

# 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 /						0604373N Airborne Mine Countermeasures					
BA-5											
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	372.342	88.918	51.450	54.659	50.998	34.059	9.617	23.298	51.576	Continuing	Continuing
Airborne Mine Hunt System / 0529	188.672	18.075	4.750	3.421	4.797	3.419	0.808	9.830	20.781	Continuing	Continuing
ALMDS / 2047	71.050	10.505	3.493	11.539	11.882	6.750	1.949	12.133	18.269	Continuing	Continuing
OASIS / 2427/2883	39.197	14.255	11.097	13.985	12.478	4.470	0.000	0.000	11.170	Continuing	Continuing
AMNS / 2473	69.731	46.083	29.367	23.887	20.281	18.049	5.550	0.000	0.000	0.000	212.948
C4I, Tactics and Mission Planning / 4026	0.000	0.000	1.257	1.827	1.560	1.371	1.310	1.335	1.356	Continuing	Continuing
SNUITT / 9197	3.692	0.000	1.486	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.178
Quantity of RDT&E Articles	6		6		2						14
FY05 Congressional Adds: SNIUTT (\$1.5M)											
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Airborne Mine Countermeasures (AMCM) programs will deploy to the fleet as sensors integrated into the MH-53E and MH-60S platforms in order to provide Mine-Like Object Detection/classification/localization, Mine Identification, mine reacquisition and neutralization, and influence clearance capabilities. The "Next Generation" AMCM systems will provide this set of capabilities to the Carrier Strike Group/Expeditionary Strike Group (CSG/ESG) beginning in Calendar Year 2005. This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA). Some interest in the following areas has been expressed: search and rescue; surface fire support; ASW operations; protection/offense against small craft/vehicles; air to air operations; very shallow water MCM; swimmer defense and torpedo defense.											

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Exhibit R-2, RDTEN Budget Item Justification  
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EXHIBIT R-2, RDT&E Budget Item Justification		DATE: <b>February 2005</b>																																									
APPROPRIATION/BUDGET ACTIVITY <b>RESEARCH DEVELOPMENT TEST &amp; EVALUATION, NAVY / BA-5</b>		R-1 ITEM NOMENCLATURE <b>0604373N Airborne Mine Countermeasures</b>																																									
<p><b>(U) B. PROGRAM CHANGE SUMMARY:</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;"></th> <th style="text-align: right; width: 10%;"><u>FY 2004</u></th> <th style="text-align: right; width: 10%;"><u>FY 2005</u></th> <th style="text-align: right; width: 10%;"><u>FY 2006</u></th> <th style="text-align: right; width: 10%;"><u>FY 2007</u></th> </tr> </thead> <tbody> <tr> <td>(U) B. PROGRAM CHANGE SUMMARY:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>    FY 05 President's Budget</td> <td style="text-align: right;">90.981</td> <td style="text-align: right;">50.514</td> <td style="text-align: right;">25.807</td> <td style="text-align: right;">18.138</td> </tr> <tr> <td>    FY06 President's Budget</td> <td style="text-align: right;">88.918</td> <td style="text-align: right;">51.450</td> <td style="text-align: right;">54.659</td> <td style="text-align: right;">50.998</td> </tr> <tr> <td>    Total Adjustments</td> <td style="text-align: right;">(2.063)</td> <td style="text-align: right;">0.936</td> <td style="text-align: right;">28.852</td> <td style="text-align: right;">32.860</td> </tr> <tr> <td colspan="5" style="padding-top: 20px;">Summary of Adjustment</td> </tr> <tr> <td>    Misc Adjustments</td> <td style="text-align: right;">(2.063)</td> <td style="text-align: right;">(0.564)</td> <td style="text-align: right;">28.852</td> <td style="text-align: right;">32.860</td> </tr> <tr> <td>    Congressional Actions</td> <td style="text-align: right;">(2.063)</td> <td style="text-align: right;">0.936</td> <td style="text-align: right;">28.852</td> <td style="text-align: right;">32.860</td> </tr> </tbody> </table> <p style="margin-top: 20px;"><b>Schedule:</b> Acquisition Strategy for the Organic Airborne Mine Countermeasure (OAMCM) programs has changed in order to reflect restructuring to integrate the MH-60S assets availability to support testing. <u>AN/AQS-20A</u> In response to a delay in a test ready MH-60S (deployment platform) and expansion of test/integration requirements, from PB05, the program schedule has been modified to incorporate platform of opportunity (MH-53) CT &amp; DT testing during FY03 through FY04 to mitigate impacts of MH-60S availability. MH-60S DT and MH-60S OT testing will be conducted during FY06 and completed by the end of FY06 in support of an early FY07 FRPD. IOC will now occur by December 07. <u>ALMDS</u> Following Congressional reduction of FY04 procurement units, SH-60F Developmental Testing (DT-IIC) is scheduled for FY05, MH-60S Developmental Testing (DT-IID/E is scheduled for FY07, and Operational Testing (OT) is scheduled for FY07/FY08. MS C and LRIP decision is scheduled for early FY05 to support IOC. A revised Acquisition Program Baseline with updated schedule parameters was signed on 13 March 04. <u>OASIS</u> Schedule adjusted to meet availability of MH-60S helicopter for development testing. MH-53E alternate platform testing will be completed in FY2005 along with an Operational Assessment (OA). MH-60S CT will be completed in FY06, DT testing in FY07, and OT has moved to FY08. LRIP production will begin in FY07 following MH-53E CT/OA a, d MH-60S CT. <u>AMNS</u> MH-60S Block 2B aligned AMNS schedule extends SD&amp;D phase out to end of FY07 but preserves FY07 IOC. MS C will be based on Alternate Platform tests to be conducted in FY05 and FY06. <u>RAMICS</u> MH-60S Block 2B aligned RAMICS extends SD&amp;D phase out to end of FY07 and IOC from FY07 to FY08. Alternate Platform tests are scheduled in FY05 and FY06 to mitigate risk and minimize schedule loss.</p>					<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	(U) B. PROGRAM CHANGE SUMMARY:					FY 05 President's Budget	90.981	50.514	25.807	18.138	FY06 President's Budget	88.918	51.450	54.659	50.998	Total Adjustments	(2.063)	0.936	28.852	32.860	Summary of Adjustment					Misc Adjustments	(2.063)	(0.564)	28.852	32.860	Congressional Actions	(2.063)	0.936	28.852	32.860
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Exhibit R-2, RDTEN Budget Item Justification  
(Exhibit R-2, page 2 of 45)

