

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification								DATE:			
								February 2005			
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NOMENCLATURE					
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /						0603502N/Surface and Shallow Water Mine Countermeasure					
BA-4											
COST (\$ in Millions)	Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Total PE Cost	765.887	126.231	108.016	122.122	140.480	161.880	245.151	233.104	240.239	Continuing	Continuing
Remote Minehunting System / 0260 / 2387	270.287	56.866	14.284	0.000	0.000	0.000	0.000	27.008	33.384	Continuing	Continuing
Mine Counter Measures Mid-Life Upgrades / 1233 / 2388	69.872	3.634	3.813	15.855	19.513	28.925	18.003	4.441	4.511	Continuing	Continuing
Unmanned Underwater Vehicle / 2094 / 2852	238.167	62.799	59.965	54.633	52.176	74.707	165.358	157.816	154.912	Continuing	Continuing
Assault Breaching System / 2131	187.561	2.932	26.808	29.215	37.530	36.551	35.897	31.246	30.446	Continuing	Continuing
Expendable Mine Neutralization System / 4025	0.000	0.000	2.155	11.506	14.030	0.000	0.000	0.000	0.000	0.000	27.691
BPUAV/9513	0.000	0.000	0.991	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.991
Low Frequency Broadband / 3102	0.000	0.000	0.000	9.850	15.470	18.132	23.895	10.552	14.902	Continuing	Continuing
SMCM UUV / 3123	0.000	0.000	0.000	1.063	1.761	3.565	1.998	2.041	2.084	Continuing	Continuing
Quantity of RDT&E Articles											0.000
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:											
<p>The program provides for developments to combat the threat of known and projected foreign mines against U.S. Naval and merchant shipping in harbors, channels, choke points, sea lines of communications and amphibious and other fleet operating areas. It develops: (1) organic remote minehunting capability for surface platforms; (2) the integration and improvement of systems and support for systems which will detect, localize and classify moored, bottom, and close-tethered mines for use in Mine Countermeasure (MCM) MCM-1 Class, Mine Hunter Coastal (MHC) MHC-51 Class, and other surface ships; (3) systems for neutralizing mines and light obstacles from shallow water, very shallow water, surf zones, and beach landing craft zones in support of amphibious operations; (4) Unmanned Undersea Vehicle (UUV) systems for clandestine mine reconnaissance.</p>											
(U) B. JUSTIFICATION FOR BUDGET ACTIVITY:											
<p>This program is funded under DEMONSTRATION AND VALIDATION because it develops and integrates hardware for experimental testing related to specific ship or aircraft applications.</p>											

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APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE																																														
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /		BA-4 0603502N/Surface and Shallow Water Mine Countermeasure																																														
<p>(U) B. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 35%;">(U) B. PROGRAM CHANGE SUMMARY:</th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>FY05 President's Budget</td> <td style="text-align: right;">145.678</td> <td style="text-align: right;">103.308</td> <td style="text-align: right;">100.114</td> <td style="text-align: right;">89.286</td> </tr> <tr> <td>FY06 President's Budget</td> <td style="text-align: right;">126.231</td> <td style="text-align: right;">108.016</td> <td style="text-align: right;">122.122</td> <td style="text-align: right;">140.480</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-19.447</td> <td style="text-align: right; border-top: 1px solid black;">4.708</td> <td style="text-align: right; border-top: 1px solid black;">22.008</td> <td style="text-align: right; border-top: 1px solid black;">51.194</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td style="padding-left: 20px;">FY04 Omnibus Reprogramming</td> <td style="text-align: right;">-10.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td style="padding-left: 20px;">FY04 SBIR</td> <td style="text-align: right;">-3.243</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td style="padding-left: 20px;">MISC Adjustments</td> <td style="text-align: right;">-6.204</td> <td style="text-align: right;">4.708</td> <td style="text-align: right;">22.008</td> <td style="text-align: right;">51.194</td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black;">-19.447</td> <td style="text-align: right; border-top: 1px solid black;">4.708</td> <td style="text-align: right; border-top: 1px solid black;">22.008</td> <td style="text-align: right; border-top: 1px solid black;">51.194</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule: <u>RMS</u> Plan is to procure four Remote Mine Hunting Vehicles (RMVs) production systems in FY05 and FY06 and deliver in FY06 and FY07. Also procure two additional RMVs in FY07.</p> <p style="margin-top: 20px;">(U) Technical: Not Applicable</p>				(U) B. PROGRAM CHANGE SUMMARY:	FY 2004	FY 2005	FY 2006	FY 2007	FY05 President's Budget	145.678	103.308	100.114	89.286	FY06 President's Budget	126.231	108.016	122.122	140.480	Total Adjustments	-19.447	4.708	22.008	51.194	Summary of Adjustments					FY04 Omnibus Reprogramming	-10.000	0.000	0.000	0.000	FY04 SBIR	-3.243	0.000	0.000	0.000	MISC Adjustments	-6.204	4.708	22.008	51.194		-19.447	4.708	22.008	51.194
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EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM				PROJECT NUMBER AND NAME 0260/2387, Remote Minehunting Systems					
COST (\$ in Millions)	Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 20010	FY 2011	Cost to Complete	Total Program
Project Cost	270.287	56.866	14.284	0.000	0.000	0.000	0.000	27.008	33.384	Continuing	Continuing
RDT&E Articles Qty	2	1	0	0							3
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Remote Minehunting System (RMS), AN/WLD-1(V)1, program develops a new remotely operated minehunting system for surface ships. This effort includes development and integration of a remote minehunting vehicle, minehunting sensors, mission command and control, and installation into the DDG-51 Class Flight IIA Baseline 7 and AN/SQQ-89(V)15 Undersea Warfare Combat System. Future funding addresses key areas such as minesweeping, mine neutralization, in-situ environmental characterization, sensor upgrades and subsystem upgrades to address emergent fleet requirements, enhanced mission capabilities and/or system deployment from new platforms. Future funding will be used to begin development of emerging technologies for incorporation into the AN/WLD-1(V) Remote Minehunting System and Littoral Combat Ship (LCS) Reconfigurable Mission Capabilities (Multi-Mission - MM).</p>											

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM	PROJECT NUMBER AND NAME 0260/2387, Remote Minehunting Systems																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">Product Development</td><td style="width: 15%;">FY 04</td><td style="width: 15%;">FY 05</td><td style="width: 15%;">FY 06</td><td style="width: 15%;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td>43.224</td><td>8.281</td><td>0.000</td><td>0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td>1</td><td></td><td></td><td></td></tr></table>					Product Development	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	43.224	8.281	0.000	0.000	RDT&E Articles Quantity	1			
Product Development	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	43.224	8.281	0.000	0.000															
RDT&E Articles Quantity	1																		
<div style="border: 1px solid black; min-height: 100px; margin-top: 10px;"></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">Support</td><td style="width: 15%;">FY 04</td><td style="width: 15%;">FY 05</td><td style="width: 15%;">FY 06</td><td style="width: 15%;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td>5.476</td><td>3.619</td><td>0.000</td><td>0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td>1</td><td></td><td></td><td></td></tr></table>					Support	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	5.476	3.619	0.000	0.000	RDT&E Articles Quantity	1			
Support	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	5.476	3.619	0.000	0.000															
RDT&E Articles Quantity	1																		
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM	PROJECT NUMBER AND NAME 0260/2387, Remote Minehunting Systems		
(U) B. Accomplishments/Planned Program				
T&E	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	6.933	1.229	0.000	0.000
RDT&E Articles Quantity	1			
<div style="border: 1px solid black; min-height: 100px; margin-top: 10px;"> <p>Conducted DT Assist of the Datalink Subsystem for the RMS Shipboard Equipment. Begin test preparation for TECHEVAL Phase I on ship. Complete test preparation and conduct TECHEVAL Phase I and II for the RMS. Conduct and complete OPEVAL.</p> </div>				
<div style="border: 1px solid black; min-height: 100px; margin-top: 10px;"> </div>				
Management	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.233	1.155	0.000	0.000
RDT&E Articles Quantity	1			
<div style="border: 1px solid black; min-height: 100px; margin-top: 10px;"> <p>Funds provided for COMOPTEVFOR and Program Management Support and Travel.</p> </div>				
TOTAL	56.866	14.284	0.000	0.000

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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		0603502N, Surface and Shallow Water MCM			0260/2387, Remote Minehunting Systems					
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
2622 / OPN										
RMS	0.000	35.031	50.840	15.649	0.000	0.000	6.000	6.000	Continued	Continued
Support	0.000	1.603	4.449	2.345	0.000	0.000	0.000	0.000	Continued	Continued
Total	0.000	36.634	55.289	17.994	0.000	0.000	6.000	6.000	Continued	Continued
(U) RDT&E, Line 0604373, 0529	18.075	4.750	3.421	4.797	3.419	0.808	9.830	20.781	Continued	Continued
(U) E. ACQUISITION STRATEGY:										
The government issued a series of contract modifications to Lockheed Martin to complete efforts through the System Design Review. Based upon the approved Milestone II decision the program office issued the contract modification to complete the Critical Design Review (CDR); upon completion of CDR a CPIF sole source contract was awarded to Lockheed Martin to complete the development, fabrication, and testing of the engineering development models, initial pilot line/tooling, and timed phased procurement of initial systems to meet ship delivery schedules. The government has worked with the contractor in an IPT environment to refine the specification and Statement of Work for the overall development effort. The IPT pricing process was used to generate the cost estimates against Navy requirements. The government will pursue commonality between the AN/AQS-20A airborne minehunting system and the AN/WLD-1(V)1. The AN/WLD-1(V)1 contract plan is for the development of EDMs, system interactive electronic technical manual (IETM), provisioning data, technical drawings and data, and engineering services. The 4 EDM remote minehunting vehicles are required to meet ship schedules for DDG ship deliveries prior to receiving follow-on production units and to support the stand-up of the maintenance and training facilities.										

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Exhibit R-3 Cost Analysis (page 1)							DATE: February 2005							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-4			0603502N, Surface and Shallow Water MCM			0260/2387, Remote Minehunting Systems								
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
Hardware Development & Integration	CPIF	Lockheed Martin	97.283										97.283	
Hardware Development & Integration	CPIF	Lockheed Martin	42.445	39.191	11/03	6.342	11/04						87.978	
Hardware Development & Integration	WX	NSWC, Panama City, FL	4.375	1.796	10/03	0.969	10/04						7.140	
Systems Engineering	CPIF	Lockheed Martin	5.465										5.465	
Systems Engineering	CPIF	Lockheed Martin	4.248	1.753	11/03	0.485	11/04						6.486	
Systems Engineering	WX	NSWC, Panama City, FL	0.946	0.484	10/03	0.485	10/04						1.915	
Award Fees			5.485										5.485	
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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-4			0603502N, Surface and Shallow Water MCM			0260/2387, Remote Minehunting Systems								
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
Software Development	CPIF	Lockheed Martin	7.092										7.092	
Software Development	CPIF	Lockheed Martin	6.159	0.414	11/03	0.388	11/04						6.961	
Software Development	WR	NSWC, Panama City, FL	1.561	0.290	10/03	0.291	10/04						2.142	
ILS	CPIF	Lockheed Martin	5.682										5.682	
ILS	CPIF	Lockheed Martin	5.932	3.009	11/03	1.163	11/04						10.104	
ILS	WX	NSWC, Panama City, FL	1.493	0.290	10/03	0.291	10/04						2.074	
Ship Integration	CPIF	Lockheed Martin	1.258										1.258	
Ship Integration	CPIF	Lockheed Martin	1.813	0.677	11/03	0.388	11/04						2.878	
Ship Integration**	Various	Various	11.557	0.796	12/03	1.098	12/04						13.451	
													0.000	
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													0.000	
Subtotal Support			42.547	5.476		3.619		0.000		0.000		0.000	51.642	
Remarks: Various in Ship Integration provides funding to support AN/SQQ-89(V)15 ECP effort for RMS and RMS DDG ship class integration efforts.														

