

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: June 2001																												
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE																													
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-4					Surface and Shallow Water Mine Countermeasure/0603502N																													
COST (\$ in Millions)	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost																								
Total PE Cost	107.938	101.984	135.284						CONT.	CONT.																								
Remote Minehunting System/Q0260/Q2387	47.525	45.277	59.165						CONT.	CONT.																								
Integrated Combat Weapons System/Q1233	19.503	17.701	14.749						CONT.	CONT.																								
Unmanned Underwater Vehicle/Q2094	0.000	27.384	56.088						CONT.	CONT.																								
Shallow Water Mine Countermeasure/Q2131	11.061	11.622	5.282						CONT.	CONT.																								
Unmanned Underwater Vehicle/V2094	29.849	0.000	0.000						CONT.	CONT.																								
Quantity of RDT&E Articles																																		
<p>A. Mission Description and Budget Item Justification: 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 DDG-51 Class and other surface combatants; (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) near-term and long-term Unmanned Undersea Vehicle (UUV) systems for clandestine mine reconnaissance.</p> <p>B. Program Change Summary:</p> <table border="0"> <thead> <tr> <th></th> <th>FY 2000</th> <th>FY 2001</th> <th>FY 2002</th> </tr> </thead> <tbody> <tr> <td>FY 2001 President's Budget:</td> <td>109.765</td> <td>97.929</td> <td>121.193</td> </tr> <tr> <td>Appropriated Value:</td> <td>107.465</td> <td>102.929</td> <td></td> </tr> <tr> <td>Adjustment to FY 2000/2001 Appropriated Value/</td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY2001 President's Budget:</td> <td>0.473</td> <td>-0.945</td> <td>14.091</td> </tr> <tr> <td>FY 2002 PRES Budget Submit:</td> <td>107.938</td> <td>101.984</td> <td>135.284</td> </tr> </tbody> </table> <p>Funding: FY00; (-1.827) SBIR/misc adj, (+2.300) NMRS prog completion; FY01; (-0.945) Gov't reduction/rescission; FY02; (+1.098) RMS Spares, (-10.400) Non SQQ-89 RMS decrease, (-12.800) Offsets Organic MCM RMS, (-1.098) Offsets Organic MCM RMS Spares, (+17.000) Organic MCM Add back RMS, (+.335) Continue MEDAL program, (+4.702) ICWS Realignment, (+32.000) Unmanned Undersea Vehicle Realignment, (-2.700), ABS Re-structure, (-2.800) LCAC Fix, (-7.200) CNO Buybacks - ABS, (-4.000) DET/SABRE, (-.131) Final POM02 Balance, (-.405) NWCF rate changes, (+.332) Program Support, (+.158) Inflation adjustment.</p> <p>Schedule: DET/SABRE : MS III has slipped due to funding constraints; RMS: PDR and CDR slipped by one quarter; MEDAL: Schedules were adjusted to accommodate the GCCS schedule; ICWS: PDR, CDR, and subsystem integration and test slipped because of a delay in contract award.</p> <p>Technical: Not Applicable.</p>												FY 2000	FY 2001	FY 2002	FY 2001 President's Budget:	109.765	97.929	121.193	Appropriated Value:	107.465	102.929		Adjustment to FY 2000/2001 Appropriated Value/				FY2001 President's Budget:	0.473	-0.945	14.091	FY 2002 PRES Budget Submit:	107.938	101.984	135.284
	FY 2000	FY 2001	FY 2002																															
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EXHIBIT R-2a, RDT&E Project Justification							DATE: June 2001			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER				PROJECT NAME AND NUMBER					
RDT&E, N/BA-4	Surface & Shallow Water MCM, 0603502N				Remote Minehunting Systems/Q0260/Q2387					
COST (\$ in Millions)	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Project Cost	47.525	45.277	59.165						CONT.	CONT.
RDT&E Articles Qty	2									
<p>A. Mission Description and Budget Item Justification: The Remote Minehunting System (RMS), AN/WLD-1(V), program develops a new remotely operated minehunting system for surface ships. This effort includes development and integration of a remote vehicle, mine-hunting 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.</p> <p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. (U) FY 2000 ACCOMPLISHMENTS</p> <p>Product Development</p> <ul style="list-style-type: none"> - (U) (\$19.087) Primary Hardware Development - Began Preliminary/Critical Design and fabrication of Engineering Development Models (EDMs) for the RMS. - (U) (\$ 4.100) System Engineering - Continued System Engineering for the RMS EDMs including Preliminary Design Review (PDR) Effort. - (U) (\$ 1.682) Incentive Fee for Critical Item Testing (CIT) and PDR. <p>Development Support</p> <ul style="list-style-type: none"> - (U) (\$ 3.903) Software Development - Continued software design/Code/Test for the RMS. - (U) (\$ 2.500) Integrated Logistic Support - Continued ILS Planning and Interactive Electronic Technical Manual (IETM) Development for RMS. - (U) (\$ 7.401) Ship Integration - Continued Integration Support for the RMS on DDG51 Flight IIA ship class including support for AN/SQQ-89(V)15. <p>Test and Evaluation</p> <ul style="list-style-type: none"> - (U) (\$ 4.009) Developmental Test and Evaluation - Began RMS Critical Item Testing (CIT) for the RMV and Launch and Recovery (L&R) subsystems. <p>Support</p> <ul style="list-style-type: none"> - (U) (\$4.783) Program Management Support - (U) (\$.060) Travel 										

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EXHIBIT R-2a, RDT&E Project Justification		DATE: June 2001
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4	PROGRAM ELEMENT NAME AND NUMBER Surface & Shallow Water MCM, 0603502N	PROJECT NAME AND NUMBER Remote Minehunting Systems/Q0260/Q2387
<p>2. (U) FY 2001 PLAN</p> <p>Product Development</p> <ul style="list-style-type: none"> - (U) (\$11.124) Primary Hardware Development - Complete Preliminary and Continue Critical Design and fabrication of Engineering Development Models (EDMs) for the RMS. - (U) (\$ 3.700) System Engineering - Continue System Engineering for the RMS EDMs including completion of PDR and continue Critical Design Support. - (U) (\$ 1.230) Award Fees - Incentive Fee for L&R subsystem CDR. <p>Development Support</p> <ul style="list-style-type: none"> - (U) (\$ 3.933) Software Development-Continue software design/Code/Test for the RMS. - (U) (\$ 3.900) Integrated Logistic Support - Continue ILS Planning and IETM Development for RMS. - (U) (\$ 8.450) Ship Integration - Continue Integration Support for the RMS on DDG51 Flight IIA ship including support for AN/SQQ-89(V)15 ECP. <p>Test and Evaluation</p> <ul style="list-style-type: none"> - (U) (\$ 6.500) Developmental Test and Evaluation - Continue RMS Critical Item Testing (CIT). <p>Support</p> <ul style="list-style-type: none"> - (U) (\$5.320) Program Management Support - (U) (\$.060) Travel - (U) (\$1.060) Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 638. <p>3. (U) FY 2002 PLAN</p> <p>Product Development</p> <ul style="list-style-type: none"> - (U) (\$13.404) Primary Hardware Development - Complete Critical Design and continue fabrication of Engineering Development Models (EDMs) for the RMS. - (U) (\$11.300) System Engineering - Continue System Engineering for the RMS EDMs including supporting Critical Design Review and begin system engineering for providing RMS to Non-DDG Class Ships. - (U) (\$ 1.809) Award Fees - Incentive Fee for CDR. <p>Development Support</p> <ul style="list-style-type: none"> - (U) (\$ 5.100) Software Development - Continue software design/Code/Test for the RMS. - (U) (\$ 6.200) Integrated Logistic Support - Continue ILS Planning and IETM Development for RMS. - (U) (\$ 2.200) Ship Integration - Continue Integration Support for the RMS on DDG51 Flight IIA ship including support for AN/SQQ-89(V)15 ECP. <p>Test and Evaluation</p> <ul style="list-style-type: none"> - (U) (\$ 11.740) Developmental Test and Evaluation - Begin RMS Operational Assessment DT/OA Test for the RMS Shipboard Equipment. <p>Support</p> <ul style="list-style-type: none"> - (U) (\$7.352) Program Management Support - (U) (\$.060) Travel 		