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604373N/Airborne Mine Countermeasures					PROJECT NUMBER AND NAME 0529 Airborne Mine Hunt 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	188.672	18.075	4.750	3.421	4.797	3.419	0.808	9.830	20.781	Continuing	Continuing
RDT&E Articles Qty	3										3

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

This project includes a sonar for mine detection, classification and identification. The Navy does not possess a capability to conduct minefield reconnaissance (mine density and location) at high area search rates. The AN/AQS-20A is being developed to address the emergent requirements for mine identification and to integrate AMCM systems with a MH-60S platform. The AN/AQS-20A will also be the mine hunting sonar component for the Remote Mine hunting System (RMS). The AN/AQS-20A will be developed to meet the requirements of the Organic MCM platforms.

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Exhibit R-2a, RDTEEN Project Justification  
(Exhibit R-2a, page 3 of 45)

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N , BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME <b>0604373N Airborne Mine Countermeasures</b>	PROJECT NUMBER AND NAME <b>0529 Airborne Mine Hunt Systems</b>		
<b>B. Accomplishments/Planned Program</b>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	4.469	0.581	1.920	2.137
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px;"> <p>Complete EDM fabrication, including incorporation of Electro-Optic Identification (EOID) sensor capabilities.            Conduct EDM testing with maintainability requirements and refurb EDMs. Acquire EOID test units.            Commence Pre-Planned Product Improvement (P3I) to improve environmental data collection, 3-D Sonar Imaging, and acoustic identification ability.</p> </div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	12.846	3.609	1.021	2.000
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px;"> <p>Continued integration of towed body with MH-60S console and parallel towed body/MH-60S Console hardware-software integration and testing.            Conduct MH-60S DT and begin OT. Continue interface/integration with MH-60S, C4I Interface and MEDAL. Continue development of ILS &amp; supportability products, training materials.            Conduct single-site (alternative site) Computer Aided Detection and Computer Aided Classification (CAD/CAC) testing and initiate CAIDC.            Conduct parallel MH-60S Console test and common console/Aircraft Integration. Conduct platform of opportunity (MH-53) testing, i.e., CT, DT, AUTEK Tests in addition to WSIT CT and AFCS.            Conduct testing on P3I improvements to the sonar and EOID to validate quality of oceanographic data recorded via the Mission Data Recorder to establish an environmental database to be integrate in to MEDAI</p> </div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.760	0.560	0.480	0.660
RDT&E Articles Quantity				
Total	18.075	4.750	3.421	4.797
<div style="border: 1px solid black; padding: 5px;"> <p>Support completion of MH-60S OT events. Develop documentation in support of FRPDR. Continue development of ILS &amp; supportability products and engineering support.            Finalize documentation in support of MS-C requirements.            Develop ILS &amp; supportability products and engineering support for P3I improvements</p> </div>				