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4			PROGRAM ELEMENT 0603502N, Surface and Shallow Water MCM			PROJECT NUMBER AND NAME 0260/2387, Remote Minehunting Systems								
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	CPIF	Lockheed Martin	18.470										18.470	
Developmental Test & Evaluation	CPIF	Lockheed Martin	11.107	2.513	11/03	0.590	11/04						14.210	
Developmental Test & Evaluation	WX	NSWC, Panama City, FL	3.105	4.420	11/03	0.639	10/04						8.164	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal T&E			32.682	6.933		1.229		0.000		0.000		0.000	40.844	
Remarks:														
Contractor Engineering Support	CPIF	Lockheed Martin	2.919			0.780							3.699	
Government Engineering Support	WX	NSWC, Panama City, FL	22.393										22.393	
Program Management Support	CPFF	CACI	2.874	1.146	11/03	0.288	11/04						4.308	
Travel	Various	NAVSEA	0.264	0.087	Various	0.087	Various						0.438	
SBIR Assessment	Various	Various	6.361										6.361	
													0.000	
Subtotal Management			34.811	1.233		1.155		0.000		0.000		0.000	37.199	
Remarks: Award dates for management are various because multiple activities are receiving tasks at different times during the fiscal year.														
Total Cost			270.287	56.866		14.284		0.000		0.000		0.000	341.437	
Remarks:														

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Exhibit R-2, RDTEN Budget Item Justification
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EXHIBIT R-4, Schedule Profile																DATE:				February 2005															
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT NAME AND NUMBER								PROJECT NAME AND NUMBER																							
RDT&E, N/BA-4				0603502N, Surface & Shallow Water MCM								0260/2387, Remote Minehunting Systems																							
AN/WLD-1(V)1 PROGRAM SCHEDULE																																			
				FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 2011			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Milestone III (MS C)								MS C LRIP(3)				FRPD																							
Events																																			
Supportability Readiness Review				▲																															
Functional & Physical Configuration Audit (FCA)/(PCA)																																			
Production Readiness Review								▲																											
Production Contract Award								△				△																							
Contract (N00024-02-C-6309)								LRIP				Production																							
EMD Phase II /Pilot line/ Time phased Procurement												Production Support																							
Deliveries																△ △ △																			
																LRIP Delivery				Production Units 5-10 Delivery															
Test & Evaluation								△				△																							
								OA				DT/OT Ship of Opportunity																							
Operations and Maintenance Support																																			

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Exhibit R-2, RDTEN Budget Item Justification
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Exhibit R-2, RD TEN Budget Item Justification
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EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM				PROJECT NUMBER AND NAME 1233, Mine Counter Measures Mid-Life Upgrades					
COST (\$ in Millions)	Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Project Cost	69.872	3.634	3.813	15.855	19.513	28.925	18.003	4.441	4.511	Continuing	Continuing
RDT&E Articles Qty											
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(1) High-Frequency, Wide Band (HFWB) is a technology upgrade to the SQQ-32 Towed Body which will incorporate HFWB technology into the detection sonar to address performance deficiencies against new mine threats in the littorals. This upgrade will be installed on MCM-1 Class ships with the SQQ-32(V)3 and will develop new transducer modules, fiber optic cable and modify topside processing and display software. 2) Mine Warfare and Environmental Decision Aids Library (MEDAL) is a software segment on the Global Command and Control System – Maritime (GCCS-M). MEDAL provides mine and mine warfare planning and evaluation tools and databases to the MCM Commander. (3) MCM Command Control, Communication, Computers and Intelligence (C4I) meet FORCEnet implementation standards; develop and maintain Mine Warfare (MIW) C4I Surveillance and Reconnaissance (C4ISR) architecture; identify and validate C4ISR shortfalls. 4) Develop and implement Course of Action Planner (COAP). 5) Battle Space Profiler (BSP) is used to optimize sonar setup (towed body depth and D/E angles), support mission planning based on predicted sonar performance, and adapt mission planning to changes in the environment and threats. Improvement to the BSP system will allow the BSP to become an in situation real time environmental data collection system and will allow sharing pertinent data such as MEDAL contact and environmental databases, as well as all Navigation information. 6) Unmanned Submersible Vehicle (USV) Sweep System is a magnetic/acoustic sweep system developed to sweep acoustic/magnetic influence mines from a small unmanned surface platform deployed from the Littoral Combat Ship (LCS).</p>											

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM	PROJECT NUMBER AND NAME 1233, Mine Counter Measures Mid-Life Upgrades																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">BSP / Product Development</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.000</td> <td>0.000</td> <td>1.155</td> <td>0.370</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					BSP / Product Development	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.155	0.370	RDT&E Articles Quantity				
BSP / Product Development	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.155	0.370															
RDT&E Articles Quantity																			
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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">BSP / Support</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.000</td> <td>0.000</td> <td>0.110</td> <td>0.050</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					BSP / Support	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.110	0.050	RDT&E Articles Quantity				
BSP / Support	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.110	0.050															
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BSP / Management	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.320	0.106															
RDT&E Articles Quantity																			
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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">BSP TOTAL</td> <td style="width: 15%;">0.000</td> <td style="width: 15%;">0.000</td> <td style="width: 15%;">1.585</td> <td style="width: 15%;">0.526</td> </tr> </table>					BSP TOTAL	0.000	0.000	1.585	0.526										
BSP TOTAL	0.000	0.000	1.585	0.526															

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(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;">C4I / Product Development</th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.348</td> <td style="text-align: center;">0.600</td> <td style="text-align: center;">0.720</td> <td style="text-align: center;">0.767</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					C4I / Product Development	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.348	0.600	0.720	0.767	RDT&E Articles Quantity				
C4I / Product Development	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.348	0.600	0.720	0.767															
RDT&E Articles Quantity																			
Product Development: Continue MIW information system engineering effort. This effort to include the ongoing development of the MIW C4ISR Architecture, which documents the Information Exchange Requirements of the MIW community and serves as Architecture for all MIW Programs of Record as required by DODI 5000.2. Rev 2 Architecture. Rev 3 Architecture. Rev 4 Architecture.																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;">C4I / Support</th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.302</td> <td style="text-align: center;">0.350</td> <td style="text-align: center;">0.300</td> <td style="text-align: center;">0.400</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					C4I / Support	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.302	0.350	0.300	0.400	RDT&E Articles Quantity				
C4I / Support	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.302	0.350	0.300	0.400															
RDT&E Articles Quantity																			
Support: Identification of C4ISR shortfalls within the MIW community and analysis of potential solutions are accomplished through membership on the FORCEnet Requirements and Architecture Working Groups. System Engineering Support is also provided to the SMCM Class identifying class issues and seeking engineering solutions. The MIW Architecture is utilized to conduct assessments in order to identify shortfalls and provide C4ISR solutions to the MIW community. Specific ongoing initiatives include the continued MIW C4ISR assessment, MCM/MHC LAN improvement program, continued MEDAL/TEDS integration, and the integration of MIW tactical databases into the Global Enterprise Systems.																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;">C4I / Management</th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.236</td> <td style="text-align: center;">0.182</td> <td style="text-align: center;">0.153</td> <td style="text-align: center;">0.223</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					C4I / Management	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.236	0.182	0.153	0.223	RDT&E Articles Quantity				
C4I / Management	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.236	0.182	0.153	0.223															
RDT&E Articles Quantity																			
Management: Provide program management support and travel for MIW C4I program.																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">C4I TOTAL</td> <td style="text-align: center;">0.886</td> <td style="text-align: center;">1.132</td> <td style="text-align: center;">1.173</td> <td style="text-align: center;">1.390</td> </tr> </table>					C4I TOTAL	0.886	1.132	1.173	1.390										
C4I TOTAL	0.886	1.132	1.173	1.390															

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(U) B. Accomplishments/Planned Program																			
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COAP / Product Development	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.885	0.902															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> Product Development: Begin the development and design of Build 0. Continue testing and delivery of Build 0. Begin development and design of Build 1. Continue the development and design of Build 1. Continue testing and delivery of Build 1. Begin development and design of Build 2. </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left; padding: 5px;">COAP / Support</th> <th style="text-align: center; padding: 5px;">FY 04</th> <th style="text-align: center; padding: 5px;">FY 05</th> <th style="text-align: center; padding: 5px;">FY 06</th> <th style="text-align: center; padding: 5px;">FY 07</th> </tr> <tr> <td style="padding: 5px;">Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center; padding: 5px;">0.000</td> <td style="text-align: center; padding: 5px;">0.000</td> <td style="text-align: center; padding: 5px;">0.110</td> <td style="text-align: center; padding: 5px;">0.110</td> </tr> <tr> <td style="padding: 5px;">RDT&E Articles Quantity</td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </table>					COAP / Support	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.110	0.110	RDT&E Articles Quantity				
COAP / Support	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.110	0.110															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> Support: Oversee technical integration of developed algorithms and models that have demonstrated their effectiveness in reducing the complexity of the MCM planning problem into a manageable set of options depending on the operational objective. Support effort to include communication with activities such as ONR and NSWC-PC to coordinate the incorporation of validated algorithms and models into MEDAL with the Commander's Estimate of the Situation framework in order to effectively simplify the MCM planning problem for CSG and ESG staffs and therefore provide the speed, agility, adaptability, and flexibility required for modern MCM operations. </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left; padding: 5px;">COAP / Management</th> <th style="text-align: center; padding: 5px;">FY 04</th> <th style="text-align: center; padding: 5px;">FY 05</th> <th style="text-align: center; padding: 5px;">FY 06</th> <th style="text-align: center; padding: 5px;">FY 07</th> </tr> <tr> <td style="padding: 5px;">Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center; padding: 5px;">0.000</td> <td style="text-align: center; padding: 5px;">0.000</td> <td style="text-align: center; padding: 5px;">0.094</td> <td style="text-align: center; padding: 5px;">0.080</td> </tr> <tr> <td style="padding: 5px;">RDT&E Articles Quantity</td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </table>					COAP / Management	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.094	0.080	RDT&E Articles Quantity				
COAP / Management	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.094	0.080															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> Management: Provide program management support and travel for Course Of Action Planner program. Program management shall include overall technical guidance and leadership for the program. Other ongoing PM support includes oversight of financial and logistics efforts and adequate coordination with MEDAL. Other PM tasking to include briefings, demonstrations, and project planning as required. </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">COAP TOTAL</td> <td style="text-align: center; padding: 5px;">0.000</td> <td style="text-align: center; padding: 5px;">0.000</td> <td style="text-align: center; padding: 5px;">1.089</td> <td style="text-align: center; padding: 5px;">1.092</td> </tr> </table>					COAP TOTAL	0.000	0.000	1.089	1.092										
COAP TOTAL	0.000	0.000	1.089	1.092															

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(U) B. Accomplishments/Planned Program				
GCCS-M4X / Product Development	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.475	0.000
RDT&E Articles Quantity				
Product Development: Develop and integrate GCCS-M 4.x hardware for M-class ships and expeditionary units. This effort includes the identification, approval, design, planning, programming, budgeting and accomplishment of improvements that increase the ability of the MIW ships to perform assigned missions. This is the first step in a larger plan to upgrade the MCM and MHC Class ships to the full IT-21 suite by rapidly inserting the minimum components enabling the MCM fleet to maximize operational effectiveness and minimize associated risk for own force and supported joint forces.				
GCCS TOTAL	0.000	0.000	0.475	0.000

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(U) B. Accomplishments/Planned Program				
HFWB / Product Development	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	5.335	5.725
RDT&E Articles Quantity				
Begin Design and fabrication of transducer and associated electronics; Integration of fiber optic tow cable; Design and selection of shipboard COTS processing and operator console components. Continue design and fabrication efforts; Begin laboratory integration, testing and in-water component tests.				
HFWB / Support	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	2.600	2.500
RDT&E Articles Quantity				
Develop beamforming and display software; Modify existing software and integration of new software; Integrated Logistic Support (ILS): Develop ICDs, installation packages, technical manual and training updates. Continue software development and integration; Integrated Logistic Support (ILS): Continue ILS efforts.				
HFWB / T&E	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.175	0.725
RDT&E Articles Quantity				
Conduct component and development Environmental Qualification Testing (EQT).				
HFWB / Management	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.812	0.974
RDT&E Articles Quantity				
Management: Provide program management support and travel for High Frequency Wideband program.				
HFWB TOTAL	0.000	0.000	8.922	9.924

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MEDAL / Support	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	2.305	2.306	2.150	2.145															
RDT&E Articles Quantity																			
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MEDAL / Management	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.443	0.375	0.461	0.467															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">MEDAL TOTAL</td> <td style="padding: 5px;">2.748</td> <td style="padding: 5px;">2.681</td> <td style="padding: 5px;">2.611</td> <td style="padding: 5px;">2.612</td> </tr> </table>					MEDAL TOTAL	2.748	2.681	2.611	2.612										
MEDAL TOTAL	2.748	2.681	2.611	2.612															

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(U) B. Accomplishments/Planned Program				
USV / Product Development	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	1.969
RDT&E Articles Quantity				
Hardware and Software Developement of magnetic/acoustic sweep system for small unmanned surface platform .				
USV / Support	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.800
RDT&E Articles Quantity				
Logistics and integration Support for Boat Platform and Host Platform/LCS.				
USV / T&E	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.600
RDT&E Articles Quantity				
Risk Reduction Testing/ CT/DT/OT Planning.				
USV / Management	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.600
RDT&E Articles Quantity				
Program Management/Travel/TDA Costs.				
USV TOTAL	0.000	0.000	0.000	3.969

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4			PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM			PROJECT NUMBER AND NAME 1233, Mine Counter Measures Mid-Life Upgrades				

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
2622 / OPN (LV075/LV076/LV080)	9.112	16.396	26.349	24.059	10.536	33.368	39.691	44.335	Continuing	Continuing

(U) E. ACQUISITION STRATEGY:

HFVB - NSWC, Panama City will team with a university laboratory to design and develop the HFVB upgrade to the AN/SQQ-32. Contract award for Integration Contractor.

