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EXHIBIT R-2, RDT&E Budget Item Justification								DATE: June 2001			
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-05						R-1 ITEM NOMENCLATURE 0604261N Acoustic Search Sensors					
COST (\$ in Millions)	Prior Years Cost	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Total PE Cost		24.782	20.545	16.825						Continuing	Continuing
H0480 ASW SENSORS & PROCESSING		24.782	20.545	16.825						Continuing	Continuing
Quantity of RDT&E Articles		202	1								203
<p>(U) (H0480) – This project provides improved air Anti-Submarine Warfare (ASW) mission effectiveness through engineering development of hardware and software associated with acoustic systems, sensors, processing, post-processing, data recording and displays for air ASW platforms. Key objectives: improved detection, classification, localization and tracking; and increased capacity and flexibility to handle multi-sensor data. Programs being funded during the period identified are the Generic Acoustic Stimulation System (GASS) which is an ocean, sensor and target-modeling system that will add shallow water and range dependent capabilities to AIR ASW trainers, the Advanced Extended Echo Ranging (AEER) system to provide bistatic acoustic source and signal processing for harsh water environments in the P-3C and the Hydrostatic Sensor Firing Device (HSFD) program to provide ASW depth bomb capability. In FY2000 procure design qualification units for non-coherent source technology acceleration and two GASS Engineering Development Model (EDMs). Procure an additional GASS EDM in FY2001. Future programs planned for this project include the Non-Traditional Acoustic Processing (NTAP) program to provide exploitation of forward scatter and transient signals for added submarine detection opportunities, the Tactical Acoustic Measurement and Decision Aid (TAMDA) program to provide in situ environmental data and tactical planning for improved mission performance, and the Shallow Water ASW Localization and Attack System (SWALAS) to provide improved localization and attack in regional conflict environments.</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under ENGINEERING & MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.</p>											

R-1 SHOPPING LIST - Item No. 106

UNCLASSIFIED

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

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: June 2001			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
RDT&E, N / BA-05	0604261N Acoustic Search Sensors					H0480 ASW Sensors & Processing					
COST (\$ in Millions)	Prior Years Cost	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Project Cost		24.782	20.545	16.825						Continuing	Continuing
RDT&E Articles Qty AEER		200									200
RDT&E Articles Qty GASS		2	1								3
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides improved air Anti-Submarine Warfare (ASW) mission effectiveness through engineering development of hardware and software associated with acoustic systems, sensors, processing, post-processing, data recording and displays for air ASW platforms. Key objectives: improved detection, classification, localization and tracking; and increased capacity and flexibility to handle multi-sensor data. Programs being funded during the period identified are the Generic Acoustic Stimulation System (GASS) which is an ocean, sensor and target modeling system that will add shallow water and range dependent capabilities to AIR ASW trainers, the Advanced Extended Echo Ranging (AEER) system to provide an improved bistatic acoustic source and signal processing for harsh water environments in the P-3C and the Hydrostatic Sensor Firing Device (HSFD) program to provide ASW depth bomb capability. In FY 2000 procure design qualification units for non-coherent source technology acceleration and two GASS Engineering Development Model (EDMs) . Procure an additional GASS EDM in FY2001. Future programs planned for this project include the Non-Traditional Acoustic Processing (NTAP) program to provide exploitation of forward scatter and transient signals for added submarine detection opportunities, the Tactical Acoustic Measurement and Decision Aid (TAMDA) program to provide in-situ environmental data and tactical planning for improved mission performance, and the Shallow Water ASW Localization and Attack System (SWALAS) to provide improved localization and attack in regional conflict environments.</p> <p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. FY 2000 ACCOMPLISHMENTS:</p> <p>(U) GASS</p> <ul style="list-style-type: none"> - (U) (\$15.376) EMD contractor completed GASS system Critical Design Review (CDR) and initiated code and test for the major Complete Software Configuration Items (CSCIs), completed Preliminary Design Review (PDR) for GASS Interface Module (GIM) #1 & #2, CDR for GIM #1 and initiated GIM code and test, initiated/completed procurement of pre-production hardware, and initiated/completed fabrication of GASS units #1 and #2. -(U) (\$.335) Continued GFE environmental software improvements. -(U) (\$.710) Provided engineering support to EMD contract. -(U) (\$ 1.153) Provided other engineering support and contractor support services. 											

