedo at Weapons Analysis Facility (WAF) .				
NGCM	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	5.599	3.944	0.368
RDT&E Articles Quantity				
FY05-Begin transition of Future Naval Capability (FNC) technologies into existing fleet countermeasures. FY06-07 - Continue transitioning of Future Naval Capability (FNC) technologies into existing fleet countermeasures.				
ATT	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.250	2.000	0.000
RDT&E Articles Quantity				
FY05 - Conduct a dynamic study on submarine launch design. FY06 - Analyze data from study to address constraints of the submarine launched ATT design and assess hardening ATT for Sub launch applications.				
SLWW	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	2.807	3.000	0.000	0.000
RDT&E Articles Quantity				
FY04- Congressional Plus-Up Add to initiate CONOP studies and perform seeker characterization and targeting system testing to initiate preliminary engineering design of demonstration system components. FY05- Congressional Plus-Up Add to continue seeker characterization study and conduct land based demonstration of the AIM-9X Missile.				

R-1 SHOPPING LIST - Item No. 166

UNCLASSIFIED

Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 2 of 7)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7	PROGRAM ELEMENT NUMBER AND NAME Sub Acoustic Warfare Dev/0101226N	PROJECT NUMBER AND NAME Submarine Defensive Warfare Systems/1265			
C. PROGRAM CHANGE SUMMARY:					
Funding:		FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget		5.889	8.453	8.633	8.793
FY 06 President's Budget		4.819	11.322	8.527	2.164
Total Adjustments		-1.070	2.869	-0.106	-6.629
Summary of Adjustments					
Programmatic Adjustment		-1.070	-0.131	-0.106	-6.629
SLWW Congressional Plus-Up			3.000		
Subtotal		-1.070	2.869	-0.106	-6.629
Schedule:					
Not Applicable					
Technical:					
Not Applicable					

R-1 SHOPPING LIST - Item No. 166

UNCLASSIFIED

CLASSIFICATION:

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APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E, N /BA-7		Sub Acoustic Warfare Dev/0101226N			Submarine Defensive Warfare Systems/1265					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</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>FY 2010</u>	<u>FY 2011</u>	To Complete	Total Cost
OPN - 221000/221005 Submarine Acoustic Warfare Systems	25.765	20.729	27.332	20.472	17.145	21.085	21.508	21.849	CONT.	CONT.
E. ACQUISITION STRATEGY: *										
See Attached Schedule										
F. MAJOR PERFORMERS: **										
See Attached R-3										

R-1 SHOPPING LIST - Item No. 166

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7			PROGRAM ELEMENT Sub Acoustic Warfare Dev/0101226N			PROJECT NUMBER AND NAME Submarine Defensive Warfare Systems/1265								
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
WAF Analysis	WX	NUWC Newport, RI	0.000	0.796	12/03	1.500	10/04	1.600	12/05	1.500	12/06	CONT.	0.000	
SPVA System Engineering	WX	NUWC Newport, RI	0.000	0.900	02/04	0.500	12/04	0.000		0.000		CONT.	0.000	
NGCM System Engineering	WX	NUWC Newport, RI	0.000	0.000		5.822	12/04	4.627	01/06	0.539	01/07	CONT.	0.000	
SLWW	WX	NUWC Newport, RI	0.000	0.429	05/04	0.450	04/05	0.000		0.000		CONT.	0.000	
SLWW	CPFF	Lockheed Martin, Manassas, VA	0.000	1.800	04/04	0.000		0.000		0.000		CONT.	0.000	
SLWW	CPFF	Raytheon Middleton, RI	0.000	0.656	06/04	2.550	05/05	0.000		0.000		CONT.	0.000	
ATT	FFP	PSU State College, PA	0.000	0.000		0.100	02/05	1.800	02/06	0.000				
ATT	WX	NUWC Newport, RI	0.000	0.000		0.080	12/04	0.100	12/05	0.000				
ATT	WX	NSWC Crane, IH	0.000	0.000		0.070	12/04	0.100	12/05	0.000				
Subtotal Product Development			0.000	4.581		11.072		8.227		2.039			0.000	
Remarks:														
Development Support													0.000	
Software Development													0.000	
Training Development													0.000	
Integrated Logistics Support													0.000	
Configuration Management													0.000	
Technical Data													0.000	
GFE													0.000	
Miscellaneous													0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000			0.000	

R-1 SHOPPING LIST - Item No. 166

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N /BA-7			Sub Acoustic Warfare Dev/0101226N			Submarine Defensive Warfare Systems/1265								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total P Y 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														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	0.000	0.200	06/04	0.200	06/05	0.250	11/05	0.100	11/06	CONT.		0.000
Travel		PMS415	0.000	0.038	11/03	0.050	11/04	0.050	11/05	0.025	11/06	CONT.		0.000
Labor (Research Personnel)														0.000
SBIR Assessment														0.000
Subtotal Management			0.000	0.238		0.250		0.300		0.125				0.000
Remarks:														
Total Cost			0.000	4.819		11.322		8.527		2.164				0.000
Remarks:														

R-1 SHOPPING LIST - Item No. 166

UNCLASSIFIED

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 6 of 7)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-4, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7	PROGRAM ELEMENT NUMBER AND NAME Sub Acoustic Warfare Dev/0101226N	PROJECT NUMBER AND NAME Submarine Defensive Warfare Systems/1265

	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Acoustic Intercept Improvement Initiative - SPVA	Sensor Development							
		▲▲ At-Sea Tests (TACDEVEX)						
	Transition Phase							
Weapons Analysis Facility	CM Effectiveness / WAF Threat Vulnerability							
NGCM		<ul style="list-style-type: none"> ⦿ Signal Generator Band ⦿ Tactical/Adaptive Processor (SACM) ⦿ Single Crystal Torpedo Freq. 	<ul style="list-style-type: none"> ⦿ Single Crystal Sonar Freq. ⦿ Full Duplex Mobility 	<ul style="list-style-type: none"> ⦿ Group Behavior ⦿ Classification Table ⦿ RF Up-Link 	<ul style="list-style-type: none"> ⦿ Acoustic Communications ⦿ Fire Through Friendly Fire 			

⦿ Technology Insertion

R-1 SHOPPING LIST - Item No. 166

UNCLASSIFIED

Exhibit R-4, RDTE Project Justification
(Exhibit R-4, page 7 of 7)