BSP - The system is being developed by NAVO, NRL and Naval Surface Warfare Center Panama City. The improvements being incorporated into the BSP system are modifications to existing Naval Oceanographic Office and NRL products

Mine Warfare and Environmental Decision Aids Library (MEDAL) - requirements for MEDAL Builds are generated through a formal requirements process. Requirements conferences gather a list of candidate functions based on a logical sequence to fully implement the overall software architecture. The fleet is presented with a recommended list of candidate capabilities based on this program plan, doctrine, fleet comments, and technology. These capability items are then prioritized by the fleet representatives (coordinated by Commander Mine Warfare Command). The fleet inputs are then consolidated by COMINEWARCOM into an overall list which is then presented to Navy leadership for pricing and final selection. The selection is based on price, risk, available funding, and possibly by other program factors (e.g., ensure that MEDAL supports other program delivery schedules). Selection balances immediate needs, long term objectives, technical maturity and other programmatic factors. A verification and validation process is applied to any algorithms, tactics, or models to be incorporated in the software.

COAP Acquisition strategy for COAP is to deliver the software module within MEDAL builds.

USV- NSWC Panama City will be the technical design agent and will award a prime contract for SD&D development of the Unmanned Vehicle Sweep system designed to sweep mines in the Littoral Waters. The SD&D phase will be followed by Milestone C / LRIP Decision. Production Decision and Production follows LRIP.

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Exhibit R-3 Cost Analysis (page 1)								DATE:						
APPROPRIATION/BUDGET ACTIVITY								February 2005						
RDT&E, N / BA-4			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
			0603502N, Surface and Shallow Water MCM			1233, Mine Counter Measures Mid-Life Upgrades								
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
(BSP) Develop Bottom Sediment Cla	WX	NRL	0.000			0.000		0.406	10/05	0.024	10/06	Continuing	Continuing	
(BSP) Develop Current Profiler	CPIF	NAVO	0.000			0.000		0.217	10/05	0.120	10/06	Continuing	Continuing	N/A
(BSP) Develop Hydro-Optics Packag	WX	NAVO	0.000			0.000		0.200	10/05			0.000	0.200	
Systems Engineering	Various	NSWC, PC/NAVAIR						0.100	11/05	0.066	11/06	Continuing	Continuing	
(BSP) System Integration	WX	NSWC, Panama City, FL	0.000			0.000		0.232		0.160		Continuing	Continuing	
Subtotal Product Development			0.000	0.000		0.000		1.155		0.370		0.000	1.525	
Remarks:														
(BSP) Develop Logistics Products	WX	NSWC, Panama City, FL	0.000			0.000		0.110		0.050		Continuing	Continuing	N/A
													0.000	
Subtotal Support			0.000	0.000		0.000		0.110		0.050		0.000	0.160	
Remarks:														
													0.000	
													0.000	
													0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Program Mangement Support	CPFF	CACI						0.050	10/05	0.030	10/06	Continuing	Continuing	N/A
Travel	Various	NAVSEA	0.000					0.080		0.020		Continuing	Continuing	
Government Engineering Support	WX	NSWC, Panama City, FL						0.190		0.056		Continuing	Continuing	N/A
Subtotal Management			0.000	0.000		0.000		0.320		0.106		0.000	0.426	
Remarks:														
BSP TOTAL			0.000	0.000		0.000		1.585		0.526		0.000	2.111	
1.585														

1.585

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 21 of 94)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE:							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME									
RDT&E, N / BA-4			0603502N, Surface and Shallow Water MCM			1233, Mine Counter Measures Mid-Life Upgrades									
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	
Systems Engineering	Various	NSWC, PC/NAVAIR		0.348	11/03	0.600	11/04	0.720	11/05	0.767	11/06	Continuing	Continuing		
													0.000	N/A	
													0.000		
													0.000		
Subtotal Product Development			0.000	0.348		0.600		0.720		0.767		0.000	2.435		
Remarks:															
Software Development	WX	NSWC, Panama City, FL		0.302	11/03								0.302	N/A	
Software Development	SS/FFP	SAIC				0.350	11/04	0.300	11/05	0.400	11/06	Continuing	Continuing		
Subtotal Support			0.000	0.302		0.350		0.300		0.400		0.000	1.352		
Remarks:															
													0.000		
													0.000		
													0.000		
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000		
Remarks:															
Program Management Support	CPFF	CACI		0.110	11/03	0.058	11/04	0.050	10/05	0.045	10/06	Continuing	Continuing	N/A	
Travel				0.039		0.035						Continuing	Continuing		
Government Engineering Support	WX	NSWC, Panama City, FL						0.103		0.178			0.281		
Program Management Support	Various	NAVSEA		0.068	11/03	0.089	11/04					Continuing	Continuing	N/A	
SBIR Assessment				0.019								0.000	0.019	N/A	
Subtotal Management			0.000	0.236		0.182		0.153		0.223		0.000	0.794		
Remarks:															
C4I TOTAL			0.000	0.886		1.132		1.173		1.390		0.000	4.581		

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-4			0603502N, Surface and Shallow Water MCM			1233, Mine Counter Measures Mid-Life Upgrades								
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
Systems Engineering	Various	NSWC, PC/NAVAIR	0.000	0.000		0.000		0.885	11/05	0.902	11/06	Continuing	Continuing	
													0.000	N/A
													0.000	
													0.000	
Subtotal Product Development			0.000	0.000		0.000		0.885		0.902		0.000	1.787	
Remarks:														
Software Development	SS/FFP	SAIC						0.110	11/05	0.110	11/06	Continuing	Continuing	N/A
													0.000	
Subtotal Support			0.000	0.000		0.000		0.110		0.110		0.000	0.220	
Remarks:														
													0.000	
													0.000	
													0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Program Management Support	CPFF	CACI						0.045	10/05	0.050	10/06	Continuing	Continuing	N/A
Travel								0.005		0.005		Continuing	Continuing	
Government Engineering Support	WX	NSWC, Panama City, FL						0.044		0.025		Continuing	Continuing	N/A
Subtotal Management			0.000	0.000		0.000		0.094		0.080		0.000	0.174	
Remarks:														
COAP TOTAL			0.000	0.000		0.000		1.089		1.092		0.000	2.181	

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-4			0603502N, Surface and Shallow Water MCM			1233, Mine Counter Measures Mid-Life Upgrades								
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
Systems Engineering	Various	NSWC, PC/NAVAIR						0.475	11/05			0.000	0.475	
													0.000	N/A
													0.000	
													0.000	
Subtotal Product Development			0.000	0.000		0.000		0.475		0.000		0.000	0.475	
Remarks:														
													0.000	N/A
													0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
													0.000	
													0.000	
													0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
													0.000	N/A
													0.000	N/A
													0.000	N/A
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
GCCS TOTAL			0.000	0.000		0.000		0.475		0.000		0.000	0.475	

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME									
RDT&E, N / BA-4			0603502N, Surface and Shallow Water MCM			1233, Mine Counter Measures Mid-Life Upgrades									
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	
Primary Hardware Development	WX	ARL:UT						3.410	11/05	3.750	11/06	Continuing	Continuing		
Ancillary Hardware Development	TBD	Contractor (TBD)						0.650	03/06	1.400	11/06	Continuing	Continuing	N/A	
Tow Cable Development	WX	NSWC, Panama City, FL						0.850		0.330		Continuing	Continuing		
Ship Integration	WX	NSWC, Panama City, FL						0.425		0.245		Continuing	Continuing		
Subtotal Product Development			0.000	0.000		0.000		5.335		5.725		0.000	11.060		
Remarks:															
(HFWB) Software Development	WX	ARL:UT; NSWC:PC						1.750	11/05	1.400	11/06	Continuing	Continuing	N/A	
(HFWB) Integrated Logistics Support	WX	NSWC, Panama City, FL						0.850		1.100		Continuing	Continuing		
Subtotal Support			0.000	0.000		0.000		2.600		2.500		0.000	5.100		
Remarks:															
Developmental Test & Evaluation	WX	NSWC:PC, ARL:UT						0.175	11/05	0.725	11/06	Continuing	Continuing		
													0.000		
Subtotal T&E			0.000	0.000		0.000		0.175		0.725		0.000	0.900		
Remarks:															
Program Management Support	Various	NAVSEA						0.662	10/05	0.774	10/06	Continuing	Continuing	N/A	
Travel	PD	Various											0.000		
Government Engineering Support	WX	NSWC, Panama City, FL						0.150		0.200			0.350	N/A	
Subtotal Management			0.000	0.000		0.000		0.812		0.974		0.000	1.786		
Remarks:															
HFWB TOTAL			0.000	0.000		0.000		8.922		9.924		0.000	18.846		

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE:						
February 2005														
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-4			0603502N, Surface and Shallow Water MCM			1233, Mine Counter Measures Mid-Life Upgrades								
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
													0.000	
													0.000	N/A
													0.000	
													0.000	
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Software Development	SS/FFP	SAIC		2.084	11/03	2.306	11/04	2.150	11/05	2.145	11/06	Continuing	Continuing	N/A
Software Development	WX	NSWC, Panama, City, FL		0.221								Continuing	Continuing	
Subtotal Support			0.000	2.305		2.306		2.150		2.145		0.000	8.906	
Remarks:														
													0.000	
													0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Program Management Support	CPFF	CACI		0.196	11/03	0.094	11/04	0.150	10/05	0.125	10/06	Continuing	Continuing	N/A
Travel				0.061		0.063		0.015				Continuing	Continuing	
SBIR Assessment				0.054								0.000	0.054	
Government Engineering Support	WX	NSWC, Panama, City, FL						0.296		0.342		Continuing	Continuing	
Program Management Support	Various	NAVSEA		0.132		0.218						0.350	0.350	N/A
Subtotal Management			0.000	0.443		0.375		0.461		0.467		0.350	2.096	
Remarks:														
MEDAL TOTAL			0.000	2.748		2.681		2.611		2.612		0.350	11.002	

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 26 of 94)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-4			0603502N, Surface and Shallow Water MCM			1233, Mine Counter Measures Mid-Life Upgrades								
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
Primary Hardware Development	TBD	TBD								1.669	11/06	Continuing	Continuing	
Primary Hardware Development	WX/RCP	NSWC, Panama City, FL								0.300		Continuing	Continuing	N/A
													0.000	
Subtotal Product Development			0.000	0.000		0.000		0.000		1.969		0.000	1.969	
Remarks: All work contracted to Raytheon on the CPIF contract was transferred to Lockheed Martin FP contract and NSWC, CSS Panama City, Florida.														
Logistics Support and Integration	Various	TBD								0.800		Continuing	Continuing	N/A
													0.000	
													0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.800		0.000	0.800	
Remarks:														
Developmental Test & Evaluation	CPIF	TBD								0.600	11/06	Continuing	Continuing	
													0.000	
													0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.600		0.000	0.600	
Remarks:														
Contractor Engineering Support	CPIF	CACI								0.200	11/06	Continuing	Continuing	N/A
Government Engineering Support	WX	NSWC, Panama City, FL								0.325		Continuing	Continuing	N/A
Travel		NAVSEA								0.075		Continuing	Continuing	N/A
Subtotal Support			0.000	0.000		0.000		0.000		0.600		0.000	0.600	
Remarks:														
USV TOTAL			0.000	0.000		0.000		0.000		3.969		0.000	3.969	