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EXHIBIT R-2a, RDT&E Project Justification								DATE:		
								June 2001		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER				PROJECT NAME AND NUMBER					
RDT&E, N/BA-4	Surface & Shallow Water MCM, 0603502N				Remote Minehunting Systems/Q0260/Q2387					
B. OTHER PROGRAM FUNDING SUMMARY										
	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	TO COMPLETE	TOTAL COST
(U) OPN RMS Line 262200	0.000	0.000	0.000						CONT.	CONT.
(U) RDT&E PE 0604373 Q0529	15.140	17.804	8.747						0.000	42.671
C. Acquisition Strategy: The government has 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 firm fixed price sole source contract will be 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-20X airborne minehunting system and the AN/WLD-1(V)1. AN/WLD-1(V)1 contract plan is for the development of two (2) EDMs, system interactive electronic technical manual (IETM), provisioning data, technical drawings and data, and engineering services.										
D. Schedule Profile: See Attached										

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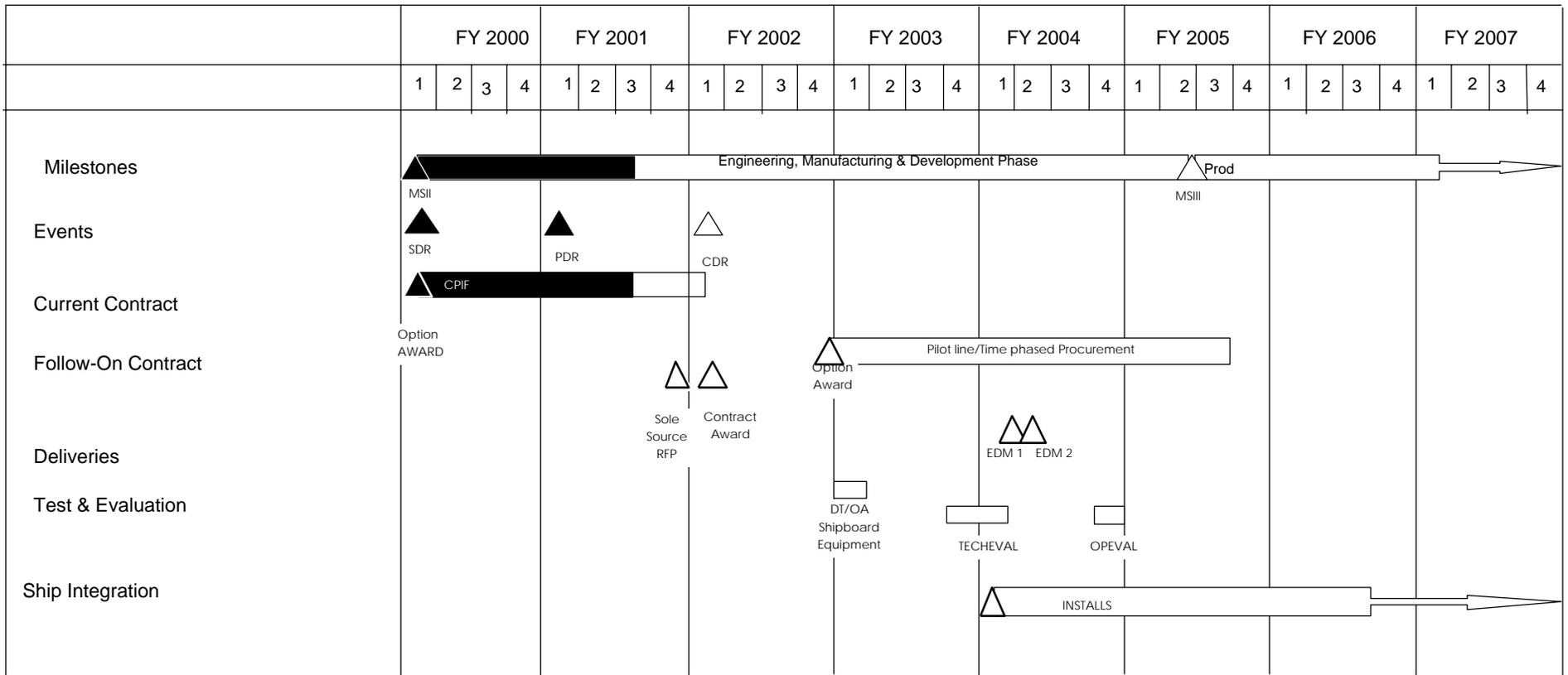
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EXHIBIT R-2a, RDT&E Project Justification	DATE: June 2001
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4	PROGRAM ELEMENT NAME AND NUMBER Surface & Shallow Water MCM, 0603502N	PROJECT NAME AND NUMBER Remote Minehunting Systems/Q0260/Q2387
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AN/WLD-1(V)1 PROGRAM SCHEDULE



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Exhibit R-3 Cost Analysis (page 1)								DATE: June 2001				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N , BA-4			Surface & Shallow Water MCM, 0603502N			Remote Minehunting System/Q0260/Q2387						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPFF/IF	Lockheed Martin	113.085	18.287	11/99	10.324	11/00	13.304	11/01	CONT.	CONT.	N/A
Primary Hardware Development	WR	NSWC, CSS	0.300	0.800	12/99	0.800	12/00	0.100	12/01	CONT.	CONT.	
Systems Engineering	C/CPFF/IF	Lockheed Martin	0.000	3.900	11/99	3.200	11/00	3.600	11/01	CONT.	CONT.	
Systems Engineering	WR	NSWC, CSS	0.000	0.200	12/99	0.500	12/00	0.300	12/01	CONT.	CONT.	
Systems Engineering*	Various	Various						7.400	12/01	CONT.	CONT.	
GFE												
Award Fees			4.800	1.682	05/00	1.230	05/01	1.809	03/02	N/A	N/A	N/A
Subtotal Product Development			118.185	24.869		16.054		26.513				
<p>Remarks: GFE - AN/AQS-20 systems provided to RMS program were funded under PE 0604373/Q0529 * FY02 and FY03 System Engineering includes various funding of \$12.800M for beginning RMS inclusion on Non-DDG class ships.</p>												
Development Support Equipment												
Software Development	C/CPFF/IF	Lockheed Martin	2.700	3.202	11/99	3.433	11/00	4.500	11/01	CONT.	CONT.	
Software Development	WR	NSWC, CSS	0.200	0.701	12/99	0.500	12/00	0.600	12/01	CONT.	CONT.	N/A
ILS	C/CPFF/IF	Lockheed Martin	0.500	2.300	11/99	3.700	11/00	5.900	11/01	CONT.	CONT.	
ILS	WR	NSWC, CSS	1.400	0.200	12/99	0.200	12/00	0.300	12/01	CONT.	CONT.	N/A
Ship Integration	C/CPFF	Lockheed Martin	0.000	0.200	11/99	1.300	11/00	1.100	11/01	CONT.	CONT.	
Ship Integration**	Various	Various	2.000	7.201	12/99	7.150	12/00	1.100	12/01	CONT.	CONT.	
Subtotal Support			6.800	13.804		16.283		13.500		CONT.	CONT.	
<p>Remarks: ** Various in Ship Integration provides funding to support AN/SQQ-89(V)15 ECP effort for RMS and PMS400 RMS DDG ship class integration efforts.</p>												