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N , BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME <b>0604373N Airborne Mine Countermeasures</b>			PROJECT NUMBER AND NAME <b>0529 Airborne Mine Hunt Systems</b>					
<b>(U) C. OTHER PROGRAM FUNDING SUMMARY:</b>										
<u>Line Item No. &amp; 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>
424800 OPN AQS-20A	0.000	40.297	26.985	51.970	53.220	0.000	0.000	0.000	0.000	172.472
 <b>(U) D. ACQUISITION STRATEGY: *</b>										
Upon successful completion of DT and MS C, Sole Source MH-60S systems LRIP procurement will begin in FY05 & FY06 with a Full Rate Procurement contract following a Full Rate Production Decision Review (FRPDR) in FY07.										

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## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: <b>February 2005</b>			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
<b>RDT&amp;E, N / BA-5</b>			<b>0604373N Airborne Mine Countermeasures</b>			<b>0529 Airborne Mine Hunt Systems</b>								
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/Software Development	SS/CPIF	Raytheon, Portsmouth, RI	21.931	4.469	10/03	0.581	10/04	1.721	10/05	1.637	10/06	Continuing	Continuing	
Hardware/Software Development	C/CPFF	Raytheon, Portsmouth, RI	60.150										60.150	
Hardware/Software Development	WX	NSWC, Panama City, FL	4.966					0.200		0.500	10/06	Continuing	Continuing	
Hardware/Software Development	C/FP	Northrop, Grumman	4.572										4.572	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Product Development			91.619	4.469		0.581		1.921		2.137		Continuing	Continuing	
Remarks:														
Engineering Services	WX	NSWC, Panama City, FL	24.279	4.100	10/03	1.519	10/04	0.320	10/05	0.150	10/06	Continuing	Continuing	
Engineering Services	C/CPFF	Raytheon, Portsmouth, RI	2.000	1.286	01/04			0.400		0.800	10/06	Continuing	Continuing	
Engineering Services	VAR	Various	51.797	1.371	10/03	0.250	10/04						53.418	
Engineering Services	SS/CPIF	Raytheon, Portsmouth, RI	1.941	1.323	10/03	0.300	10/04						3.564	
													0.000	
ILS Functions	WX	NSWC, Panama City, FL	4.869	0.900	10/03			0.200	10/05	0.230	10/06	Continuing	Continuing	
ILS Functions	SS/CPIF	Raytheon, Portsmouth, RI	0.826					0.050	10/05	0.720		Continuing	Continuing	
ILS Functions	VAR	Various	0.736			0.700	10/04						1.436	
Subtotal Support			86.448	8.980		2.769		0.970		1.900		Continuing	Continuing	
Remarks:														

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Exhibit R-3, Project Cost Analysis  
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## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>				
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT <b>0604373N Airborne Mine Countermeasures</b>			PROJECT NUMBER AND NAME <b>0529 Airborne Mine Hunt Systems</b>								
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
T&E Functions	WX	NSWC, Panama City	6.764	3.104	10/03	0.400	10/04					Continuing	Continuing	
T&E Functions	SS/CPIF	Raytheon, Portsmouth, RI	0.422	0.562	10/03	0.300	10/04	0.050	10/05	0.100	10/06	Continuing	Continuing	
T&E Functions	VAR	Various	1.243	0.200	10/03	0.140	10/04							1.583
														0.000
														0.000
														0.000
														0.000
Subtotal T&E			8.429	3.866		0.840		0.050		0.100		Continuing	Continuing	
Remarks:														
Management Support			1.787	0.700	10/03	0.500	10/04	0.450	10/05	0.630		Continuing	Continuing	
Travel			0.389	0.060	10/03	0.060	10/04	0.030	10/05	0.030		Continuing	Continuing	
														0.000
														0.000
														0.000
														0.000
Subtotal Management			2.176	0.760		0.560		0.480		0.660		Continuing	Continuing	
Remarks:														
Total Cost			188.672	18.075		4.750		3.421		4.797		Continuing	Continuing	
Remarks:														