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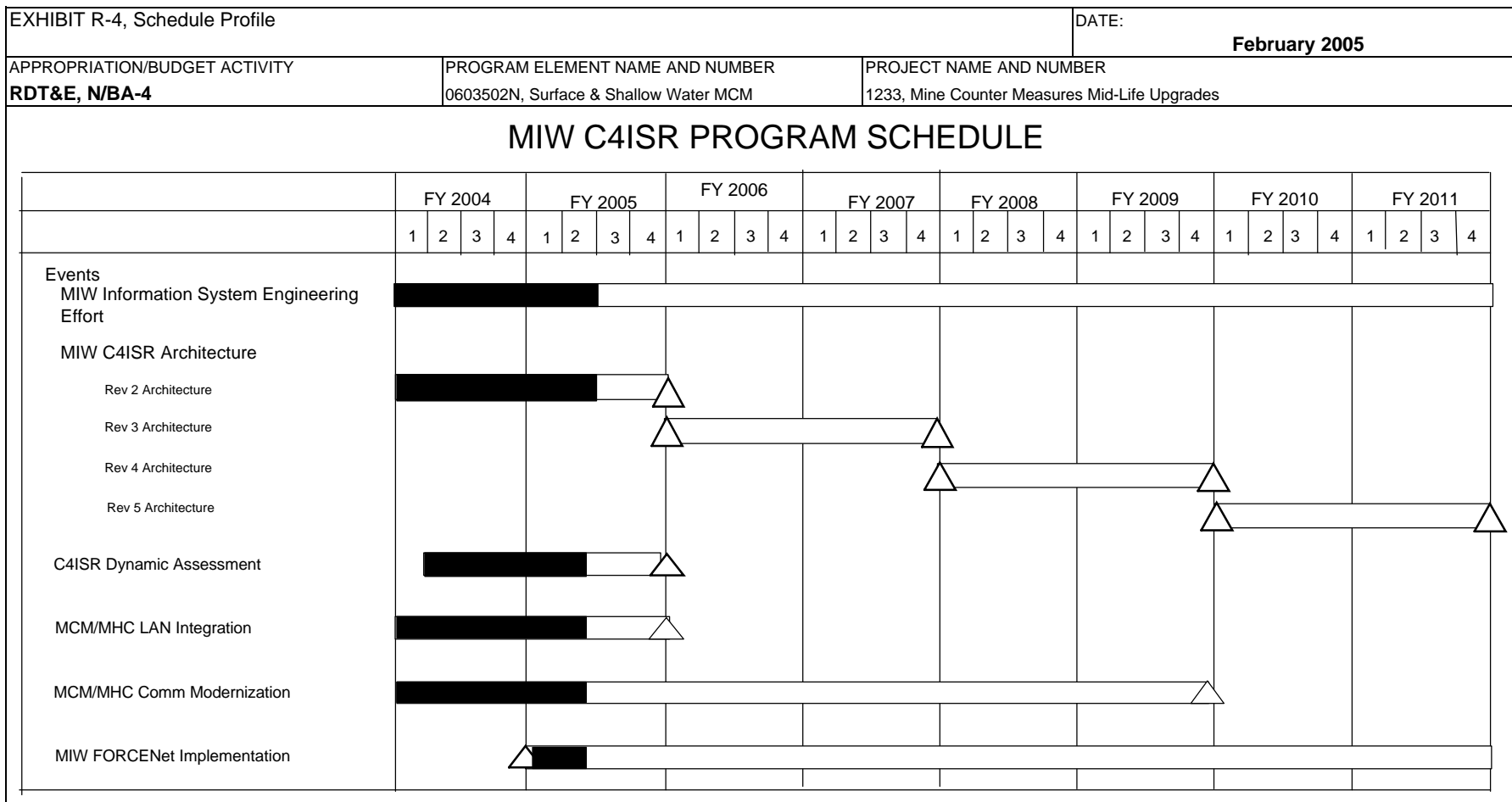
EXHIBIT R-4, Schedule Profile																DATE:				February 2005																			
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NAME AND NUMBER								PROJECT NAME AND NUMBER																							
RDT&E, N/BA-4								0603502N, Surface & Shallow Water MCM								Battle Space Profiler																							
BSP PROGRAM SCHEDULE																																							
								FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 2011			
								1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
HW/SW Design and Development Preliminary Design Review Critical Design Review Env., Shock, & Safety Testing EDM Installation & C/O																<div></div> <div>△</div> <div>△</div> <div></div> <div>△</div>																							

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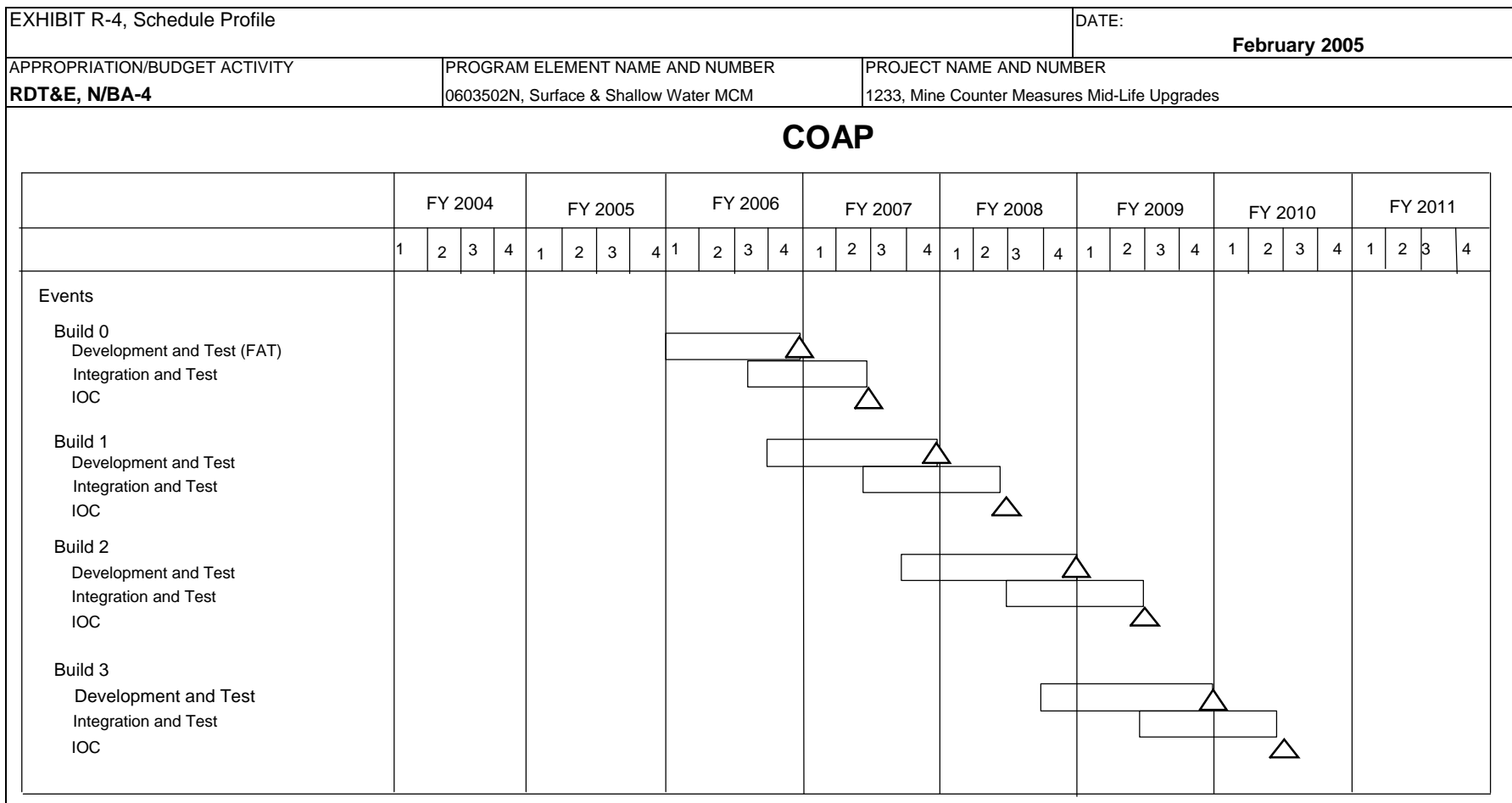


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EXHIBIT R-4, Schedule Profile																		DATE:				February 2005																	
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NAME AND NUMBER								PROJECT NAME AND NUMBER																							
RDT&E, N/BA-4								0603502N, Surface & Shallow Water MCM								1233, Mine Counter Measures Mid-Life Upgrades																							
COAP (Continued)																																							
								FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 2011			
								1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Events																																							
Build 4																																							
Development and Test																																							
Integration and Test																																							
IOC																																							
Build 5																																							
Development and Test																																							
Integration and Test																																							

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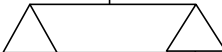



EXHIBIT R-4, Schedule Profile																				DATE: February 2005												
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N/BA-4								PROGRAM ELEMENT NAME AND NUMBER 0603502N, Surface & Shallow Water MCM								PROJECT NAME AND NUMBER 1233, Mine Counter Measures Mid-Life Upgrades																
GCCS-M 4.x for MCM PROGRAM SCHEDULE																																
	FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 2011			
Events	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Development and Integration of GCCS-M 4.x hardware:																																
M-class ships																																
Expeditionary units																																

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EXHIBIT R-4, Schedule Profile																		DATE: February 2005																			
APPROPRIATION/BUDGET ACTIVITY RDT& E, N/BA-5										PROGRAM ELEMENT 0603502N, Surface and Shallow Water MCM										R-1 ITEM NOMENCLATURE 1233, Mine Counter Measures Mid-Life Upgrades																	
E. Schedule Profile																																					
HFWB SONAR IMPROVEMENT PROGRAM SCHEDULE																																					
	FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 2011								
					1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
Events																																					
Design & Fabrication																																					
Integration Contractor Award																																					
Tow Cable Integration																																					
In-water Component Tests																																					
Component EQT Tests																																					
Ship Integration and At-sea Test																																					

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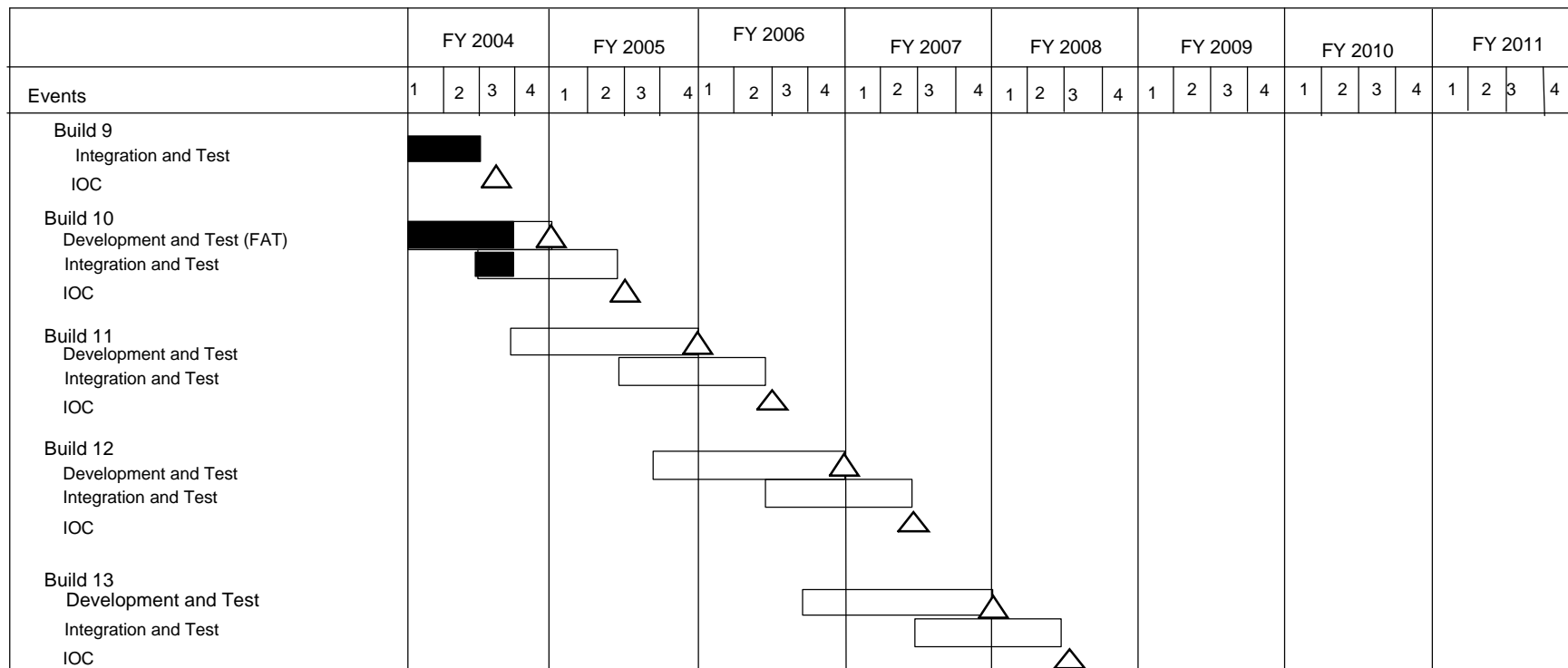
Exhibit R-2, RD&E Budget Item Justification
(Exhibit R-2, page 33 of 94)

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CLASSIFICATION:

EXHIBIT R-4, Schedule Profile			DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NAME AND NUMBER		PROJECT NAME AND NUMBER	
RDT&E, N/BA-4		0603502N, Surface & Shallow Water MCM		1233, Mine Counter Measures Mid-Life Upgrades	