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Exhibit R-3 Cost Analysis (page 2)								DATE: June 2001				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N, BA-4			Surface & Shallow Water MCM, 0603502N			Remote Minehunting Systems/ Q0260/Q2387						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	C/CPFF/IF	Lockheed Martin	15.370	4.009	11/99	6.500	11/00	10.240	11/01	CONT.	CONT.	N/A
Developmental Test & Evaluation	WR	NSWC, CSS						1.500	12/01	CONT.	CONT.	
Tooling												
GFE												
Subtotal T&E			15.370	4.009		6.500		11.740		CONT.	CONT.	
Remarks:												
Contractor Engineering Support	C/CPFF/IF	Lockheed Martin	4.500							0.000	4.500	
Government Engineering Support	WR	NSWC, CSS	34.600							0.000	34.600	N/A
Program Management Support	Various	Various	1.100	4.783	Various	6.380	Various	7.352	Various	CONT.	CONT.	N/A
Travel	Various	NAVSEA	0.060	0.060	Various	0.060	Various	0.060	Various	CONT.	CONT.	N/A
Labor (Research Personnel)												
Overhead												
Subtotal Management			40.260	4.843		6.440		7.412		CONT.	CONT.	
Remarks: Award dates for management are various because multiple activities are receiving tasks at different times during the fiscal year.												
Total Cost			180.615	47.525		45.277		59.165				
Remarks:												

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Exhibit R-3, Project Cost Analysis
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4		PROGRAM ELEMENT NAME AND NUMBER Surface & Shallow Water MCM, 0603502N				PROJECT NAME AND NUMBER Integrated Combat Weapons System/Q1233/Q2388				
COST (\$ in Millions)	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Project Cost	19.503	17.701	14.749						CONT.	CONT.
RDT&E Articles Qty	1 ADM	3 EDM								

Mission Description and Budget Item Justification: (1) Integrated Combat Weapon System (ICWS) is a series of major, incremental block upgrades to the current combat systems. It provides the MCM/MHC Class Ships an affordable and fully integrated combat weapons system which will improve mission execution efficiency, dramatically reduce life-cycle costs, and facilitate changes to meet future mission requirements. (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 minewarfare planning and evaluation tools and databases to the MCM Commander. (3) Organic MCM C4I connectivity to the rest of the fleet is provided through GCCS-M; design and implement MIW C4I Surveillance and Reconnaissance (C4ISR) architecture to fully integrate and optimize organic and dedicated systems within the Navy's C4ISR architecture; (4) MCS/MCM Ship Studies determine requirements for future surface-airborne mine countermeasures capabilities to meet the Navy's needs in countering sea mines.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 2000 ACCOMPLISHMENTS

(U) ICWS Block I

Product Development

- (U) (\$2.200) Primary Hardware Development - Began hardware design for ICWS and fabricated an Advanced Design Model (ADM).

- (U) (\$.439) Award Fees

Development Support Equipment

- (U) (\$10.283) Software Development - Began software design/code/test for ICWS. Conducted SDR and PDR.

- (U) (\$.132) Software Development - Developed interface for MEDAL to AN/SYQ-13

- (U) (\$.100) Software Development - Performed MCM autopilot study

- (U) (\$.900) Software Development - Performed Tactical Decision Aid (TDA) study

- (U) (\$.090) Software Development - Sonar algorithm development

Support

- (U) (\$.361) Support - Program management support

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDT&E, N/BA-4	Surface & Shallow Water MCM, 0603502N	Integrated Combat Weapons System/Q1233/Q2388
<p>1. (U) FY 2000 ACCOMPLISHMENTS Continued</p> <p>(U) MEDAL Development Support Equipment</p> <ul style="list-style-type: none">- (U) (\$.040) Software Development - Sonar modeling- (U) (\$.718) Software Development - Configural minefield planning Tactical Decision Aid (TDA)- (U) (\$.546) Software Development - Performed TDA study. Began Build 8 development. <p>Support</p> <ul style="list-style-type: none">- (U) (\$.203) Program Management Support <p>(U) ORGANIC MCM C4I Product Development</p> <ul style="list-style-type: none">- (U) (\$3.035) System Engineering - Began MUW C4ISR architecture/data requirements for data infusion, file format, structure, and transmission requirements for (organic/dedicated)MIW systems. Began MUW data content standards characterization and C4ISR architecture development. Began to develop and conduct MOD/SIM to optimize organic and dedicated systems. <p>Support</p> <ul style="list-style-type: none">- (U) (\$.456) Program Management Support <p>2. (U) FY 2001 PLANS (U) ICWS Block I Product Development</p> <ul style="list-style-type: none">- (U) (\$.886) Primary Hardware Development - Continue hardware design for ICWS. Begin EDM fabrication.- (U) (\$3.500) Primary Hardware Development - Award option for fully ruggedized and qualified EDM for Mine Warfare Training Center (MWTC).- (U) (\$.176) Award Fees <p>Development Support Equipment</p> <ul style="list-style-type: none">- (U) (\$4.269) Software Development - Continue software design/code/test for ICWS. Conduct CDR and begin subsystem integration and test. <p>Support</p> <ul style="list-style-type: none">- (U) (\$.822) Support - Program management support- (U) (\$.332) Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 638.		