R-1 SHOPPING LIST - Item No. 106

UNCLASSIFIED

Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 2 of 8)

UNCLASSIFIED

CLASSIFICATION:

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors	PROJECT NUMBER AND NAME H0480 ASW Sensors & Processing
<p>(U) AEER</p> <ul style="list-style-type: none"> -(U) (\$2.601) Completed software code and functional test for AEER baseline in the P-3C. -(U) (\$4.250) Completed CDRs and fabrication and test of Engineering Change Proposal (ECP) qualification units for non-coherent source technology enhancements, initiated software code and test. -(U) (\$.357) Provided other engineering support and contract support services. <p>2. FY 2001 PLAN:</p> <p>(U) GASS</p> <ul style="list-style-type: none"> -(U) (\$ 8.300) EMD contractor complete code and test for the major CSCIs, initiate/complete PDR for GIM #3 and 4, CDR for GIM #2 and 3, complete GIM #1 in house test and initiate field installation and test, initiate/complete fabrication of GASS units #3 and 4. -(U) (\$.382) Continue GFE environmental software improvements. -(U) (\$.710) Provide engineering support to EMD contract. -(U) (\$ 1.377) Provide other engineering support and contractor support services. -(U) (\$.227) Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 68. <p>(U) AEER</p> <ul style="list-style-type: none"> -(U) (\$ 1.500) Complete software and integration test, complete DT/OT for the non-coherent source enhancement. -(U) (\$ 3.115) Complete AEER source system design trade offs, systems analysis, initiate/complete Analysis of Alternative (AOA) and Milestone II. -(U) (\$ 3.000) Initiate AEER source acoustic processing software in the P-3C. -(U) (\$.871) Provide other engineering support and contractor support services. -(U) (\$.836) Initiate Hydrostatic Device system design and trade offs. -(U) (\$.227) Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 68. 		

R-1 SHOPPING LIST - Item No. 106

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors	June 2001
3. FY 2002 PLAN:		
(U) GASS		
-(U) (\$ 6.200) EMD contractor complete and deliver (ready for training) GIM #1 and GIM #2, perform Test Readiness Review (TRR) for on-site testing. CDR for GIM#3. Conduct test/integration for GIMs #2 & #3. CDR for GIM #4. Initiate/complete MS III.		
-(U) (\$.343) Continue GFE environmental software improvements.		
-(U) (\$.729) Provide engineering support to EMD contract.		
-(U) (\$ 1.066) Provide other engineering support and contractor support services.		
(U) AEER		
-(U) (\$ 1.395) Continue Hydrostatic Device system design and trade offs.		
-(U) (\$ 5.481) Initiate EMD and software, integration, and test for the AEER source, continue AEER source acoustic processing software in the P-3C.		
-(U) (\$ 1.611) Provide other engineering support and contractor support services.		

R-1 SHOPPING LIST - Item No. 106

UNCLASSIFIED

UNCLASSIFIED

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05		PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors		PROJECT NUMBER AND NAME H0480 ASW Sensors & Processing	
(U) B. PROGRAM CHANGE SUMMARY:					
		FY 2000	FY2001	FY2002	
(U) FY 2001 President's Budget:		25.810	20.766	24.973	
(U) Adjustments from the President's Budget:		-1.028	-0.221	-8.151	
(U) FY 2002 President's Budget Submit:		24.782	20.545	16.822	
CHANGE SUMMARY EXPLANATION:					
(U) Funding: The FY 2000 net decrease of \$1.028 million reflects a decrease of \$.441 million Small Business Innovative Research assessment, a decrease of \$.486 million for a reprioritization of requirements within the Navy, a decrease of \$.101 million for a Congressional Recission. The FY 2001 decrease of \$.221 million reflects a decrease of \$.031 million for a reprioritization of requirements within the Navy, a decrease of \$.145 million for a Congressional Reduction, and a decrease of \$.045 million for a Congressional Recission. The FY 2002 decrease of \$8.151 million reflects a decrease of \$8.071 million for a reprioritization of requirements within the Navy, and a decrease of \$.080 million for economic assumptions.					
(U) Schedule: GASS PDR#1 delayed from 1Q/00 to 2Q/00 due to the GASS CDR being held late in December. GASS GIM CDR#1 moved to 4Q/00 to combine with GASS GIM #2 PDR due to the two systems commonality. AEER PDR, CDR,TECH EVAL and OPEVAL changed to correctly realign the milestones. Added new milestones in FY04 to provide additional program definition.					
(U) Technical: Not applicable.					
(U) C. OTHER PROGRAM FUNDING SUMMARY:					
<u>Line Item No. & Name</u>	FY 2000	FY 2001	FY 2002	To Complete	Total Cost
(U) APN/P-3 Mod/(053800)	0	0	0	Continuing	Continuing
(U) APN/SH-60R/(018200)	0	0	3.5	Continuing	Continuing
<u>(U) Related RDT&E</u>					
(U) P.E. 0603254N (ASW Systems Development)					