MEDAL PROGRAM SCHEDULE



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EXHIBIT R-4, Schedule Profile																DATE:																			
February 2005																																			
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT NAME AND NUMBER								PROJECT NAME AND NUMBER																							
RDT&E, N/BA-4				0603502N, Surface & Shallow Water MCM								1233, Mine Counter Measures Mid-Life Upgrades																							
MEDAL PROGRAM SCHEDULE CONT'D																																			
				FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 2011			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Events																																			
Build 14																																			
Development and Test																																			
Integration and Test																																			
IOC																																			
Build 15																																			
Development and Test																																			
Integration and Test																																			
IOC																																			
Build 16																																			
Development and Test																																			
Integration and Test																																			
IOC																																			
Build 17																																			
Development and Test																																			
Integration and Test																																			

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UNCLASSIFIED

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CLASSIFICATION:


EXHIBIT R-4, Schedule Profile																DATE:				February 2005												
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NAME AND NUMBER								PROJECT NAME AND NUMBER																			
RDT&E, N/BA-4					0603502N, Surface & Shallow Water MCM								1233, Mine Counter Measures Mid-Life Upgrades																			
USV PROGRAM SCHEDULE																																
	FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
USV Contract Award																																
SDD Phase																																
CT/DT																																
OT																																
LRIP Decision/Milestone C																																
LRIP Production																																
Full Rate Production Decision																																

R-1 SHOPPING LIST - Item No. 36

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CLASSIFICATION:

EXHIBIT R-4, Schedule Profile																				DATE: February 2005														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4					PROGRAM ELEMENT NAME AND NUMBER 0603502N, Surface & Shallow Water MCM										PROJECT NAME AND NUMBER 1233, Mine Counter Measures Mid-Life Upgrades																			
ICWS PROGRAM SCHEDULE																																		
	FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 2011					
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
Events																																		
Ship board test Dockside/at-sea																																		

R-1 SHOPPING LIST - Item No. 36

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CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RD TEN Budget Item Justification

(Exhibit R-2, page 38 of 94)

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CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 39 of 94)

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CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 40 of 94)

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CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 41 of 94)

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CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 42 of 94)

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CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No. 36

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 43 of 94)

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CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 44 of 94)

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CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 45 of 94)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT NUMBER AND NAME Surface & Shallow Water MCM, 0603502N				PROJECT NUMBER AND NAME Unmanned Undersea Vehicle 2094/2852					
COST (\$ in Millions)	Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Project Cost	238.167	62.799	59.965	54.633	52.176	74.707	165.358	157.816	154.912	Continuing	Continuing
RDT&E Articles Qty			1	1							2
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The November 2004 UUV Master Plan establishes Intelligence, Surveillance, and Reconnaissance (ISR) as the Navy's top UUV priority. The second priority is to provide a clandestine, mine reconnaissance capability and Anti-Submarine Warfare is priority three. The UUV project funds development of the UUV Program Plan. The AN/BLQ-11 Long-Term Mine Reconnaissance System (LMRS) was being developed to provide a robust, long-term Fleet capability to conduct clandestine minefield reconnaissance. The Navy was developing a Mission Reconfigurable UUV (MRUUV) system that was capable of performing different missions to conduct surveillance, intelligent and tactical oceanography. The LMRS Engineering Development Model (EDM) will be completed to mature and test critical technology for follow-on UUVs. The LMRS EDM may be used for fleet conops development and experimentation. The Advanced Development UUV (ADUUV) development will continue to mature and test critical modular UUV design technology for follow-on UUV programs. The UUV program will continue to mature key UUV technologies and sonar sensors as risk reduction for follow-on UUV programs. Planning has begun for a new acquisition program to develop a modular, reconfigurable 21" MRUUV to support contract award in FY06. The first payload developed by this program will support the MCM mission. Other modular payload developments will be initiated beginning in FY09. An AOA for the Large Displacement (LD) MRUUV was completed in FY04. The Office of Naval Research will develop technologies for payload sensors and increased autonomy to support risk mitigation for the UUV program. Technologies from these systems will transition to UUV during the FNC demonstration year. Technology Transition agreements between the Program office and ONR have been signed.											

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME Surface & Shallow Water MCM, 0603502N	PROJECT NUMBER AND NAME Unmanned Undersea Vehicle 2094/2852																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">LMRS</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>34.326</td> <td>18.964</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td>1</td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; height: 60px; margin-top: 10px; padding: 5px;"> <p>Complete development and fabrication of prototype LMRS system, prototype testing and conduct TECHEVAL.</p> </div>					LMRS	FY 04	FY 05	FY 06	FY07	Accomplishments/Effort/Subtotal Cost	34.326	18.964	0.000	0.000	RDT&E Articles Quantity		1		
LMRS	FY 04	FY 05	FY 06	FY07															
Accomplishments/Effort/Subtotal Cost	34.326	18.964	0.000	0.000															
RDT&E Articles Quantity		1																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">ADUUV</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>16.882</td> <td>19.931</td> <td>8.600</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td>1</td> <td></td> </tr> </table> <div style="border: 1px solid black; height: 60px; margin-top: 10px; padding: 5px;"> <p>Complete development of an Advanced Development Unmanned Undersea Vehicle (ADUUV) and modification of Forward Look Sonar (FLS) for 21" MRUUV risk reduction.</p> </div>					ADUUV	FY 04	FY 05	FY 06	FY07	Accomplishments/Effort/Subtotal Cost	16.882	19.931	8.600	0.000	RDT&E Articles Quantity			1	
ADUUV	FY 04	FY 05	FY 06	FY07															
Accomplishments/Effort/Subtotal Cost	16.882	19.931	8.600	0.000															
RDT&E Articles Quantity			1																
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">LMRS P3I</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>7.391</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; height: 60px; margin-top: 10px; padding: 5px;"> <p>Funded engineering studies and technology integration development of LMRS P3I. Sensor technology will be used for risk reduction for the 21" MRUUV.</p> </div>					LMRS P3I	FY 04	FY 05	FY 06	FY07	Accomplishments/Effort/Subtotal Cost	7.391	0.000	0.000	0.000	RDT&E Articles Quantity				
LMRS P3I	FY 04	FY 05	FY 06	FY07															
Accomplishments/Effort/Subtotal Cost	7.391	0.000	0.000	0.000															
RDT&E Articles Quantity																			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME Surface & Shallow Water MCM, 0603502N	PROJECT NUMBER AND NAME Unmanned Undersea Vehicle 2094/2852																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">UUV Sensor Risk Reduction</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>4.200</td> <td>5.220</td> <td>5.580</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; height: 60px; margin-top: 10px; padding: 5px;"> Funds development of sensors as risk reduction for follow-on UUVs. </div>					UUV Sensor Risk Reduction	FY 04	FY 05	FY 06	FY07	Accomplishments/Effort/Subtotal Cost	4.200	5.220	5.580	0.000	RDT&E Articles Quantity				
UUV Sensor Risk Reduction	FY 04	FY 05	FY 06	FY07															
Accomplishments/Effort/Subtotal Cost	4.200	5.220	5.580	0.000															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">21" Reconfigurable UUV Risk Reduction</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.000</td> <td>15.850</td> <td>23.574</td> <td>0</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; height: 60px; margin-top: 10px; padding: 5px;"> Begin risk reduction (for example autonomy software, recovery arm modification) and competition preparations for award of a 21" Reconfigurable UUV development contract in FY06. </div>					21" Reconfigurable UUV Risk Reduction	FY 04	FY 05	FY 06	FY07	Accomplishments/Effort/Subtotal Cost	0.000	15.850	23.574	0	RDT&E Articles Quantity				
21" Reconfigurable UUV Risk Reduction	FY 04	FY 05	FY 06	FY07															
Accomplishments/Effort/Subtotal Cost	0.000	15.850	23.574	0															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">21" Reconfigurable UUV</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.000</td> <td>0.000</td> <td>16.879</td> <td>52.176</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; height: 60px; margin-top: 10px; padding: 5px;"> Award contract for a 21" Reconfigurable development contract in FY06. </div>					21" Reconfigurable UUV	FY 04	FY 05	FY 06	FY07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	16.879	52.176	RDT&E Articles Quantity				
21" Reconfigurable UUV	FY 04	FY 05	FY 06	FY07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	16.879	52.176															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">TOTAL</td> <td style="width: 15%;">62.799</td> <td style="width: 15%;">59.965</td> <td style="width: 15%;">54.633</td> <td style="width: 15%;">52.176</td> </tr> </table>					TOTAL	62.799	59.965	54.633	52.176										
TOTAL	62.799	59.965	54.633	52.176															

R-1 SHOPPING LIST - Item No.

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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 & Shallow Water MCM, 0603502N		Unmanned Undersea Vehicle 2094/2852					

(U) 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>
2171/OPN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	94.619

(U) E. ACQUISITION STRATEGY:

The LMRS acquisition strategy was structured to maximize competition during system development. In FY97 three one year contracts were awarded for development of preliminary design. In early FY98, two of the preliminary design contractors were selected to continue development through a critical design review. Selection of these two contractors was based primarily on the contractor's performance during the preliminary design contract. In early FY00, Boeing was selected to complete the LMRS design, fabricate a prototype system and support in-water testing. The LMRS Engineering Development Model will be used to mature and test UUV technology and for fleet conops development. The Advanced Development UUV (ADUUV) will be completed to mature and test critical modular UUV design technology that will be used for follow-on UUVs. A new acquisition program to develop a modular, reconfigurable 21" MRUUV will be initiated with a competitively awarded contract planned for FY06.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME							
RDT&E, N / BA-4			Surface & Shallow Water MCM, 0603502N			Unmanned Undersea Vehicle 2094/2852							
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	FY07 Costs	FY07 Award Date		
LMRS	CPAF/IF	Boeing	86.849	21.029	N/A	8.340	N/A						
Fees			9.553	0.000	N/A		N/A						
LMRS	Various	Various	45.533	4.955	N/A	4.293	N/A						
ADUUV	CPIF	Lockheed Martin	6.750	10.494	N/A	11.084	N/A	5.000					
ADUUV	Various	Various	10.485	4.388		2.532		1.500					
UUV P3I	Various	Various	31.103	6.280	N/A								
UUV Sensor Risk Reduction	Various	Various	0.000	4.200	N/A	5.220	N/A	5.580	N/A				
21" Reconfigurable UUV Risk Reduction	Various	Various	0.000	0.000	N/A	15.850	N/A	17.010					
21" Reconfigurable UUV	Various	Various	0.000					10.416	TBD	31.874	N/A		
LD MRUUV Risk Reduction	Various	Various	0.000										
UUV Test center	Various	Various	7.502										
Subtotal Product Development			197.775	51.346		47.319		39.506		31.874			
Remarks:													
Development Support													
Software Development													
Integrated Logistics Support													
Configuration Management													
Technical Data													
Studies & Analyses													
GFE													
Award Fees													
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000		
Remarks:													

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Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-4			PROGRAM ELEMENT Surface & Shallow Water MCM, 0603502N			PROJECT NUMBER AND NAME Unmanned Undersea Vehicle 2094/2852						
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	FY07 Costs	FY07 Award Dare	
Developmental Test & Evaluation	Various	Various	2.731	3.247	N/A	1.758	N/A		N/A		N/A	
Operational Test & Evaluation	WR	Various	0.000		N/A		N/A		N/A		N/A	
GFE/GFI	Various	Various	0.644		N/A		N/A	2.000	TBD	7.000	N/A	
TTLRF	WR	Various	6.282	0.799	N/A		N/A		N/A		N/A	
Award Fees												
Subtotal T&E			9.657	4.046		1.758		2.000		7.000		
Remarks:												
Contractor Engineering Support			5.024	1.000	N/A	1.500	N/A	1.750	N/A	2.000	N/A	
Government Engineering Support			20.507	3.612	N/A	3.783	N/A	3.500	N/A	3.750	N/A	
Program Management Support			5.204	2.795	N/A	5.605	N/A	7.877	N/A	7.552	N/A	
Subtotal Management			30.735	7.407		10.888		13.127		13.302		
Remarks:												
Total Cost			238.167	62.799		59.965		54.633		52.176		

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 51 of 94)

VIRGINIA CLASS FOT&E |

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																					DATE: February 2005															
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME																					
RDT&E, N /					Surface & Shallow Water MCM, 0603502N										Unmanned Undersea Vehicle 2094/2852																					
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Complete LMRS Baseline																																				
ADUUV Development																																				
Sensor Risk Reduction																																				
21" Vehicle / Launch and Recovery Risk Reduction																																				
Competition Planning/Execution																																				
21" Vehicle Development Contract																																				
ISR Payloads Development Phase																																				
Large Diameter Vehicle Launch and Recovery Risk Reduction																																				
LD MR UUV Development Phase																																				