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4	PROGRAM ELEMENT NAME AND NUMBER Surface & Shallow Water MCM, 0603502N	June 2001 PROJECT NAME AND NUMBER Integrated Combat Weapons System/Q1233/Q2388
<p>2. (U) FY 2001 PLANS Continued (U) MEDAL Development Support Equipment - (U) (\$.750) Software Development - Configural minefield planning TDA - (U) (\$1.514) Software Development - Continue MEDAL software port to NT, and begin integration and testing on Build 8. Initiate development of Build 9. - (U) (\$.900) Software Development - Tactical Decision Aid (TDA) study Support - (U) (\$.313) Program Management Support</p> <p>(U) ORGANIC MCM C4I Product Development - (U) (\$2.975) System Engineering - Continue MUW C4ISR architecture/data requirements. Continue MUW data content standards characterization. Continue MOD/SIM effort. Support - (U) (\$.475) Program Management Support</p> <p>(U) MCS/MCM SHIP STUDIES Product Development - (U) (\$.428) System Engineering - Complete study of alternatives to replace or retain MCS-12 (USS INCHON). - (U) (\$.252) System Engineering - Complete study of alternatives for follow-on class of surface mine countermeasures ships. Support - (U) (\$.109) Program Management Support</p> <p>3. (U) FY 2002 PLANS (U) ICWS Block I Product Development - (U) (\$1.004) Primary Hardware Development - Continue hardware design for ICWS - (U) (\$.790) Award Fees Development Support Equipment - (U) (\$5.359) Software Development - Complete software design/code/test for ICWS, complete subsystem integration and testing, and begin EDM 1 integration and testing. Support - (U) (\$1.425) Program management support</p>		

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDTE&E, N/BA-4	Surface & Shallow Water MCM, 0603502N	Integrated Combat Weapons System/Q1233/Q2388
<p>2. (U) FY 2002 PLANS Continued</p> <p>(U) MEDAL Development Support Equipment - (U) (\$2.031) Software Development - Complete Build 8. Complete development of Build 9 and initiate integration and testing. Initiate the development of Build 10. Support - (U) (\$.344) Program Management Support</p> <p>(U) ORGANIC MCM C4I Product Development - (U) (\$3.257) System Engineering - Complete MUW data content standards characterization. Complete MUW C4ISR architecture/data requirements. Continue MOD/SIM effort. Initiate and implement Phase 1 of the design of MUW Network Centric Warfare database and support network. Initiate and complete MEDAL/TEDS integration, MUW network centric warfare collaborative planning tools, and MCM/MHC classified LAN integration design. Initiate organic/dedicated MUW tactics development. Begin planning and evaluation models/algorithms. Update C4I SR assessment plan. Support - (U) (\$.539) Program Management Support</p>		

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APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NAME AND NUMBER			PROJECT NAME AND NUMBER					
RDT&E, N/BA-4		Surface & Shallow Water MCM, 0603502N			Integrated Combat Weapons System/Q1233/Q2388					
B. OTHER PROGRAM FUNDING SUMMARY										
	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	To Complete	Total Cost
(U) OPN (ICWS) Line 262200	9.431	5.437	2.051						CONT.	CONT.
C. ACQUISITION STRATEGY										
<p>ICWS is a series of major incremental upgrades to the current systems. The original equipment manufacturers have teamed with the Navy to develop the changes. FY 00 through FY 03 tasks will be accomplished under Cost Plus Incentive Fee (CPIF) contract. Contract was awarded in FY00. MEDAL is an evolutionary program with a development cycle of one year per software build to coincide with GCCS-M build schedule.</p>										
D. SCHEDULE PROFILE										
See attached										

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EXHIBIT R-2a, RDT&E Project Justification		DATE: June 2001
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4	PROGRAM ELEMENT NAME AND NUMBER Surface & Shallow Water MCM, 0603502N	PROJECT NAME AND NUMBER Integrated Combat Weapons System/Q1233/Q2388

ICWS BLOCK 1 PROGRAM SCHEDULE

	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006				FY 2007											
	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	▲ SDR ▲ PDR ▲ CDR				▲ Software Req/Design/code/test				▲ Subsystem Integration and Test				▲ TRR																											
Contract	▲ E&MD AWARD				▲ EDM OPTION AWARD				▲ EDM 1 Integration and Test				▲ EDM 2 Integration and Test				▲ Ship Install/Checkout				▲ Crew Training EDM 2				▲ Ship board test Dockside/at-sea				▲ EDM 3 School house Integration and Test				▲ Ready for Training				▲ Production			

R-1 SHOPPING LIST - Item No. 49

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 13 of 33)

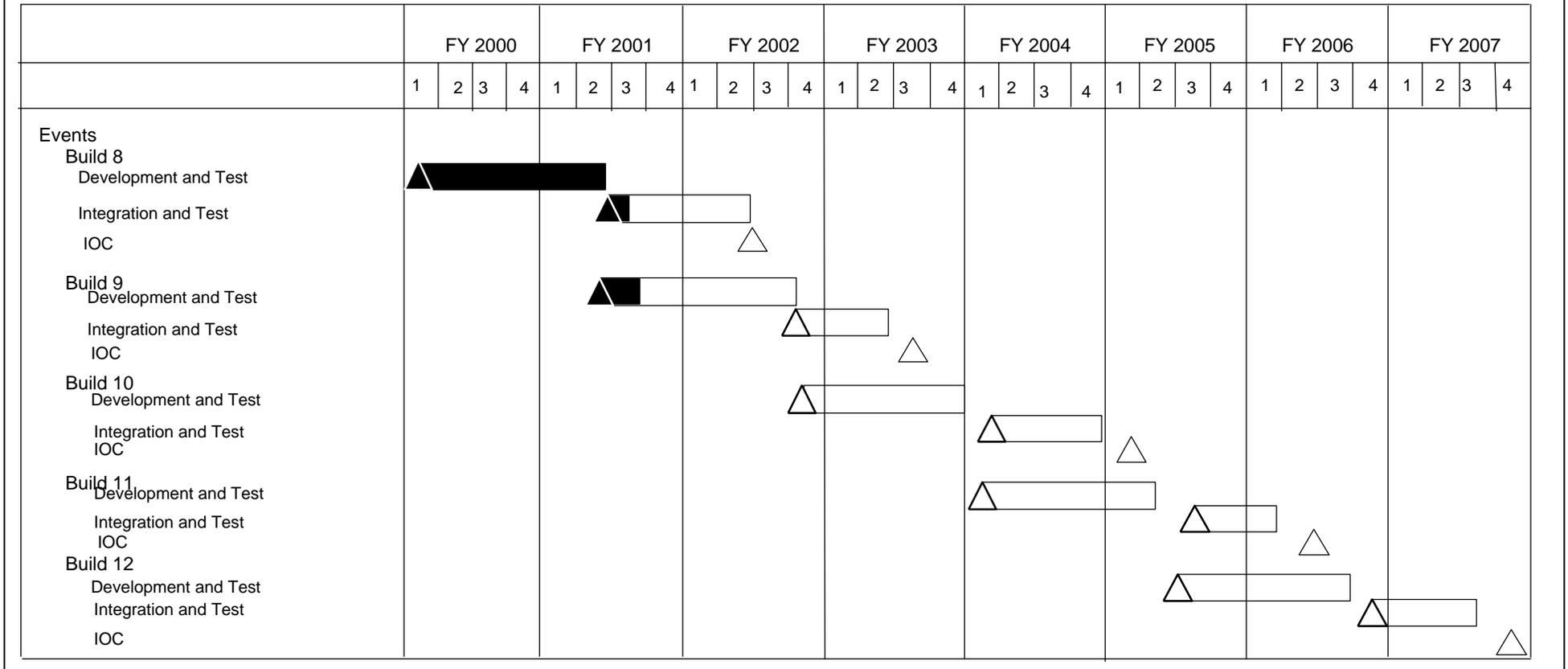
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EXHIBIT R-2a, RDT&E Project Justification		DATE: June 2001
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4	PROGRAM ELEMENT NAME AND NUMBER Surface & Shallow Water MCM, 0603502N	PROJECT NAME AND NUMBER Integrated Combat Weapons System/Q1233/Q2388