R-1 SHOPPING LIST - Item No. 106

UNCLASSIFIED

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors	PROJECT NUMBER AND NAME H0480 ASW Sensors & Processing																				
<p>(U) D. ACQUISITION STRATEGY: The GASS EMD contract was competitively awarded. Program development is based on a COTS open architecture hardware and software approach. AEER EMD will use a competitive contracting strategy. Supporting efforts utilize Qualified Product List (QPL) manufacturers and existing contracting vehicles where appropriate for development efficiency.</p> <p>(U) E. SCHEDULE PROFILE</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 20%;">FY 2000</th> <th style="width: 20%;">FY 2001</th> <th style="width: 30%;">FY 2002</th> </tr> </thead> <tbody> <tr> <td>(U) Program Milestones</td> <td></td> <td>4Q/01 AEER MS-II</td> <td>3Q/02 GASS MS-III</td> </tr> <tr> <td>(U) Engineering Milestones</td> <td>3Q/00 Q/U CDR 2Q/00 GASS PDR #1 4Q/00 GASS CDR #1 4Q/00 GASS PDR #2</td> <td>2Q/01 GASS PDR#3/CDR#2 3Q/01 GASS PDR#4 4Q/01 GASS CDR#3</td> <td>3Q/02 AEER SDR 4Q/02 AEER PDR 1Q/02 GASS CDR #4</td> </tr> <tr> <td>(U) T&E Milestones</td> <td></td> <td>4Q/01 Q/U DT/OT</td> <td>1Q/02-2Q/03 GASS TTPRR*</td> </tr> <tr> <td>(U) Contract Milestones</td> <td></td> <td></td> <td>1Q/02 AEER SOURCE CONTRACT</td> </tr> </tbody> </table> <p>* TTPRR – Trainer Test Procedures and Results Report</p>				FY 2000	FY 2001	FY 2002	(U) Program Milestones		4Q/01 AEER MS-II	3Q/02 GASS MS-III	(U) Engineering Milestones	3Q/00 Q/U CDR 2Q/00 GASS PDR #1 4Q/00 GASS CDR #1 4Q/00 GASS PDR #2	2Q/01 GASS PDR#3/CDR#2 3Q/01 GASS PDR#4 4Q/01 GASS CDR#3	3Q/02 AEER SDR 4Q/02 AEER PDR 1Q/02 GASS CDR #4	(U) T&E Milestones		4Q/01 Q/U DT/OT	1Q/02-2Q/03 GASS TTPRR*	(U) Contract Milestones			1Q/02 AEER SOURCE CONTRACT
	FY 2000	FY 2001	FY 2002																			
(U) Program Milestones		4Q/01 AEER MS-II	3Q/02 GASS MS-III																			
(U) Engineering Milestones	3Q/00 Q/U CDR 2Q/00 GASS PDR #1 4Q/00 GASS CDR #1 4Q/00 GASS PDR #2	2Q/01 GASS PDR#3/CDR#2 3Q/01 GASS PDR#4 4Q/01 GASS CDR#3	3Q/02 AEER SDR 4Q/02 AEER PDR 1Q/02 GASS CDR #4																			
(U) T&E Milestones		4Q/01 Q/U DT/OT	1Q/02-2Q/03 GASS TTPRR*																			
(U) Contract Milestones			1Q/02 AEER SOURCE CONTRACT																			

R-1 SHOPPING LIST - Item No. 106

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: June 2001				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05			PROGRAM ELEMENT 0604261N Acoustic Search Sensors			PROJECT NUMBER AND NAME H0480 ASW Sensors & Processors						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date			Cost to Complete	Total Cost	Target Value of Contract
Hardware Development	C/FFP	Sparton, FL	3.178								3.178	3.178
	C/FFP	USSI, IN	2.710								2.710	2.710
	C/CPFF	Misc Contracts	1.000								1.000	1.000
Software Development	C/CPFF	Northrop Grumman, NY	30.814	8.300	11/00	6.200	11/01				45.314	46.091
	C/CPFF	Misc GASS Con	12.112	0.382	11/00	0.340	11/01				12.834	13.263
	C/CPFF	Misc /P-3 Baseline Cont's	5.800	2.500	Various						8.300	8.300
	WX	Misc In-House	0.724		11/00	1.137	11/01			Continuing	Continuing	
Government Engineering Support	WX	Misc In-House	26.715	6.768	10/00	7.022	10/01			Continuing	Continuing	
Subtotal Product Development			83.053	17.950		14.699				Continuing	Continuing	
Remarks:												
Subtotal Support												
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: June 2001		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-05			0604261N Acoustic Search Sensors			H0480 ASW Sensors & Processors						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date			Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	Misc In-House	1.107	0.950	11/00	0.900	11/01			Continuing	Continuing	
Subtotal T&E			1.107	0.950		0.900				Continuing	Continuing	
Remarks:												
Contractor Support Services	C/FFP	Misc/Contracts	5.204	1.051	11/00	1.083	11/01				7.338	8.455
Program Management Support	WX	Misc In-House	6.453	0.140	10/00	0.143	10/01			Continuing	Continuing	
SBIR Assessment				0.454								
Subtotal Management			11.657	1.645		1.226				Continuing	Continuing	
Remarks:												
Total Cost			95.817	20.545		16.825				Continuing	Continuing	
Remarks:												