R-1 SHOPPING LIST - Item No. 36

* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 53 of 94)

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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		0603502N, Surface and Shallow Water MCM				2131, Assault Breaching Systems						
COST (\$ in Millions)		Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Project Cost		187.561	2.932	26.808	29.215	37.530	36.551	35.897	31.246	30.446	Continuing	Continuing
RDT&E Articles Qty												0
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>This program provides for a combination of joint US Marine Corps and US Navy projects planned to counter the threat to amphibious landing forces from known and projected foreign land/sea mines and obstacles in the beach zone and surf zone approaches to amphibious assault areas. It develops a system of systems (Countermine/Counter Obstacle, Intelligence/Surveillance/Reconnaissance/Targeting (ISR/T), Navigation/Virtual Marking/Integration, C4I/Data Fusion) to provide a full assault breaching capability. Funding in FY 2004 is a Congressional Plus-Up for Venom Penetrator (part of the Counter mine demonstration). The ABS System of Systems (SoS) will obtain a Milestone B decision in early FY06.</p> <p>The Counter Mine (CM) system will transition from a 6.3 S&T Concept Demonstration effort to a 6.4 development program after a concept decision/AoA in FY05. Three 6.3 S&T concepts will demonstrate the countermine technology by the beginning of FY05. A concept/decision/AoA will occur in FY05 and one of the concepts or a combination of the technologies will be chosen to move into the 6.4 development phase as the CM System (far-term). The CM Milestone B will occur in FY06 with a contract award to follow.</p> <p>A near-term Counter Mine/Counter Obstacle (CMCO) system is also being characterized at the 6.3 S&T level to be used in the Fleet as an interim CM/CO capability until the "Far-Term" CM system is developed. This near-term system (JDAM Assault Breaching System - JABS) consists of in-service MK 84 general purpose bombs with a JDAM (Joint Directed Attack Munition) tail kit. This system is already being used in the fleet, however it is being characterized for a limited assault breaching mission. Some Follow-On-Test and Evaluation (FOT&E), risk mitigation, logistics, and operational readiness concerns need to be addressed for the ABS mission with ABS funding.</p> <p>The ISR/T capability is being provided by the Coastal Battlefield Reconnaissance & Analysis (COBRA) system. This program will transition from the Marine Corps to the Navy program office at the beginning of FY05. COBRA consists of three block capabilities which will all be integrated into the Fire Scout UAV as LCS Mission Modules. Block I capability is to detect surface laid mine lines on the beach (daytime) using Multi-spectral imaging. Block II will incorporate Infrared technology which will transition from 6.3 S&T to detect surface laid mine lines in the surf zone (day and night). Block III will transition technology from 6.3 S&T to detect buried mine lines. COBRA Block I/II milestone B is scheduled to occur in FY05.</p> <p>The navigation effort involves requirements development and program planning to choose the navigational upgrades for the Landing Craft, Air Cushion (LCAC) and Landing Craft, Utility (LCU) to enable the craft to safely navigate the neutralized assault lanes. OP,N will fund the CRAFTALTS to upgrade the navigation systems.</p> <p>After the assault lane has been neutralized, virtual or physical marking systems need to be developed to mark where the lane has been cleared and guide the assault craft through the lane.</p> <p>Command, Control, Computers, Communications and Intelligence (C4I) will tie all of the above systems together under an integrated ABS architecture and also tie in with the integrated Mine Warfare architecture.</p>												

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 54 of 94)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM	PROJECT NUMBER AND NAME 2131, Assault Breaching Systems		
(U) B. Accomplishments/Planned Program				
Product Development	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.651	11.425	18.759	29.423
RDT&E Articles Quantity				
Product Development: Venom Penetrator. Far term technology maturity (Counter mine), ISR/Targeting Development (COBRA), Government Furnished Equipment (GFE): Mine Threat Acquisition for R&D Development and Testing, DDGPS Development (Marking). Counter Mine System Development Contract beginning in FY06.				
* Associated FY04 funding is in 0603782N for all items except Venom Penetrator.				
Support	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	1.595	1.052	1.125	0.157
RDT&E Articles Quantity				
Support: Venom Penetrator. Mine Burial Effects/Mine Case/TNT Studies in support of requirements development, Fuze Vulnerability Studies. Tactical Decision Aid Development, Modeling and Simulation in support of Far-Term Development. ABS Scalability study.				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM	PROJECT NUMBER AND NAME 2131, Assault Breaching Systems																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="padding: 5px;">Test and Evaluation</th> <th style="padding: 5px;">FY04</th> <th style="padding: 5px;">FY05</th> <th style="padding: 5px;">FY06</th> <th style="padding: 5px;">FY07</th> </tr> <tr> <td style="padding: 5px;">Accomplishments/Effort/Subtotal Cost</td> <td style="padding: 5px; text-align: right;">0.159</td> <td style="padding: 5px; text-align: right;">0.331</td> <td style="padding: 5px; text-align: right;">2.865</td> <td style="padding: 5px; text-align: right;">0.170</td> </tr> <tr> <td style="padding: 5px;">RDT&E Articles Quantity</td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </table>					Test and Evaluation	FY04	FY05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	0.159	0.331	2.865	0.170	RDT&E Articles Quantity				
Test and Evaluation	FY04	FY05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	0.159	0.331	2.865	0.170															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 10px; min-height: 60px;"> Test and Evaluation: Venom Penetrator. Near Term (JABS) Risk Mitigation Testing; Commander Operational Test & Evaluation Forces Test Support. </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="padding: 5px;">Management</th> <th style="padding: 5px;">FY04</th> <th style="padding: 5px;">FY05*</th> <th style="padding: 5px;">FY06</th> <th style="padding: 5px;">FY07</th> </tr> <tr> <td style="padding: 5px;">Accomplishments/Effort/Subtotal Cost</td> <td style="padding: 5px; text-align: right;">0.527</td> <td style="padding: 5px; text-align: right;">14.000</td> <td style="padding: 5px; text-align: right;">6.466</td> <td style="padding: 5px; text-align: right;">7.780</td> </tr> <tr> <td style="padding: 5px;">RDT&E Articles Quantity</td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </table>					Management	FY04	FY05*	FY06	FY07	Accomplishments/Effort/Subtotal Cost	0.527	14.000	6.466	7.780	RDT&E Articles Quantity				
Management	FY04	FY05*	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	0.527	14.000	6.466	7.780															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 10px; min-height: 80px;"> Management: Venom Penetrator. Program management support, In-house contractor support (CACI, COMOPTEVFOR, and Northrop Grumman). Technical Direction Agent/Design Agent (TDA/DA) Engineering Support of Mission Area Analysis, Analysis of Alternatives, Milestone B preparation, contract and acquisition documentation, Requirements Generation - Initial Capabilities Document (ICD), Capability Development Documents (CDD), Capability Production Documents (CPD), Analysis of Material approvals and Functional needs analysis/functional solutions analysis, Mine magazine inventory management and shipping, contract management and tests/studies, C4I/Data fusion. </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Total</td> <td style="padding: 5px; text-align: right;">2.932</td> <td style="padding: 5px; text-align: right;">26.808</td> <td style="padding: 5px; text-align: right;">29.215</td> <td style="padding: 5px; text-align: right;">37.530</td> </tr> </table>					Total	2.932	26.808	29.215	37.530										
Total	2.932	26.808	29.215	37.530															

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005																																					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM		PROJECT NUMBER AND NAME 2131, Assault Breaching Systems																																							
<p>(U) 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: right; border-bottom: 1px solid black;">FY 2004</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2005</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2006</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2007</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2008</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2009</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2010</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2011</th> <th style="text-align: right; border-bottom: 1px solid black;">To Complete</th> <th style="text-align: right; border-bottom: 1px solid black;">Total Cost</th> </tr> </thead> <tbody> <tr> <td>2624 / OPN</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">2.277</td> <td style="text-align: right;">8.325</td> <td style="text-align: right;">9.091</td> <td style="text-align: right;">14.759</td> <td style="text-align: right;">14.066</td> <td style="text-align: right;">18.143</td> <td style="text-align: right;">Continuing</td> <td style="text-align: right;">Continuing</td> </tr> <tr> <td>0603782N Shallow Water MCM Demos</td> <td style="text-align: right;">12.0*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>*\$12M is ABS specific. Funding exists across the FYDP in this PE for other mine warfare efforts.</p> <p>(U) E. ACQUISITION STRATEGY:</p> <p>The FY04 and FY05 Initial Capabilities Document (ICD) and Capability Development Documents (CDD) tasks specifically complete the requirements generation process for the overarching mission area of Amphibious Operations in a Mined Environment leading to a MS B decision during FY06. The Functional Area Analysis (FAA) will provide the foundation for the "system of systems ICD/CDD required for Amphibious Operations in a Mined Environment. The FY04 and FY05 tasks will also allow the Navy to demonstrate the viability of concepts for Far Term System of Systems capabilities and justify the need for future funding. The FY04 funding was crucial to maintaining the inventory of threat mines that will be required for future mine lethality and vulnerability tests. The FY04 and FY05 tasks will develop ISR/Targeting systems and Navigation systems to support the Assault Breaching Mission. Milestone B for Countermine system development will occur in FY06 followed by a development contract award for the Countermine system development in FY06. Development of Block I COBRA(ISR/T) will continue into FY06 to prepare for a delivery of a Block I system for LCS Flight 0. FY06 funding will begin development of the COBRA Block II system to detect mine lines in the Surf Zone. The OPN in FY06 will go toward funding Navigational upgrades to the LCAC and LCU craft for more accurate navigation through the surf zone. FY07 OPN will also continue the Navigation upgrades to the LCAC and LCU as well as procure Block I COBRA systems for LCS Mission Modules.</p>											Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost	2624 / OPN	0.000	0.000	2.277	8.325	9.091	14.759	14.066	18.143	Continuing	Continuing	0603782N Shallow Water MCM Demos	12.0*									
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost																																	
2624 / OPN	0.000	0.000	2.277	8.325	9.091	14.759	14.066	18.143	Continuing	Continuing																																	
0603782N Shallow Water MCM Demos	12.0*																																										

R-1 SHOPPING LIST - Item No. 36

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE:						
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			February 2005								
RDT&E, N / BA-4			0603502N, Surface and Shallow Water MCM			2131, Assault Breaching Systems								
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
Primary Hardware Development	WX	IH, NSWC:PC, TBD	54.554	0.651	11/03	11.425	11/04	18.759	02/06	29.423	02/07	Continuing	Continuing	N/A
Ancillary Hardware Development	WX	IH, NSWC:PC, TBD	8.100									0.000	8.100	N/A
Aircraft Integration													0.000	
Ship Integration													0.000	
Ship Suitability													0.000	
Systems Engineering	WX	IH, NSWC:PC	17.033									Continuing	Continuing	N/A
Training Development	WX	IH, NSWC:PC	2.000										2.000	N/A
Tooling	WX	IH, NSWC:PC, TBD	0.860										0.860	N/A
GFE	WX	IH, NSWC:PC	4.700			0.000						Continuing	Continuing	N/A
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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME									
RDT&E, N / BA-??			0603502N, Surface and Shallow Water MCM			2131, Assault Breaching Systems									
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	
Development Support Equipment	WX	IH, NSWC:PC, TBD	11.721			0.000		0.725	11/05	0.057	11/06	Continuing	Continuing	N/A	
Software Development	WX	NSWC:PC	8.037										8.037	N/A	
Integrated Logistics Support	WX	IH, NSWC:PC	2.712										2.712	N/A	
Configuration Management	WX	IH, NSWC:PC	3.744										3.744	N/A	
Technical Data	WX	IH, NSWC:PC	2.588										2.588	N/A	
Studies & Analysis	WX	IH, NSWC:PC	0.992	1.595	01/03	1.052	11/04	0.400	11/05	0.100	11/06	Continuing	Continuing		
GFE	WX	IH, NSWC:PC	0.400										0.400	N/A	
Award Fees													0.000		
													0.000		
													0.000		
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Subtotal Support			30.194	1.595		1.052		1.125		0.157		0.000	34.123		
Remarks:															