MEDAL PROGRAM SCHEDULE



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Exhibit R-2a, RDT&E Project Justification
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EXHIBIT R-2a, RDT&E Project Justification		DATE: June 2001
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4	PROGRAM ELEMENT NAME AND NUMBER Surface & Shallow Water MCM, 0603502N	PROJECT NAME AND NUMBER Integrated Combat Weapons System/Q1233/Q2388

MUW C4ISR PROGRAM SCHEDULE

	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006				FY 2007			
	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																																
MUW Information System Engineering effort. Modeling and Simulation	▲	■	■	■																												
MUW Data Content Standards Effort	▲	■	■	■																												
C4ISR Architecture Development	▲	■	■	■																												
MEDAL/TEDS Integration									▲																							
Advanced MUW Tactical Decision Aid Development													▲																			
MUW Network Centric Warfare Database									▲				▲																			
MUW Network Centric Warfare Info System Network																	▲															
MUW Network Centric Warfare Collaborative Planning Tool Design									▲																							

R-1 SHOPPING LIST - Item No. 49

Exhibit R-2a, RDT&E Project Justification
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EXHIBIT R-2a, RDT&E Project Justification		DATE: June 2001
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4	PROGRAM ELEMENT NAME AND NUMBER Surface & Shallow Water MCM, 0603502N	PROJECT NAME AND NUMBER Integrated Combat Weapons System/Q1233/Q2388

MUW C4ISR PROGRAM SCHEDULE CONT'D

	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006				FY 2007							
	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 cont'd																																				
Organic/Dedicated MUW Tactics Development									△																											
Planning & Evaluation Models/Algorithms									△																											
MCM/MHC Classified LAN Integration Design									△																											
Develop TEDS/PBU Thru Sensor Technology													△																							
C4ISR Assessment Plan Update									△																											

R-1 SHOPPING LIST - Item No. 49

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 16 of 33)

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Exhibit R-3 Cost Analysis (page 1)										DATE: June 2001		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-4			Surface & Shallow Water MCM/0603502N			Integrated Combat Weapons System/Q1233/Q2388						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/CPIF	Raytheon, RI	0.760	2.200	11/99	4.386	11/00	1.004	11/01	CONT.	CONT.	N/A
Ancillary Hardware Development												
Systems Engineering Licenses	Various	NSWC, CSS/NAVAIR	1.215	3.035	11/99	3.655	11/00	3.257	11/01	CONT.	CONT.	N/A
Tooling												
GFE												
Award Fees	SS/CPIF	Raytheon, RI	0.000	0.439	11/99	0.176	11/00	0.790	11/01	CONT.		
Subtotal Product Development			1.975	5.674		8.217		5.051		CONT.	CONT.	
Remarks:												
Development Support Equipment												
Software Development	SS/CPIF	Raytheon, RI	0.250	10.283	11/99	4.220	11/00	4.807	11/01	CONT.	CONT.	
Software Development	WR,PD	NSWC/CD,ARL/UT,NAVSES	5.807	2.526	11/99	3.213	11/00	2.583	11/01	CONT.	CONT.	
Configuration Management												
Technical Data			0.100									
GFE												
Subtotal Support			6.157	12.809		7.433		7.390		CONT.	CONT.	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)								DATE: June 2001				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-4			Surface & Shallow Water MCM/0603502N			Integrated Combat Weapons System/Q1233/Q2388						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation			0.200								0.200	N/A
Operational Test & Evaluation			1.592								1.592	
Tooling											0.000	
GFE											0.000	
Subtotal T&E			1.792	0.000		0.000		0.000		0.000	1.792	
Remarks:												
Contractor Engineering Support			0.153								0.000	
Government Engineering Support			0.500								0.000	
Program Management Support	VAR	NAVSEA	0.290	1.020	11/99	2.051	11/00	2.308	11/01	Cont.	Cont.	N/A
Travel			0.100								0.100	
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			1.043	1.020		2.051		2.308		Cont.	6.514	
Remarks:												
Total Cost			10.967	19.503		17.701		14.749				
Remarks:												

R-1 SHOPPING LIST - Item No. 49

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 18 of 33)

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EXHIBIT R-2a, RDT&E Project Justification						DATE: June 2001				
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER				PROJECT NAME AND NUMBER					
RDT&E, N/BA-4	Surface & Shallow Water MCM, 0603502N				Assault Breaching Systems/Q2131					
COST (\$ in Millions)	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Project Cost	11.061	11.622	5.282						CONT.	CONT.
RDT&E Articles Qty										
<p>A. Mission Description and Budget Item Justification: 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 and sea mines and light obstacles in the shallow water, very shallow water and surf zone approaches to amphibious assault areas. It develops systems for mine sweeping and explosive mine clearance. Included are the Distributed Explosives Technology (DET), Shallow Water Assault Breach System (SABRE), incremental enhancements to assault breaching mission (lane marking, obstacle breaching, and launch control safety), and follow-on Far Term efforts.</p> <p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p>										

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Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 19 of 33)

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EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDT&E, N/BA-4	Surface & Shallow Water MCM, 0603502N	Assault Breaching Systems/Q2131
<p>1. (U) FY 2000 ACCOMPLISHMENTS (U) SABRE Product Development - (U) (\$1.083) Primary Hardware Development - Manufacture DT II hardware Development Support - (U) (\$.031) Integrated Logistic Support - (U) (\$.089) Configuration Management. - (U) (\$.025) Technical Data - Updated technical drawing package. Test and Evaluation - (U) (\$.836) Developmental Test and Evaluation - Continued DT-II testing. Support - (U) (\$2.592) Government Engineering Support - Began MOD 2 fuze development. - (U) (\$.025) Travel - Attended meetings and test events. - (U) (\$.314) Program Management Support (U) DET -Product Development - (U) (\$2.222) Primary Hardware Development - Procured and Manufactured DT II and OT systems. - (U) (\$.125) Government Furnished Equipment - Procured mine threats for DT testing. Development Support - (U) (\$.231) Integrated Logistic Support - Tech manual and training support. - (U) (\$.060) Configuration Management - Updated Technical Data Package (TDP) with changes from DET and fuze modifications. Test and Evaluation - (U) (\$.212) Operational Test and Evaluation - Began pre-OT set up survey at OT site. - (U) (\$1.204) Developmental Test and Evaluation - Continued DT-IIB testing and fuze engineering tests. Support - (U) (\$1.368) Government Engineering Support - Began MOD 2 fuze development. - (U) (\$.079) Contractor Engineering Support - (U) (\$.540) Program Management Support - (U) (\$.025) Travel</p>		