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Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 7 of 45)

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EXHIBIT R4, Schedule Profile																									DATE:							
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-5										0604373N Airborne Mine Countermeasures										0529 Airborne Mine Hunt Systems												
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
Acquisition Milestones						MS C LRIP △							☆ △	IOC FRP																		
Development Phase	AN/AQS-20A SD&D								AN/AQS-20A P3I																							
EDMs Delivery																																
Software Delivery V 5.X SW Delivery																																
Test & Evaluation Milestones																																
Development Test	CT				MH-53E Sys DT				MH-60S Int DT				MH-60S OT																			
Operational Test									▽				▽																			
Production Milestones																																
LRIP I FY 05									AN/AQS-20A LRIP I & II																							
LRIP II FY 06																	AN/AQS-20A Full Rate Production															
FRP FY 07																					AN/AQS-20A Deliveries											
Deliveries														2	1	1	1	1	2	1	1	1	2	2								

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Exhibit R-4, Schedule Profile  
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**CLASSIFICATION:**

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**Exhibit R-4a, Schedule Detail**  
(Exhibit R-4a, page 9 of 45)

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures					PROJECT NUMBER AND NAME 2047 Airborne Laser Mine Detection 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	71.050	10.505	3.493	11.539	11.882	6.750	1.949	12.133	18.269	Continuing	Continuing
RDT&E Articles Qty	3										

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

The Airborne Laser Mine Detection System (ALMDS), designation AN/AES-1, is a non-acoustic Airborne Mine Countermeasures (AMCM) high area coverage system that detects, classifies, and localizes floating and near-surface , moored sea mines. The system is deployed from the MH-60S helicopter and will provide organic airborne mine defense for the Carrier Strike Groups (CSG) and Expeditionary Strike Groups (ESG). The system represents a capability that does not exist in the current Mine Countermeasures (MCM) inventory. ALMDS first spiral development phase, very shallow water capability, begins in FY2006.

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Exhibit R-2a, RDTEN Project Justification  
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME <b>0604373N Airborne Mine Countermeasures</b>	PROJECT NUMBER AND NAME <b>2047 Airborne Laser Mine Detection System</b>																						
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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></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>5.442</td> <td>2.159</td> <td>9.180</td> <td>6.128</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> EDM development, fabrication, software coding.  Continue to conduct technical studies, MH-60S Interface, C4I Interface, and MEDAL.  Design and implement performance enhancements.  Develop algorithms and redesign system for very shallow water capability. </div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	5.442	2.159	9.180	6.128	RDT&E Articles Quantity									
	FY 04	FY 05	FY 06	FY 07																				
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	FY 04	FY 05	FY 06	FY 07																				
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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDTE&amp;E, N / BA-5</b>			PROGRAM ELEMENT NUMBER AND NAME <b>0604373N Airborne Mine Countermeasures</b>			PROJECT NUMBER AND NAME <b>2047 Airborne Laser Mine Detection System</b>			

**(U) C. OTHER PROGRAM FUNDING SUMMARY:**

<u>Line Item No. &amp; 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>
424800 OPN	0.000	21.175	5.860	22.180	18.940	53.299	7.916	8.987	Continuing	Continuing

**(U) D. ACQUISITION STRATEGY:**

In April 2000, the ALMDS program received MS II approval to enter the Engineering and Manufacturing Development (E&MD) phase. Northrop Grumman won the competitively awarded E&MD contract.

The ALMDS E&MD contract with Northrop Grumman has 3 types of incentives: schedule incentive for early delivery of EDM units; technical incentive for performance reliability and maintainability; and a cost incentive - a cost sharing percentage both for an overrun and an under run. Successful completion of DT-IIC, on an alternate platform (SH-60F), will support a Low-Rate Initial Production (LRIP) decision. After a successful OPEVAL on the intended deployment platform (MH-60S), Full-Rate Production will begin. The first full-rate production lot will be delivered in FY09. The remaining production units will be awarded after a full and open competition.