R-1 SHOPPING LIST - Item No. 36

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4			PROGRAM ELEMENT 0603502N, Surface and Shallow Water MCM			PROJECT NUMBER AND NAME 2131, Assault Breaching Systems								
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	WX, PD	IH, NSWC:PC TBD	26.263	0.159	01/03	0.331	11/04	2.865	11/05	0.170	11/06	Continuing	Continuing	N/A
Operational Test & Evaluation	WR	IH, NSWC:PC TBD	8.655										8.655	N/A
Live Fire Test & Evaluation													0.000	
Test Assets													0.000	
Tooling	WX	IH, NSWC:PC TBD	0.700										0.700	N/A
GFE	WX	IH, NSWC:PC TBD	0.400										0.400	N/A
Award Fees													0.000	
Subtotal T&E			36.018	0.159		0.331		2.865		0.170		0.000	39.713	
Remarks:														
Contractor Engineering Support	CPFF	CACI, Northrup Grumman	3.089			0.750	11/04	0.522	11/05	0.537	11/06	Continuing	Continuing	N/A
Government Engineering Support	WX	IH, NSWC:PC	18.737	0.316	1/04	1.891	11/04	1.835	11/05	1.950	11/06	Continuing	Continuing	N/A
Program Management Support	WX	IH, NSWC:PC, NAVSEA	11.326	0.211	1/04	1.784	11/04	4.034	11/05	5.218	11/06	Continuing	Continuing	N/A
Travel	PD	NAVSEA	0.877			0.075	11/04	0.075	11/05	0.075	11/06	Continuing	Continuing	N/A
Transportation													0.000	
Assessment*	Various	Various	0.073			9.500							9.573	N/A
Subtotal Management			34.102	0.527		14.000		6.466		7.780		0.000	70.655	
Remarks:														
Total Cost			187.561	2.932		26.808		29.215		37.530		0.000	284.046	

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 60 of 94)

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CLASSIFICATION:

EXHIBIT R-4, Schedule Profile																DATE:				February 2005												
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT NAME AND NUMBER								PROJECT NAME AND NUMBER																				
RDT&E, N/BA-4				0603502N, Surface & Shallow Water MCM								2131, Assault Breaching Systems																				
ABS PROGRAM SCHEDULE																																
	FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Milestones																																
ONR 6.3 Demo Efforts																																
CMCO Acquisition/Development 6.4																																
CMCO System Design and Test																																
CMCO Technical Reviews																																
ISR/Navigation/C4I Development																																

R-1 SHOPPING LIST - Item No. 36

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 61 of 94)

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CLASSIFICATION:

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R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 62 of 94)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM					PROJECT NUMBER AND NAME 4025, Expendable Mine Neutralization System					
COST (\$ in Millions)	Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Project Cost	0.000	0.000	2.155	11.506	14.030	0.000	0.000	0.000	0.000	0.000	27.691
RDT&E Articles Qty											0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Expendable Mine Neutralization System (EMNS) is a replacement to the existing AN/SLQ-48 Mine Neutralization System (MNS). The current program replaces the MNS with EMNS on the 14 MCM Avenger Class Ships. EMNS will leverage off of on-going efforts in the Airborne Mine Countermeasures Program to develop an Airborne Mine Neutralization System (AMNS).

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 63 of 94)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005															
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM	PROJECT NUMBER AND NAME 4025, Expendable Mine Neutralization System															
(U) B. Accomplishments/Planned Program																	
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="padding: 5px;">Product Development</th><th style="padding: 5px;">FY 04</th><th style="padding: 5px;">FY 05</th><th style="padding: 5px;">FY 06</th><th style="padding: 5px;">FY 07</th></tr></thead><tbody><tr><td style="padding: 5px;">Accomplishments/Effort/Subtotal Cost</td><td style="padding: 5px; text-align: center;">0.000</td><td style="padding: 5px; text-align: center;">1.533</td><td style="padding: 5px; text-align: center;">9.326</td><td style="padding: 5px; text-align: center;">4.730</td></tr><tr><td style="padding: 5px;">RDT&E Articles Quantity</td><td style="padding: 5px;"></td><td style="padding: 5px;"></td><td style="padding: 5px;"></td><td style="padding: 5px;"></td></tr></tbody></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"><p>Product Development: Award Development Contract for Expendable Mine Neutralization System (EMNS) developer. Initiate hardware design and development. Modify software for use on an MCM class ship. Integrate EMNS Engineering Development Model (EDM) aboard MCM-1 Class Ship.</p></div>			Product Development	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	1.533	9.326	4.730	RDT&E Articles Quantity				
Product Development	FY 04	FY 05	FY 06	FY 07													
Accomplishments/Effort/Subtotal Cost	0.000	1.533	9.326	4.730													
RDT&E Articles Quantity																	
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="padding: 5px;">Support</th><th style="padding: 5px;">FY 04</th><th style="padding: 5px;">FY 05</th><th style="padding: 5px;">FY 06</th><th style="padding: 5px;">FY 07</th></tr></thead><tbody><tr><td style="padding: 5px;">Accomplishments/Effort/Subtotal Cost</td><td style="padding: 5px; text-align: center;">0.000</td><td style="padding: 5px; text-align: center;">0.092</td><td style="padding: 5px; text-align: center;">1.000</td><td style="padding: 5px; text-align: center;">0.900</td></tr><tr><td style="padding: 5px;">RDT&E Articles Quantity</td><td style="padding: 5px;"></td><td style="padding: 5px;"></td><td style="padding: 5px;"></td><td style="padding: 5px;"></td></tr></tbody></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"><p>Support: Develop logistics products, including training materials and interactive technical manual.</p></div>			Support	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.092	1.000	0.900	RDT&E Articles Quantity				
Support	FY 04	FY 05	FY 06	FY 07													
Accomplishments/Effort/Subtotal Cost	0.000	0.092	1.000	0.900													
RDT&E Articles Quantity																	

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM	PROJECT NUMBER AND NAME 4025, Expendable Mine Neutralization System		
(U) B. Accomplishments/Planned Program				
Test and Evaluation	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.100	0.750	7.970
RDT&E Articles Quantity				
Test and Evaluation: EMNS developmental testing including environmental and shock testing, safety testing, developmental and operational testing. Develop Test and Evaluation Master Plan (TEMP) and test reports.				
Management	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.430	0.430	0.430
RDT&E Articles Quantity				
Management: Provide program management support and travel for EMNS.				
Total	0.000	2.155	11.506	14.030

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM			PROJECT NUMBER AND NAME 4025, Expendable Mine Neutralization System					
(U) 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>	<u>To Complete</u>	<u>Total Cost</u>
2622 / OPN										
EMNS	0.000	0.000	0.000	0.000	14.534	13.933	15.019	12.499	Continuing	55.985
4225 / WPN	0.000	0.000	0.000	0.000	0.000	0.000	3.735	6.157	Continuing	9.892
Total	0.000	0.000	0.000	0.000	14.534	13.933	18.754	18.656	0.000	65.877
 (U) E. ACQUISITION STRATEGY:										
<p>The Airborne Mine Countermeasures Program is developing two Airborne Mine Neutralization variants for the H-53 and H-60 helicopters. Based on Surface Ship requirements, one of these two variants will be selected for use on the MCM Avenger Class Ships. The acquisition strategy will be to either compete between the two alternatives, or select the one that best meets fleet requirements.</p>										

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 67 of 94)

R-1 SHOPPING LIST - Item No. 36

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Remarks:

R-1 SHOPPING LIST - Item No. 36

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 68 of 94)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-4			PROGRAM ELEMENT 0603502N, Surface and Shallow Water MCM			PROJECT NUMBER AND NAME 4025, Expendable Mine Neutralization System								
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
Develop TEMP	WX	NSWC, Panama City, FL				0.100	10/04	0.100	10/05				0.200	N/A
Environmental and Shock Testing	WX	NSWC, Panama City, FL						0.350	10/05	0.500	10/06		0.850	N/A
CT/DT/OT	CPIF	TBD						0.100	10/05	1.470	10/06		1.570	N/A
CT/DT/OT	WX	NSWC, Panama City, FL								4.500	10/06		4.500	
Safety Testing	WX	NSWC, Panama City, FL						0.200	10/05	1.500	10/06		1.700	
													0.000	
													0.000	
Subtotal T&E			0.000	0.000		0.100		0.750		7.970		0.000	8.820	
Remarks:														
Program Mangement Support	CPFF	CACI	0.000	0.000		0.150	10/04	0.150	10/05	0.150	10/06		0.450	N/A
Travel	Various	NAVSEA	0.000	0.000		0.050	10/04	0.050	10/05	0.050	10/06		0.150	N/A
Government Engineering Support	WX	NSWC, Panama City, FL				0.230	10/04	0.230	10/05	0.230	10/06		0.690	N/A
													0.000	N/A
													0.000	N/A
													0.000	
Subtotal Management			0.000	0.000		0.430		0.430		0.430		0.000	1.290	
Remarks:														
Total Cost			0.000	0.000		2.155		11.506		14.030		0.000	27.691	
Remarks:														

R-1 SHOPPING LIST - Item No. 36

UNCLASSIFIED

Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 69 of 94)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-4, Schedule Profile						DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4				PROGRAM ELEMENT NAME AND NUMBER 0603502N, Surface & Shallow Water MCM				PROJECT NAME AND NUMBER 4025, Expendable Mine Neutralization System			

EMNS PROGRAM SCHEDULE

	FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Contract Award								△																								
HW/SW Design and Development																																
Preliminary Design Review								△																								
Critical Design Review												△																				
Contractor Testing																																
Development Testing																																
EMD Install / Checkout																																
TECHEVAL/OPEVAL																																
Milestone C																																

R-1 SHOPPING LIST - Item No. 36

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 70 of 94)

UNCLASSIFIED

CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No. 36

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 71 of 94)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM				PROJECT NUMBER AND NAME 3102 Low Frequency Broadband					
COST (\$ in Millions)	Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Project Cost	0.000	0.000	0.000	9.850	15.470	18.132	23.895	10.552	14.902	Continuing	Continuing
RDT&E Articles Qty											
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>Low Frequency Broadband (LFBB) is a development program for providing Low-frequency, broadband (LFBB) sensor and processor payload for an unmanned, underwater vehicle (UUV). The project provides a needed capability for detection of buried mines and identification of mines by a combination of imaging and non-imaging signal processing technologies. This technology is being transitioned from Office of Naval Research projects, which have demonstrated the technology, but need to be transitioned into a system.</p>											

R-1 SHOPPING LIST - Item No. 36

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM	PROJECT NUMBER AND NAME 3102 Low Frequency Broadband																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;">Product Development</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">5.250</td><td style="text-align: center;">7.700</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>					Product Development	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	5.250	7.700	RDT&E Articles Quantity				
Product Development	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	5.250	7.700															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 150px; margin-top: 10px;">Product Development: Design and prototyping of critical technology components for demonstration and evaluation.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;">Support</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">2.600</td><td style="text-align: center;">4.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>					Support	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	2.600	4.000	RDT&E Articles Quantity				
Support	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	2.600	4.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 100px; margin-top: 10px;">Support: Develop critical item sensor processing and control software ILS.</div>																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM	PROJECT NUMBER AND NAME 3102 Low Frequency Broadband																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">Test and Evaluation</td><td style="width: 15%;">FY 04</td><td style="width: 15%;">FY 05</td><td style="width: 15%;">FY 06</td><td style="width: 15%;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td>0.000</td><td>0.000</td><td>0.550</td><td>1.800</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>					Test and Evaluation	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.550	1.800	RDT&E Articles Quantity				
Test and Evaluation	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.550	1.800															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 10px; min-height: 100px;">Test and Evaluation: Initiate development component testing.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">Management</td><td style="width: 15%;">FY 04</td><td style="width: 15%;">FY 05</td><td style="width: 15%;">FY 06</td><td style="width: 15%;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td>0.000</td><td>0.000</td><td>1.450</td><td>1.970</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>					Management	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.450	1.970	RDT&E Articles Quantity				
Management	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.450	1.970															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 10px; min-height: 100px;">Management: Provide program management support and travel for LFBB.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">Total</td><td style="width: 15%;">0.000</td><td style="width: 15%;">0.000</td><td style="width: 15%;">9.850</td><td style="width: 15%;">15.470</td></tr></table>					Total	0.000	0.000	9.850	15.470										
Total	0.000	0.000	9.850	15.470															