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Exhibit R-2a, RDT&E Project Justification
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EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDT&E, N/BA-4	Surface & Shallow Water MCM, 0603502N	Assault Breaching Systems/Q2131
<p>2. (U) FY 2001 PLANS (U) SABRE Support - (U) (\$ 1.026) Government Engineering Support - Program terminated. Funds required for disposition of hazardous and explosive material.</p> <p>(U) DET -Product Development - (U) (\$.024) Primary Hardware Development - Complete DET system development. Development Support - (U) (\$.150) Integrated Logistic Support - Training development and support. - (U) (\$.020) Configuration Management - Complete Technical Data Package (TDP). Test and Evaluation - (U) (\$.443) Operational Test and Evaluation - Complete OT testing. Support - (U) (\$.730) Government Engineering Support - Complete DET development, support MSIII, and provide TDA engineering. - (U) (\$.274) Program Management Support - (U) (\$.025) Travel</p> <p>(U) ABS Incremental Enhancements Product Development - (U) (\$1.200) Primary Hardware Development - Develop incremental enhancements to support ABS mission including lane marking, obstacle breaching and launch control safety. - (U) (\$.100) Systems Engineering - Support incremental enhancements Development Support - (U) (\$.100) Integrated Logistic Support - Support incremental enhancements - (U) (\$.075) Configuration Management - Support TDP for incremental enhancements. - (U) (\$.063) Technical Data - Prepare TDP to support incremental enhancements. Support - (U) (\$.800) Government Engineering Support - Design Agent (DA) engineering support.</p>		

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Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 21 of 33)

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EXHIBIT R-2a, RDT&E Project Justification		DATE: June 2001
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDT&E, N/BA-4	Surface & Shallow Water MCM, 0603502N	Assault Breaching Systems/Q2131
<p>2. (U) FY 2001 PLANS continued (U) Far term System Development Product Development - (U) (\$.925) Primary Hardware Development - Risk reduction and preparation for far term - (U) (\$.540) Systems Engineering - Far term preparation - (U) (\$.225) Government Furnished Equipment - Mine threat procurement for far term development. Development Support - (U) (\$.100) Integrated Logistic Support - Risk reduction and far term system preparation - (U) (\$.100) Configuration Management - Support far term system development - (U) (\$.200) Technical Data - Support far term system development Support - (U) (\$3.888) Government Engineering Support - TDA/DA engineering support. - (U) (\$.546) Program Management Support - (U) (\$.025) Travel - (U) (\$.043) Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 638.</p> <p>3. (U) FY 2002 PLANS (U) Far term System Development Product Development - (U) (\$.400) Primary Hardware Development - Risk reduction and preparation for far term - (U) (\$.300) Systems Engineering - Far term preparation - (U) (\$.200) Government Furnished Equipment - Mine threat procurement for far term development. Development Support - (U) (\$.100) Integrated Logistic Support - Risk reduction and far term system preparation - (U) (\$.050) Configuration Management - Support far term system development - (U) (\$.050) Technical Data - Support far term system development Support - (U) (\$2.690) Government Engineering Support - TDA/DA engineering support. - (U) (\$1.442) Program Management Support - (U) (\$.050) Travel</p>		

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Exhibit R-2a, RDT&E Project Justification
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EXHIBIT R-2a, RDT&E Project Justification							DATE:		June 2001	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NAME AND NUMBER			PROJECT NAME AND NUMBER					
RDT&E, N/BA-4		Surface & Shallow Water MCM, 0603502N			Assault Breaching Systems/Q2131					
B. OTHER PROGRAM FUNDING SUMMARY										
	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>TO COMPLETE</u>	<u>TOTAL COST</u>
(U) OPN (SWMCM Line 262400	11.323	16.248	0.000						0	34.827
C. Acquisition Strategy: The planned tasks for FY 01,02,03 will be accomplished to support the AOA "in an effort" to reduce cost and schedule risk associated with integrating unique mine kill mechanisms into conventional weapons systems.										
D. Schedule Profile										
See attached										

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Exhibit R-2a, RDT&E Project Justification
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EXHIBIT R-2a, RDT&E Project Justification

DATE:

June 2001

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT NAME AND NUMBER

PROJECT NAME AND NUMBER

RDT&E, N/BA-4

Surface & Shallow Water MCM, 0603502N

Assault Breaching Systems/Q2131

DET PROGRAM SCHEDULE

	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006				FY 2007			
	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
Milestones	E&MD																															
					MSIII																											
Test & Evaluation																																
	DT-IIB/OT-IIA SYSTEM TECHEVAL																															
					OT-IIB (OA)																											

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Exhibit R-2a, RDT&E Project Justification
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EXHIBIT R-2a, RDT&E Project Justification		DATE: June 2001
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4	PROGRAM ELEMENT NAME AND NUMBER Surface & Shallow Water MCM, 0603502N	PROJECT NAME AND NUMBER Assault Breaching Systems/Q2131

SABRE PROGRAM SCHEDULE

	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006				FY 2007			
	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	■ Fuze & Fuze Qualification Tests																															
Test & Evaluation	■ DT-IID																															

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Exhibit R-2a, RDT&E Project Justification
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EXHIBIT R-2a, RDT&E Project Justification	DATE: June 20001
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4	PROGRAM ELEMENT NAME AND NUMBER Surface & Shallow Water MCM, 0603502N	PROJECT NAME AND NUMBER Assault Breaching Systems/Q2131
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ABS FAR-TERM PROGRAM SCHEDULE

	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006				FY 2007							
	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				
Surf Zone (SZ) Near term Events		2	3	4			4	1													1	2	3	4												
					▲ Mid-term incremental Enhancements																															
Surf Zone (SZ) Far term																																				
Milestones					△ MS 0								△ MS I								△ MS II															
Mine Countermeasure (MCM) System																																				
Counter Obstacle (CO) System																																				
Events									AOA △				MCM Demo				△ Obstacle Demo																			
					■ Technology Developer																															
MCM System													MCM System Development																							
CO System Development Contract																	CO System Development																			
MCM System													△																							
CO System																	△																			

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Exhibit R-2a, RDT&E Project Justification
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CLASSIFICATION:

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Exhibit R-3 Cost Analysis (page 1)							DATE: June 20001					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-4			Surface & Shallow Water MCM/0603502N			Assault Breaching Systems/Q2131						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WR	IH, CSS, TBD	49.100	3.305	11/99	2.149	11/00	0.400	11/01	CONT.	CONT.	N/A
Ancillary Hardware Development	WR	IH, CSS, TBD	8.100	0.000		0.000		0.000		0.000	8.100	N/A
Systems Engineering	WR	IH, CSS	15.000	0.000		0.640	11/00	0.300	11/01	CONT.	CONT.	N/A
Licenses	WR	N/A	0.800	0.000		0.000		0.000		0.000	0.800	N/A
Tooling	WR	IH, CSS, TBD	0.860	0.000		0.000		0.000		0.000	0.860	N/A
GFE	WR	IH, CSS	3.100	0.125	11/99	0.225	11/00	0.200	11/01	CONT.	CONT.	N/A
Award Fees	N/A	N/A	0.500	0.000		0.000		0.000		0.000	0.500	
Subtotal Product Development			77.460	3.430		3.014		0.900		CONT.	CONT.	
Remarks:												
Development Support Equipment	WR	IH, CSS, TBD	11.721	0.000		0.000		0.000		0.000	11.721	N/A
Software Development	WR	CSS	8.037	0.000		0.000		0.000		0.000	8.037	N/A
Training Development	WR	IH, CSS	2.000	0.000		0.000		0.000		0.000	2.000	N/A
Integrated Logistics Support	WR	IH, CSS	2.100	0.262	11/99	0.350	11/00	0.100	11/01	CONT.	CONT.	N/A
Configuration Management	WR	IH, CSS	3.400	0.149	11/99	0.195	11/00	0.050	11/01	CONT.	CONT.	N/A
Technical Data	WR	IH, CSS	2.300	0.025	11/99	0.263	11/00	0.050	11/01	CONT.	CONT.	N/A
GFE	WR	IH, CSS	0.400	0.000		0.000		0.000		0.000	0.400	N/A
Subtotal Support			29.958	0.436		0.808		0.200		CONT.	CONT.	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 27 of 33)