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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-5			0604373N Airborne Mine Countermeasures			2047 Airborne Laser Mine Detection 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
Hardware/Software Development	WX	NSWC, Panama City	0.515	0.050	10/03								0.565	
Hardware/Software Development	WX	NSWC, PC, (Prime Contractor)	20.586	2.156	10/03	0.100	10/04	2.668	10/05	2.108	10/06	Continuing	Continuing	
Hardware/Software Development	RCP	Metron	0.625										0.625	
Hardware/Software Development	RCP	SAIC	0.200										0.200	
Hardware/Software Development													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Product Development			21.926	2.206		0.100		2.668		2.108		Continuing	Continuing	
Remarks:														
Engineering Services	WX	NSWC, Panama City	8.449	0.438	10/03	0.375	10/04	1.547	10/05	0.721	10/06	Continuing	Continuing	
Engineering Services	WX	NSWC, PC, (Prime Contractor)	10.530	1.320	10/03	0.305	10/04	1.935	10/05			0.000	14.090	
Engineering Services	VAR	Various	6.284	0.616	10/03	0.400	10/04	1.859	10/05	1.989	10/06	Continuing	Continuing	
Engineering Services	RCP	Various	3.122	0.200	10/03	0.289	10/04	0.200	10/05	0.400	10/06	Continuing	Continuing	
ILS Functions	WX	NSWC, Panama City	1.346	0.100	10/03	0.245	10/04	0.096	10/05	0.500	10/06	Continuing	Continuing	
ILS Functions	WX	NSWC, PC, (Prime Contractor)	5.483	0.242	10/03	0.000	10/04	0.000	10/05	0.250	10/06	Continuing	Continuing	
ILS Functions	VAR	Various/NRL Stennin	1.062										1.062	
ILS Functions	WX	NSWC, Panama City	0.100	0.100		0.100	10/04						0.300	
Subtotal Support			36.376	3.016		1.714		5.637		3.860		Continuing	Continuing	
Remarks:														

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Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 13 of 45)

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## CLASSIFICATION:

