

CLASSIFICATION:

**UNCLASSIFIED**

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: <b>February 2002</b>			
APPROPRIATION/BUDGET ACTIVITY <b>RESEARCH, DEVELOPMENT, TEST &amp; EVALUATION, NAVY/BA 5</b>					R-1 ITEM NOMENCLATURE Mine Development/0604601N					
COST (\$ in Millions)	FY2000 & Prior Year	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Total PE Cost	<b>169.116</b>	<b>1.582</b>	<b>0.000</b>	<b>1.491</b>	<b>1.592</b>	<b>6.652</b>	<b>16.255</b>	<b>16.526</b>	<b>0.000</b>	<b>213.214</b>
Mine Improvement Q0267	<b>169.116</b>	<b>1.582</b>	<b>0.000</b>	<b>1.491</b>	<b>1.592</b>	<b>6.652</b>	<b>16.255</b>	<b>16.526</b>	<b>0.000</b>	<b>213.214</b>
Quantity of RDT&E Articles	<b>N/A</b>	<b>2 EDMs</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>		
<p>A. Mission Description and Budget Item Justification            (U) This project is the only R&amp;D program for mine systems, and is the sole support for the capability to maintain the effectiveness of mines facing new threat targets and increasing emphasis on major regional conflicts and littoral warfare in shallow water. Project tasks are grouped into several areas: (1a) Threat Modeling/Analysis, which collects, analyzes, and develops digital models of data on current priority threat target characteristics to support computer simulations; (1b) Target Detection and Response, which uses target models to develop optimal mine designs, settings, and firing algorithms; (1c) Developing and upgrading Tactical Decision Aids (TDAs) to assist the warfighter in planning and placing more effective minefields; (2a) Components/Subsystems, which develops upgrades of mine components to maintain effectiveness against current threat targets using proven state-of-the-art technology including a remote controlled mine capability (RECO); (2b) Advanced Power sources, which develops improved batteries without hazardous heavy metals, and (3) New mines, which designs and develops new mines, including replacements for Submarine Launched Mobile Mine (SLMM) MK 67 and Mine MK 56.</p>										

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EXHIBIT R-2, RDT&E Budget Item Justification

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APPROPRIATION/BUDGET ACTIVITY

**RESEARCH, DEVELOPMENT, TEST & EVALUATION, NAVY/BA 5**

R-1 ITEM NOMENCLATURE

Mine Development/0604601N

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 2001 ACCOMPLISHMENTS:

Product Development

- (U) (\$0.129) Primary Hardware - Completed design and development of one-way RECO and pressure sensor hardware; fabricate EDM pressure sensor .  
Development Support Equipment

- (U) (\$1.183) Software Development - Completed software development for RECO, MK 221, Fast Patrol Boat, and Air cushion vehicle algorithms. Designed software development station. Completed upgrade/redesign of minefield planning TDA. Updated Operations data for MK 221 algorithms.

Test and Evaluation

- (U) (\$0.120) Development Test and Evaluation - Completed test program for RECO. Tested prototype pressure sensors.  
Support

- (U) (\$0.130) Program Management Support

- (U) (\$0.020) Integrated Logistic Support - Completed ILS tasks for RECO.

2. FY 2002 Not Applicable

3. (U) FY 2003 PLANS

Product Development

- (U) (\$1.266) Software Development - Develop target detection algorithms for diesel-electric mini subs and MCM ships. Continue development of PC-based, MEDAL-compliant TDA for minefield planning.  
Support

- (U) (\$0.175) Program Management Support.

- (U) (\$0.050) Integrated Logistic Support.

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APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE					
<b>RESEARCH, DEVELOPMENT, TEST &amp; EVALUATION, NAVY/BA 5</b>					Mine Development/0604601N					
B. Program Change Summary:										
		FY 2001	FY 2002	FY 2003						
	FY 2002 President's Budget:	1.582	0.000	0.000						
	Appropriated Value:	1.968	0.000							
	Adjustment to FY2001/2002 Appropriated Value/FY 2002									
	President's Budget Submit:	(0.386)		1.491						
	FY 2003 President's Budget Submit:	1.582	0.000	1.491						
Funding: FY01 change due to (-0.014) 7% Pro Rata, (-0.315) SIAP BTR, (-0.009) SBIR, (-0.044) other adjustments, (-0.004) Gov't.-Wide Rescission FY03 change due to (+.500) Minefield Planning TDA, (+1.000) TDD Algorithm Development, (-0.009) Nonpay Inflation.										
Schedule: Not applicable										
Technical: Not applicable										
C. Other Program Funding Summary : (\$ in Millions)										
		<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
QS Mod 3		1.932	3.866	2.025	3.404	3.166	3.224	3.288	0.000	20.905
WPN BLI 323100										
D. Acquisition Strategy:										
NSWC CSS Panama City FL is teamed with other Navy laboratories and hardware contractors to design and develop the RECO.										

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R-1 ITEM NOMENCLATURE

Mine Development/0604601N

E. Schedule Profile

## RECO 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																																
RECO Design/Development																																
RECO Engineering Testing																																
TDA Design/Development													△			△																
TDA Verification/Validation																	△			△												
Algorithm Design/Development													△			△																
Algorithm Verification/Validation																	△			△												

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**Exhibit R-2, RDT&E Budget Item Justification**

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Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2002</b>				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NAME AND NUMBER			PROJECT NAME AND NUMBER						
<b>RDT&amp;E, N/BA-5</b>			<b>MINE DEVELOPMENT/0604601N</b>			<b>MINE DEVELOPMENT/Q0267</b>						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	FY 2000 and Prior	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	RCP	NSWC, CSS-Panama City F	106.493	0.129	11/00			0.000		0.000	106.622	
Ancillary Hardware Development			2.158								2.158	
Systems Engineering	WR	NSWC, CSS-Panama City F	1.057					0.000		0.000	1.057	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees			4.790							0.000	4.790	
Subtotal Product Development			114.498	0.129		0.000		0.000		0.000	114.627	
Remarks:												
Development Support Equipment												
Software Development	WR	various	2.654	1.183	12/00			1.266			5.103	N/A
Training Development											0.000	
Integrated Logistics Support	WR	NSWC, CSS-Panama City, F	0.200	0.020	12/00			0.050			0.270	N/A
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Subtotal Support			2.854	1.203		0.000		1.316		0.000	5.373	N/A
Remarks:												

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**Exhibit R-3, Project Cost Analysis**  
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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
<b>RDT&amp;E, N/BA-5</b>			<b>MINE DEVELOPMENT/0604601N</b>			<b>MINE DEVELOPMENT/Q0267</b>						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	FY 2000 and Prior	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NSWC, CSS-Panama City, F	15.713	0.120	12/00					0.000	15.833	N/A
Operational Test & Evaluation												
Tooling												
GFE												
Subtotal T&E			15.713	0.120		0.000		0.000		0.000	15.833	N/A
Remarks:												
Contractor Engineering Support												
Government Engineering Support			35.599								35.599	
Program Management Support	Var.	Various	0.452	0.130	12/00			0.175			0.757	N/A
Travel												
Labor (Research Personnel)												
Overhead												
Subtotal Management			36.051	0.130		0.000		0.175			36.356	N/A
Remarks:												
Total Cost			169.116	1.582		0.000		1.491		0.000	172.189	
Remarks:												

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