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Exhibit R-3 Cost Analysis (page 2)								DATE: June 2001				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-4			Surface & Shallow Water MCM/0603502N			Assault Breaching Systems/Q2131						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	IH, CSS, TBD	20.900	2.040		0.000		0.000	11/01	CONT.	CONT.	N/A
Operational Test & Evaluation	WR	IH, CSS, TBD	8.000	0.212	11/99	0.443	11/00	0.000	11/01	CONT.	CONT.	N/A
Tooling	WR	IH, CSS, TBD	0.700	0.000		0.000		0.000		0.000	0.700	N/A
GFE	WR	IH, CSS, TBD	0.400	0.000		0.000		0.000		0.000	0.400	N/A
Subtotal T&E			30.000	2.252		0.443		0.000		CONT.	CONT.	
Remarks:												
Contractor Engineering Support	WR	IH, CSS, TBD	2.200	0.079		0.000		0.000		0.000	2.279	N/A
Government Engineering Support	WR	IH, CSS	6.000	3.960	11/99	6.444	11/00	2.690	11/01	CONT.	CONT.	N/A
Program Management Support	WR	IH, CSS, NAVSEA	8.893	0.854	11/99	0.863	11/00	1.442	11/01	CONT.	CONT.	N/A
Travel	WR	NAVSEA	0.700	0.050	11/99	0.050	11/00	0.050	11/01	CONT.	CONT.	N/A
Labor (Research Personnel)	N/A	N/A									0.000	
Overhead	N/A	N/A									0.000	
Subtotal Management			17.793	4.943		7.357		4.182		CONT.	CONT.	
Remarks:												
Total Cost			155.211	11.061		11.622		5.282				
Remarks:												

R-1 SHOPPING LIST - Item No. 49

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 28 of 33)

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: June 2001			
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE					
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-4					Surface and Shallow Water Mine Countermeasures Program Element (PE) 0603502N					
COST (\$ in Millions)	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Total PE Cost	29.849	27.384	56.088						CONT.	CONT.
V2094	29.849	0.000	0.000						CONT.	CONT.
Q2094	0.000	27.384	56.088						CONT.	CONT.
Quantity of RDT&E Articles						1-LMRS				
<p>A. Mission Description and Budget Item Justification:</p> <p>This project was completely restructured in FY 1994 in response to Congressional direction provided in the FY 1994 DOD Appropriations Act. Specifically, the office of the Secretary of Defense and the Navy were directed to (1) establish priorities among various proposed UUV programs, (2) focus on near-term mine countermeasures issues, and (3) establish affordable, cost-effective programs. The Navy developed an overall UUV Program Plan, which was approved by ASN(RD&A) June 1994, endorsed by USD(A&T) and forwarded to Congress to support FY 1995 budget deliberations.</p> <p>The UUV Program Plan establishes a clandestine, near-term mine reconnaissance capability as the Navy's top UUV priority; a long term-mine reconnaissance system as priority two; the conduct of surveillance, intelligence and tactical oceanography missions as priority three; and exploring advanced UUV designs for the future as priority four. FY 1995 Congressional language complimented the Navy Plan and fully supported priorities one and two starting in FY 1995.</p> <p>The UUV project funds development of the first three priorities of the UUV Program Plan. The Near-Term Mine Reconnaissance System (NMRS) is a minehunting UUV system launched and recovered from an SSN-688 class submarine capable of mine detection, classification, and localization. One NMRS Operational Prototype (OP) system was made available to the Commander Submarine Development Squadron-Five in FY 1999. No further production of the NMRS is planned. The AN/BLQ-11 Long-Term Mine Reconnaissance System (LMRS) is being developed to provide a robust, long-term Fleet capability to conduct clandestine minefield reconnaissance. A quantity of 6-12 LMRSs will be procured beginning in FY04. Eight LMRSs have been funded through POM 02. The Navy's third priority is the conduct of surveillance, intelligence and tactical oceanography. To meet this requirement the Navy will develop a Mission Reconfigurable UUV (MRUUV) system that is capable of performing different missions. It is envisioned that this system will use the same vehicle energy section and structure of the LMRS, but will have payload sensors appropriate to meet various mission requirements.</p> <p>The Near-Term Mine Reconnaissance System (NMRS) program has developed and tested one operational prototype system. The NMRS was made available to the Fleet and will remain available for Fleet use until delivery of the first LMRS. In accordance with N87 letters Ser N87/9U657190 of 26 July 1999 and Ser N87/9U657196 of 27 July 1999, all remaining RDT&E funding for NMRS has been applied to the LMRS program. With the completion of the NMRS program, no further reference will be made to NMRS prior year funding in Exhibit R-3.</p> <p>The Long-Term Mine Reconnaissance System (LMRS) is currently in development. The fabrication of a prototype system will begin in FY01. This prototype system will support test and evaluation, and will transition to fleet operations in FY03.</p> <p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. (U) FY 2000 ACCOMPLISHMENTS:</p> <p>(U) (29.849) (LMRS): Awarded development contract to Boeing and began development phase. Completed STR and began Subsystem CDRs.</p> <p>2. (U) FY 2001 PLAN:</p> <p>(U) (26.701) (LMRS): Continued development phase and begin fabrication of prototype system. Complete Final System CDR.</p> <p>(U) (.683) (LMRS): Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 638.</p> <p>3. (U) FY 2002 PLAN:</p> <p>(U) (45.100) (LMRS): Continue development phase and complete fabrication of prototype system.</p> <p>(U) (4.395): MRUUV : Analysis Of Alternatives</p> <p>(U) (4.395): L-PUMA: Engineering Studies/Analysis Of Alternatives</p> <p>(U) (2.198): SAS: Prototype Design</p>										

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE:			
							June 2001			
APPROPRIATION/BUDGET ACTIVITY							R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-4							Surface and Shallow Water Mine Countermeasures Program Element (PE) 0603502N			
B. Other Program Funding Summary: (\$ in Millions)							To	Total		
	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Complete</u>	<u>Cost</u>
OPN PE 0204281N; Line Item 217100	0.000	0.000	0.000						CONT.	CONT.
O&MN PE 0204281N; 12B6 (LMRS)	0.000	0.000	0.000						CONT.	CONT.
C. Acquisition Strategy: One Operational Prototype NMRS has been procured via sole source contract. No further NMRS production is planned. The LMRS acquisition strategy is 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. Procurement of the LMRS will be sole source to Boeing. A competitive procurement is not cost effective due to the limited (6-12) number of systems planned for procurement.										
The MRUUV project will conduct an AOA in FY02 and award an RDT&E contract for the development and prototyping of the system beginning in FY03. Procurement and operations not planned within the FYDP.										
D. Schedule Profile: See next page.										