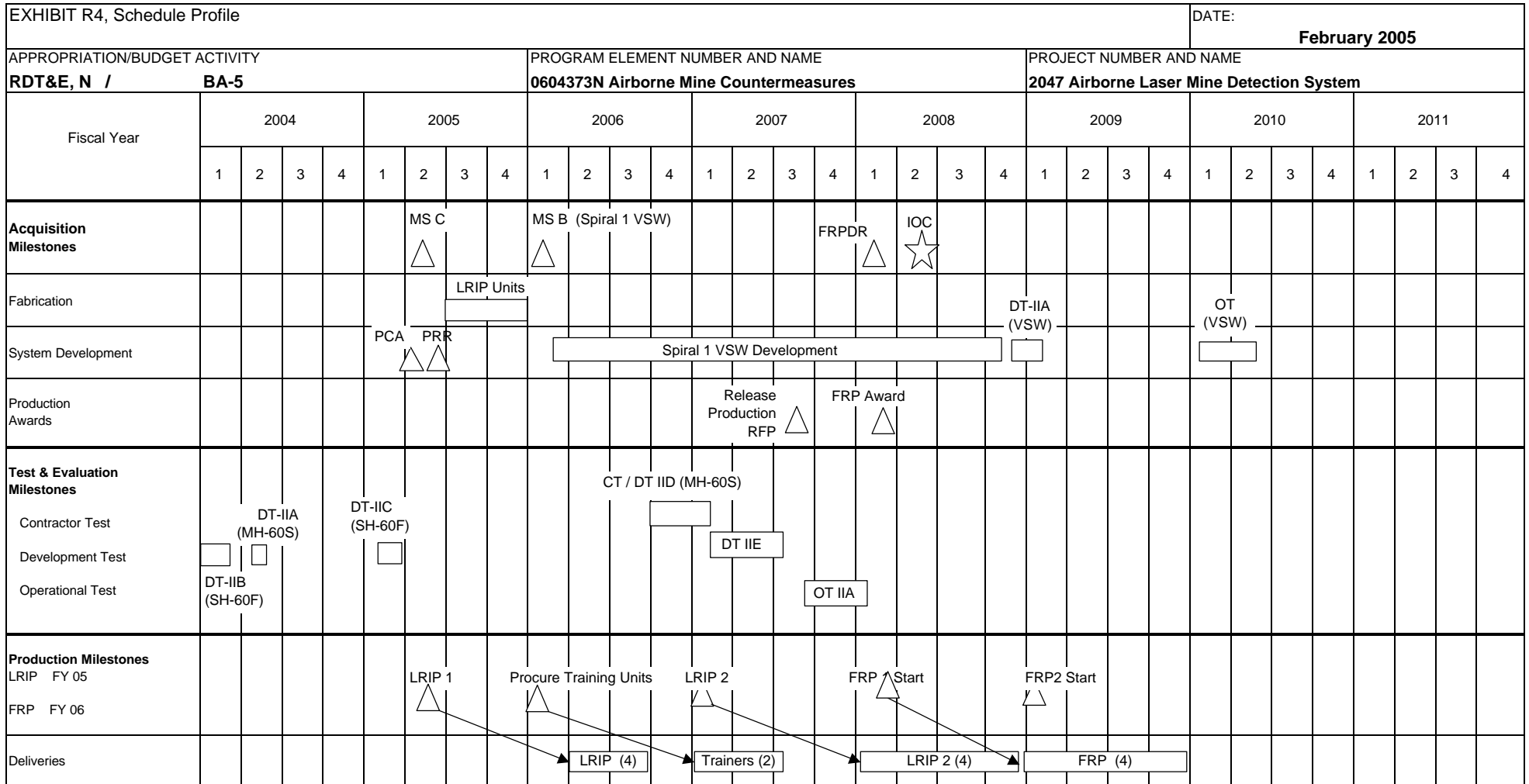
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604373N Airborne Mine Countermeasure				2047 Airborne Laser Mine Detection System								
Cost Categories	Contract Method & Type	Performing 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	
Testing and Evaluation	WX	NSWC, PC, (Prime Contract)	6.257	1.815	10/03	0.000	10/04	0.100	10/05	1.219	10/06	Continuing	Continuing		
Testing and Evaluation	WX	NSWC, Panama City	2.986	2.407	10/03	0.714	10/04	2.163	10/05	3.785	10/06	Continuing	Continuing		
Testing and Evaluation	VAR	Various	0.392										0.392		
Testing and Evaluation	WX	NSWC, Panama City	0.600	0.399	10/03	0.275	10/04						1.274		
													0.000		
													0.000		
													0.000		
Subtotal T&E			10.235	4.621		0.989		2.263		5.004		Continuing	Continuing		
Remarks:															
Management Support		Travel	0.230	0.030	10/03	0.030	10/04	0.050	10/05	0.050	10/06	Continuing	Continuing		
Management Support	VAR	Various	1.400	0.347	10/03	0.180	10/04	0.616	10/05	0.620	10/06	Continuing	Continuing		
Management Support	WX	NSWC, PC, (Prime Contract)	0.579			0.000	10/04	0.040	10/05	0.180	10/06	Continuing	Continuing		
Management Support	WX	NSWC, Panama City	0.304	0.285	10/03	0.480	10/04	0.265	10/05	0.060	10/06	Continuing	Continuing		
													0.000		
													0.000		
Subtotal Management			2.513	0.662		0.690		0.971		0.910		Continuing	Continuing		
Remarks:															
Total Cost			71.050	10.505		3.493		11.539		11.882		Continuing	Continuing		
Remarks:															

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**Exhibit R-4a, Schedule Detail**  
(Exhibit R-4a, page 16 of 45)



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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures					PROJECT NUMBER AND NAME 2427/2883 Organic Airborne and Surface Influence Sweep					
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	39.197	14.255	11.097	13.985	12.478	4.470	0.000	0.000	11.170	Continuing	Continuing
RDT&E Articles Qty			3								3

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

The OASIS system is a towed Minesweeping System that is deployed from specially configured MH-60S helicopters in support of the Carrier Strike Groups (CSG) and Expeditionary Strike Groups (ESG). The system provides a rapid response sweeping capability against bottom and moored, buried, acoustic and magnetic, or combination acoustic/magnetic influence mines in support of mine clearance operations where mine hunting is ineffective. The system consists of a towed body, tow and sweep cable systems, power inverter, power distribution unit and storage/shipping containers. System interfaces with the MH-60S helicopter include the carriage, stream, tow and recovery system and the common console. The program is currently in the SD&D phase where three engineering development models (EDMs) will be developed for test and evaluation. Production is planned to begin with LRIP in FY07 and full rate production to start in FY08. A Pre-Planned Product Improvement (P3I) program will be initiated to develop an autonomous sweep capability in FY11.