R-1 SHOPPING LIST - Item No. 36

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005																																			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4			PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM			PROJECT NUMBER AND NAME 3102 Low Frequency Broadband																																					
<p>(U) 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 2004</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 style="padding: 5px;">0996 / OPN</td> <td style="text-align: center; padding: 5px;">0.000</td> <td style="text-align: center; padding: 5px;">0.000</td> <td style="text-align: center; padding: 5px;">0.000</td> <td style="text-align: center; padding: 5px;">0.000</td> <td style="text-align: center; padding: 5px;">0.000</td> <td style="text-align: center; padding: 5px;">0.000</td> <td style="text-align: center; padding: 5px;">45.569</td> <td style="text-align: center; padding: 5px;">45.610</td> <td style="text-align: center; padding: 5px;">Continuing</td> <td style="text-align: center; padding: 5px;">Continuing</td> </tr> <tr> <td style="padding: 5px;">Total</td> <td style="text-align: center; padding: 5px;">0.000</td> <td style="text-align: center; padding: 5px;">0.000</td> <td style="text-align: center; padding: 5px;">0.000</td> <td style="text-align: center; padding: 5px;">0.000</td> <td style="text-align: center; padding: 5px;">0.000</td> <td style="text-align: center; padding: 5px;">0.000</td> <td style="text-align: center; padding: 5px;">45.569</td> <td style="text-align: center; padding: 5px;">45.610</td> <td style="text-align: center; padding: 5px;">Continuing</td> <td style="text-align: center; padding: 5px;">Continuing</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) E. ACQUISITION STRATEGY:</p> <p style="margin-top: 10px;">NSWC, Panama City FL and NRL will award a contract to address the critical technologies necessary for the development of the LFBB Sonar. Procurement is scheduled to start in FY10.</p>											Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost	0996 / OPN	0.000	0.000	0.000	0.000	0.000	0.000	45.569	45.610	Continuing	Continuing	Total	0.000	0.000	0.000	0.000	0.000	0.000	45.569	45.610	Continuing	Continuing
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost																																	
0996 / OPN	0.000	0.000	0.000	0.000	0.000	0.000	45.569	45.610	Continuing	Continuing																																	
Total	0.000	0.000	0.000	0.000	0.000	0.000	45.569	45.610	Continuing	Continuing																																	

R-1 SHOPPING LIST - Item No. 36

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)							DATE:							
							February 2005							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4			PROGRAM ELEMENT 0603502N, Surface and Shallow Water MCM			PROJECT NUMBER AND NAME 3102 Low Frequency Broadband								
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
ADM Hardware Development		Contractors - Two (TBD)						5.250	11/05	7.700	11/06	Continuing	Continuing	N/A
													0.000	N/A
													0.000	N/A
													0.000	N/A
													0.000	N/A
													0.000	N/A
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													0.000	
Subtotal Product Development			0.000	0.000		0.000		5.250		7.700		0.000	12.950	
Remarks:														

R-1 SHOPPING LIST - Item No. 36

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 76 of 94)

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 77 of 94)

R-1 SHOPPING LIST - Item No. 36

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005						
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4			PROGRAM ELEMENT 0603502N, Surface and Shallow Water MCM			PROJECT NUMBER AND NAME 3102 Low Frequency Broadband								
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	WX	NSWC:PC, NRL						0.550	11/05	1.800	11/06	Continuing	Continuing	N/A
													0.000	N/A
													0.000	N/A
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal T&E			0.000	0.000		0.000		0.550		1.800		0.000	2.350	
Remarks:														
Government Engineering Support	WX	NSWC, Panama, City, FL						0.650		1.150		Continuing	Continuing	N/A
Program Management Support	various	NAVSEA	0.000	0.000				0.525		0.545		Continuing	Continuing	N/A
Program Management Support	CPFF	CACI	0.000	0.000				0.200	11/05	0.200	11/06	Continuing	Continuing	N/A
Travel	PD	NAVSEA	0.000	0.000				0.075		0.075			0.075	N/A
													0.000	N/A
													0.000	
Subtotal Management			0.000	0.000		0.000		1.450		1.970		0.000	3.420	
Remarks:														
Total Cost			0.000	0.000		0.000		9.850		15.470		0.000	25.320	
Remarks:														

R-1 SHOPPING LIST - Item No. 36

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-4, Schedule Profile																DATE:				February 2005																											
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NAME AND NUMBER								PROJECT NAME AND NUMBER																															
RDT&E, N/BA-4								0603502N, Surface & Shallow Water MCM								3102 Low Frequency Broadband																															
LOW FREQUENCY BROADBAND PROGRAM SCHEDULE																																															
								FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 2011											
								1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4												
ADM Contract Award																△																															
Critical Technology Development																□																															
Demonstration / Validation																				□																											
EDM Design and Development																								□																							
PDR / CDR																				△				△																							
EDM Integration and Development Testing																												□																			
TECHEVAL/OPEVAL																																□															
Milestone C																																△															
P3I																																				□											
LRIP (4)																																				□											
Production (14)																																								□							

R-1 SHOPPING LIST - Item No. 36

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 79 of 94)

UNCLASSIFIED

CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No. 36

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 80 of 94)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM				PROJECT NUMBER AND NAME 3123 SMCM UUV					
COST (\$ in Millions)	Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Project Cost	0.000	0.000	0.000	1.063	1.761	3.565	1.998	2.041	2.084	Continuing	Continuing
RDT&E Articles Qty											

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Surface Mine Countermeasure Unmanned Undersea Vehicle (SMCM UUV) provides for development of Small Low Cost Unmanned Underwater Vehicles to support dedicated mine countermeasure operations. The UUV systems must have a small deployment footprint for rapid employment aboard various SMCM platforms. Equipment includes Launch Recovery Sub-Systems and associated systems support equipment.

*This effort was previously budgeted for in PE 0603654N, project 4024. The project was moved to 0603502N so that all of the UUV funding would fall into one R&D PE.

R-1 SHOPPING LIST - Item No. 36

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UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface & Shallow Water MCM	PROJECT NUMBER AND NAME 3123 SMCM UUV																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">SMCM UUV</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.000</td> <td>0.000</td> <td>1.063</td> <td>1.761</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					SMCM UUV	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.063	1.761	RDT&E Articles Quantity				
SMCM UUV	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.063	1.761															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 10px; min-height: 100px;"> <p>Demonstrate operation of a UUV-based capability package for standoff, multiple MCM operations from surface MCM platforms (e.g., MHC, HSV, etc.)</p> <p>Starting in FY06 effort was moved from Program Element 0603654N, Project 4024. The funding was moved to 0603502N so that all of the UUV funding would fall into one R&D PE.</p> </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; height: 70px; width: 100%;"></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; height: 50px; width: 100%;"></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Total</td> <td style="width: 15%;">0.000</td> <td style="width: 15%;">0.000</td> <td style="width: 15%;">1.063</td> <td style="width: 15%;">1.761</td> </tr> </table>					Total	0.000	0.000	1.063	1.761										
Total	0.000	0.000	1.063	1.761															

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4			PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface & Shallow Water MCM			PROJECT NUMBER AND NAME 3123 SMCM UUV			

(U) 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>	<u>To Complete</u>	<u>Total Cost</u>
SMCMUUV 2622 / OPN					3.100	10.680	10.814	15.099	Continuing	Continuing

(U) E. ACQUISITION STRATEGY: *

SMCM UUV - Analysis of Alternatives (AOA) studies are always conducted prior to the initiation of new projects. The AOA addresses and emphasizes acquisition strategies of the most cost-effective solution over the subprojects' life-cycle. The acquisition strategies observe the following hierarchy of alternatives: commercial item (including modification), non-developmental item (including modifications), and lastly, developmental programs. Contracting for RDT&E, if required, is always competitive and when feasible, production options are included. The Surface Mine Countermeasures (SMCM) UUV program began in FY04 with a two-year experimentation phase involving Fleet Mine Warfare operators engaged in tactical experimentation with prototype UUVs operating from Surface MCM platforms. The focus of this program is to increase the current capabilities of Surface MCM ships while reducing the overall risk to MCM forces. During this two-year initiative, these UUV Fleet operators will develop tactics for employing UUV systems from SMCM platforms along with operational requirements. Upon completion of the two-year experimentation phase, a competitive acquisition strategy will begin to field a more capable and robust first generation system.

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[illegible]

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)												DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4			PROGRAM ELEMENT 0603502N, Surface & Shallow Water MCM				PROJECT NUMBER AND NAME 3123 SMCM UUV							
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													0.000	
Operational Test & Evaluation													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Program Management Support													0.000	
Miscellaneous													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Total Cost			0.000	0.000		0.000		1.063		1.761		0.000	2.824	
Remarks:														

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EXHIBIT R-4, Schedule Profile																		DATE: February 2005																													
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT NAME AND												PROJECT NAME AND NUMBER																															
RDT&E, N/BA-4				0603502N, Surface & Shallow Wat												3123 SMCM UUV																															
SMCM UUV Program Schedule																																															
FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 2011																			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4															
SMCM Shallow & Deept Water UUV																																															
Notional CONOPS (AOA) Study												△																																			
Requirements Definition												□																																			
UOES Operational Eval Systems												□																																			
POC																△																															
IOC Prototype Development																□																															
Testing Final																				□																											
Production Decision																								△																							
Production																								□																							

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Exhibit R-2, RD TEN Budget Item Justification

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Exhibit R-2, RD TEN Budget Item Justification

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface and Shallow Water MCM				PROJECT NUMBER AND NAME 9513 Battlespace Preparation Autonomous Undersea Vehcile (BPAUV)					
COST (\$ in Millions)	Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Project Cost	0.000	0.000	0.991 *	0.000	0.000	0.000	0.000	0.000	0.000		0.000
RDT&E Articles Qty											

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

* Congressional plus up of the Battlespace Preparation Autonomous Undersea Vehicle (BPAUV) is an unmanned system capable of minehunting and oceanographic data gathering. The BPAUV will be launched and recovered from Littoral Combat Ship (LCS) Flight 0. The Congressional plus up partially funds the development of two engineering development systems. BPAUV will be partially funded via the LCS mission module funding.

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EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface & Shallow Water MCM		PROJECT NUMBER AND NAME 9513 BPAUV																
(U) B. Accomplishments/Planned Program																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">BPAUV</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.000</td> <td>0.991 *</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						BPAUV	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.991 *	0.000	0.000	RDT&E Articles Quantity				
BPAUV	FY 04	FY 05	FY 06	FY 07																
Accomplishments/Effort/Subtotal Cost	0.000	0.991 *	0.000	0.000																
RDT&E Articles Quantity																				
<div style="border: 1px solid black; height: 60px; margin-top: 10px;"></div>																				
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	FY 04	FY 05	FY 06	FY 07																
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000																
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	FY 04	FY 05	FY 06	FY 07																
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000																
RDT&E Articles Quantity																				
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Total	0.000	0.991	0.000	0.000																

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005																									
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4			PROGRAM ELEMENT NUMBER AND NAME 0603502N, Surface & Shallow Water MCM			PROJECT NUMBER AND NAME 9513 BPAUV																										
<p>(U) 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 2004</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 style="padding-top: 10px;">BPAUV 0603581N/14KB - RDT&E</td> <td></td> <td style="text-align: center;">4.000</td> <td style="text-align: center;">5.100</td> <td style="text-align: center;">2.200</td> <td style="text-align: center;">2.000</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) E. ACQUISITION STRATEGY: *</p> <p style="margin-left: 40px;">BPAUV Two engineering development system Battlespace Preparation Autonomous Undersea Vehicles (BPAUV) will be procured for LCS Flight 0 experimentation.</p>											Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost	BPAUV 0603581N/14KB - RDT&E		4.000	5.100	2.200	2.000					
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost																						
BPAUV 0603581N/14KB - RDT&E		4.000	5.100	2.200	2.000																											

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)												DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4				PROGRAM ELEMENT 0603502N, Surface & Shallow Water MCM				PROJECT NUMBER AND NAME 9513 BPAUV							
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	
BPAUV - Primary Hardware development	Contract	Bluefin	0.000			0.991	03/05						0.991		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
Subtotal Product Development			0.000	0.000		0.991		0.000		0.000		0.000	0.991		
Remarks: FY05 BPAUV Congressional add.															
Program Management Support													0.000		
Program Management Support													0.000		
Training Development													0.000		
Integrated Logistics Support													0.000		
Configuration Management													0.000		
Technical Data													0.000		
GFE													0.000		
Award Fees													0.000		
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000		
Remarks:															

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)												DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4			PROGRAM ELEMENT 0603502N, Surface & Shallow Water MCM				PROJECT NUMBER AND NAME 9513 BPAUV								
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													0.000		
Operational Test & Evaluation													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000		
Remarks:															
Program Management Support													0.000		
Miscellaneous													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000		
Remarks:															
Total Cost			0.000	0.000		0.991		0.000		0.000		0.000	0.991		
Remarks:															

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CLASSIFICATION:

EXHIBIT R-4, Schedule Profile																DATE: February 2005															
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT NAME AND												PROJECT NAME AND NUMBER															
RDT&E, N/BA-4				0603502N, Surface & Shallow Wat												9513 BPAUV															
BPAUV Program Schedule																															
FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 2011			
1 2 3 4				1 2 3 4				1 2 3 4				1 2 3 4				1 2 3 4				1 2 3 4				1 2 3 4				1 2 3 4			
BPAUV								△																							
Development Contract Award																															
BPAUV Development																															

R-1 SHOPPING LIST - ITEM NO.

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Exhibit R-2, RD TEN Budget Item Justification
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R-1 SHOPPING LIST - Item No. 36

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 94 of 94)