R-1 SHOPPING LIST - Item No. 49

Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, page 30 of 33)

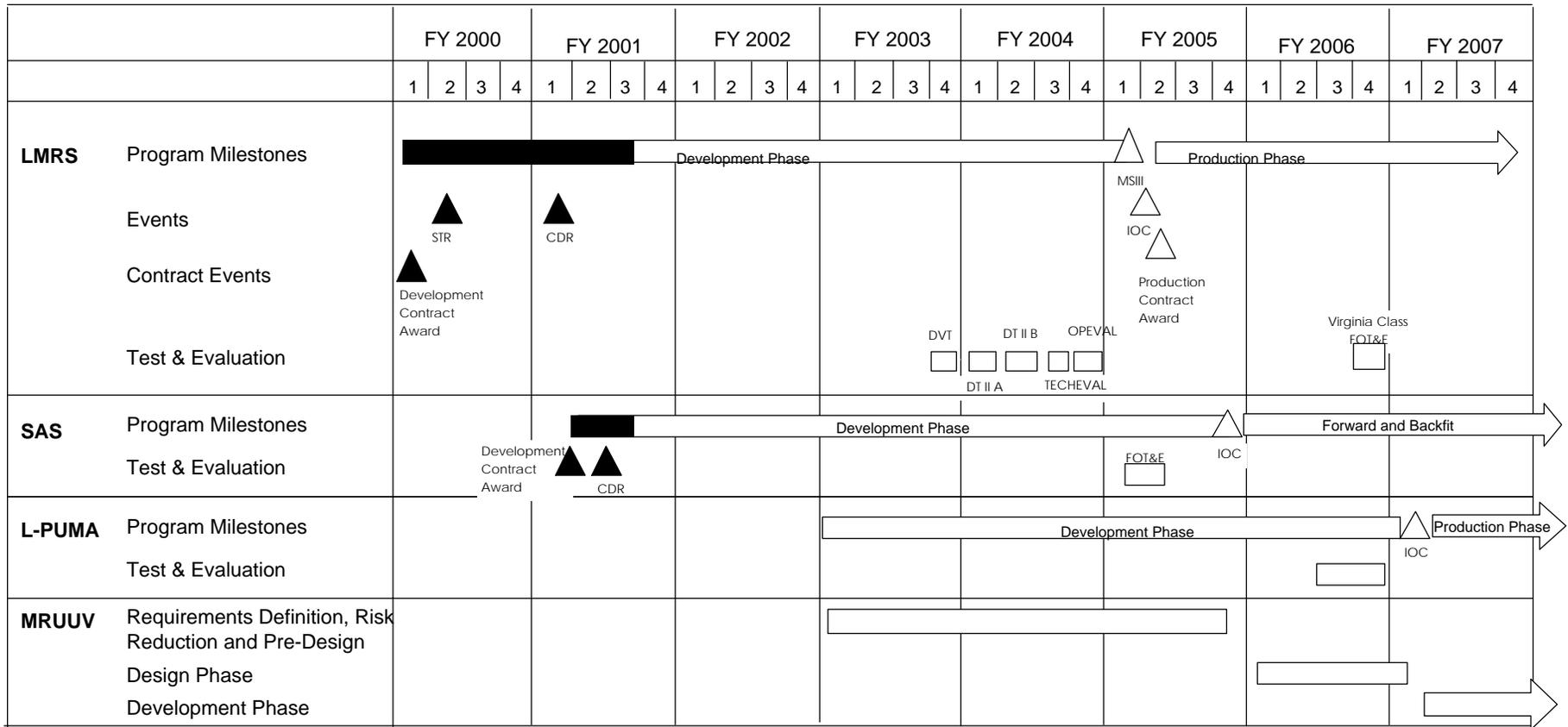
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CLASSIFICATION:

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EXHIBIT R-2a, RDT&E Project Justification		DATE: June 2001
APPROPRIATION/BUDGET ACTIVITY RDT&E, NAVY/BA-4	PROGRAM ELEMENT NAME AND NUMBER Surface and Shallow Water Mine Countermeasures Program Element (PE) 0603502N	PROJECT NAME AND NUMBER Unmanned undersea Vehicle V2094, Q2094

UUV PROGRAM SCHEDULE



R-1 SHOPPING LIST - Item No. 49

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 31 of 32)

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Exhibit R-3 Cost Analysis								DATE: June 2001				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NAME AND NUMBER					PROJECT NAME AND NUMBER				
RDT&E, NAVY/BA-4			Surface and Shallow Water Mine Countermeasures Program Element (PE) 0603502N					Unmanned undersea Vehicle V2094, Q2094				
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development (LMRS) Design Contracts	FFP/ CPAF	NGC, Boeing and Lockheed Martin	29.984									30.825
Award Fees (LMRS Design)			0.841									
Primary Hardware Development (LMRS) Development Contract	CPAF/IF	Boeing		23.967		17.013	N/A	31.188	N/A	Cont	Cont	Cont
Award Fee (LMRS Development)				0.517		1.619		1.799		Cont	Cont	Cont
EAC Incentive Fee (LMRS Development)						0.300		0.600		Cont	Cont	Cont
AUPC Incentive Fee (LMRS Development)												
Engineering Services				0.164		0.236		0.100		Cont	Cont	Cont
MRUUV Development								4.000				
L-PUMA Development								4.000				
SAS Development								2.000				
UUV Center of Excellence						1.489						
GFE												
Subtotal Product Development			30.825	24.648		20.657		43.687		Cont	Cont	Cont
Development Support Equipment			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Software Development			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Training Development			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Integrated Logistics Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Configuration Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Technical Data			0.000	0.000		0.000		0.000		0.000	0.000	0.000
GFE			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Subtotal Support			0.000	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: June 2001				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NAME AND NUMBER					PROJECT NAME AND NUMBER				
RDT&E, NAVY/BA-4			Surface and Shallow Water Mine Countermeasures Program Element (PE) 0603502N					Unmanned undersea Vehicle V2094, Q2094				
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NUWC						1.398	10/01	Cont	Cont	Cont
Operational Test & Evaluation	WR	NUWC								Cont	Cont	Cont
GFE	WR	NUWC		0.032	10/99	0.007	10/00		10/01	Cont	Cont	Cont
Govt Facilities Cost (LMRS Develop)	WR	NUWC, NSWC	0.450	1.728		1.661		0.241		Cont	Cont	Cont
Subtotal T&E			0.450	1.760		1.668		1.639		Cont	Cont	Cont
Remarks:												
Contractor Engineering Support	FFP	JHU/APL, ARL/UT	3.469	0.000		0.075		0.550		Cont	Cont	Cont
Government Engineering Support	WR	NUWC, NSWC	7.406	2.873	10/99	3.086	10/00	4.525	10/01	Cont	Cont	Cont
Program Management Support	Various	RPI, Vred, Stanley, KPMG	2.448	0.323	10/99	0.610	10/00	0.539	10/01	Cont	Cont	Cont
		ONR				0.865		3.365		Cont	Cont	Cont
		Other	0.393	0.143	Various	0.260	Various	1.683	Various	Cont	Cont	Cont
Travel			0.114	0.102		0.163		0.100		Cont	Cont	Cont
Subtotal Management			13.830	3.441		5.059		10.762		Cont	Cont	Cont
Remarks:												
Total Cost			45.105	29.849		27.384		56.088		Cont	Cont	Cont
Remarks:												

R-1 SHOPPING LIST - Item No. 49

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 33 of 33)

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