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Exhibit R-2a, RDTEN Project Justification  
(Exhibit R-2a, page 17 of 45)

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>																					
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME <b>0604373N Airborne Mine Countermeasures</b>	PROJECT NUMBER AND NAME <b>2427/2883 Organic Airborne and Surface Influence Sweep</b>																						
<b>B. Accomplishments/Planned Program</b>																								
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></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;">1.827</td><td style="text-align: center;">1.559</td><td style="text-align: center;">1.936</td><td style="text-align: center;">0.954</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td style="text-align: center;">3</td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.827	1.559	1.936	0.954	RDT&E Articles Quantity	3								
	FY 04	FY 05	FY 06	FY 07																				
Accomplishments/Effort/Subtotal Cost	1.827	1.559	1.936	0.954																				
RDT&E Articles Quantity	3																							
<div style="border: 1px solid black; min-height: 60px; margin-top: 10px;"></div>																								
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></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;">11.063</td><td style="text-align: center;">8.507</td><td style="text-align: center;">11.087</td><td style="text-align: center;">11.088</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	11.063	8.507	11.087	11.088	RDT&E Articles Quantity									
	FY 04	FY 05	FY 06	FY 07																				
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	FY 04	FY 05	FY 06	FY 07																				
Accomplishments/Effort/Subtotal Cost	1.365	1.031	0.962	0.436																				
RDT&E Articles Quantity																								
Total	14.255	11.097	13.985	12.478																				
<div style="border: 1px solid black; min-height: 60px; margin-top: 10px;"></div>																								

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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-5			0604373N Airborne Mine Countermeasures			2427/2883 Organic Airborne and Surface Influence Sweep				
(U) C. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. &amp; Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To <u>Complete</u>	Total <u>Cost</u>
424800 OPN	0.000	0.000	0.000	7.434	11.550	11.606	0.000	0.000	0.000	30.590
(U) D. ACQUISITION STRATEGY:										
After Milestone B review in FY02, a SD&D contract was awarded. In FY07, following a successful DT and MS C, LRIP procurement options will be exercised. In FY08 after a successful OT Full rate production will begin.										

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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-5			Airborne Mine Countermeasures/0604373N			2427/2883 Organic Airborne and Surface Influence Sweep								
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/Software Development	C/CPFF	EDO Corp.	1.722										1.722	
Hardware/Software Development	C/CPIF	EDO Corp.	6.045	1.827	10/03	1.559	10/04	1.936	10/05	0.954	10/06	Continuing	Continuing	
Hardware/Software Development	SS/CPFF	Aeptec Microsystems Inc	5.898									Continuing	Continuing	
		Rockville, MD											0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Product Development			13.665	1.827		1.559		1.936		0.954		Continuing	Continuing	
Remarks:														
Engineering Services	WX	NUWC Keyport	0.659										0.659	
Engineering Services	C/CPIF	EDO Corp	5.656	4.558	10/03	1.104	10/04	1.375	10/05	2.120	10/06	Continuing	Continuing	
Engineering Services	WX	NSWC Panama City	7.211	0.813	10/03	1.693	10/04	2.096	10/05	0.655	10/06	Continuing	Continuing	
Engineering Services	WX	NSWC Carderock MD	0.725										0.725	
Engineering Services/ILS	VAR	Various	0.548										0.548	
Engineering Services	PD	ONR	1.367	2.098	10/03	1.100	10/04	1.890	10/05	1.441	10/06	Continuing	Continuing	
ILS Functions	C/CPIF	EDO Corp	1.396	1.023	10/03	1.065	10/04	0.441	10/05	0.400	10/06	Continuing	Continuing	
ILS Functions	WX	NSWC Panama City	1.181	0.053	10/03	0.311	10/04	0.387	10/05	0.404	10/06	Continuing	Continuing	
Subtotal Support			18.743	8.545		5.273		6.189		5.020		Continuing	Continuing	
Remarks:														

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Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 20 of 45)

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## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>				
APPROPRIATION/BUDGET ACTIVITY <b>RDTE&amp;E, N / BA-5</b>			PROGRAM ELEMENT <b>0604373N Airborne Mine Countermeasures</b>			PROJECT NUMBER AND NAME <b>2427/2883 Organic Airborne and Surface Influence Sweep</b>								
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
Test and Evaluation Functions													0.000	
T&E Functions	C/CPIF	EDO Corp	2.659	1.299	10/03	1.172	10/04	1.386	10/05	1.450	10/06	Continuing	Continuing	
T&E Functions	WX	NSWC Panama City, FL	1.286	1.552	10/03	2.062	10/04	3.512	10/05	4.618	10/06	Continuing	Continuing	
T&E Functions	VAR	Various	0.554										0.554	
													0.000	
													0.000	
													0.000	
Subtotal T&E			4.499	2.851		3.234		4.898		6.068		Continuing	Continuing	
Remarks:														
Management Support													0.000	
Management Support	VAR	Various	2.125	1.002	10/03	1.001	10/04	0.932	10/05	0.406	10/06	Continuing	Continuing	
Management Support		Travel	0.165	0.030	10/03	0.030	10/04	0.030	10/05	0.030	10/06	Continuing	Continuing	
													0.000	
													0.000	
													0.000	
Subtotal Management			2.290	1.032		1.031		0.962		0.436		Continuing	Continuing	
Remarks:														
Total Cost			39.197	14.255		11.097		13.985		12.478		Continuing	Continuing	
Remarks:														

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Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 21 of 45)

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**Exhibit R-4, Schedule Profile**  
(Exhibit R-4, page 22 of 45)

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**CLASSIFICATION:**

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**Exhibit R-4a, Schedule Detail**  
(Exhibit R-4a, page 23 of 45)

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures				PROJECT NUMBER AND NAME 2473 Airborne Mine Neutralization 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	69.731	46.083	29.367	23.887	20.281	18.049	5.550	0.000	0.000	0.000	212.948
RDT&E Articles Qty			AMNS 3		RAMICS 2						5
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:											
<p>The Airborne Mine Neutralization Systems (AMNS) research and development effort was restarted in FY97 in Project 0529 P.E. 0604373N. AMNS will provide the MH-60S helicopter with the capability to neutralize bottom and moored mines using an airborne delivered expendable mine neutralization device. The AMNS is being tested on the MH-53E helicopter to prove out the neutralization effectiveness. The system will also be deployed from the MH-60S helicopter and will provide organic airborne mine defense for Carrier Strike Groups (CSG) and Expeditionary Strike Groups (ESG). This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA). MH-60S Block 2B aligned AMNS, extends SD&amp;D phase out later in the FYDP. MS C will be based on Alternate Platform tests to be conducted in FY05 and FY06 as well as Contractor Testing (CT) on the MH-60S helicopterto be conducted in FY06 and FY07.</p> <p>The AN/AWS-2 Rapid Airborne Mine Clearance System (RAMICS) MIW program began Concept &amp; Technology Development phase in FY00. RAMICS will satisfy the U.S. Navy's need for a rapid mine clearance capability required to neutralize near-surface and surface (floating) moored sea mines. RAMICS will use geo-location data provided by other mine hunting and mine reconnaissance systems, use a laser system to reacquire targets and to direct the fire of supercavitating projectiles that will render the mines inoperable. RAMICS includes the following major subsystems and components:</p> <p>(a) Gun Subsystem (including gun and turret)</p> <p>(b) Munition Subsystem - MK258 Mod 1 Armor Piercing, Fin Stabilized, Discarding Sabot-Tracer (APFSDS-T)</p> <p>(c) Targeting Sensor Subsystem.</p> <p>(d) Fire Control Subsystem.</p> <p>(e) Software</p> <p>The system will be deployed from the MH-60S helicopter and will provide organic airborne mine defense for Carrier Strike Groups (CSG) and Expeditionary Strike Groups (ESG). This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA). Some interest in the following areas has been expressed: search and rescue; surface fire support; protection/offense against small craft/vehicles; air to air operations; very shallow water MCM; swimmer defense and torpedo defense; and ASW capabilities. this program received a Congressional Add in FY04 (\$2M) for RAMICS ASW capabilities. RAMICS ASW capabilities will provide a reliable rapid response weapon system to effectively defeat large surface, near surface, and underwater targets in the littorals. RAMICS program was restructured to align with MH-60S Helicopter Block 2B schedule. Plan includes the use of an alternate test platform to mitigate risk and schedule impacts.</p>											

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Exhibit R-2a, RDTEN Project Justification  
(Exhibit R-2a, page 24 of 45)

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME <b>0604373N Airborne Mine Countermeasures</b>	PROJECT NUMBER AND NAME <b>2473 Airborne Mine Neutralization Systems</b>		

**(U) B. Accomplishments/Planned Program**

AMNS	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	14.017	15.416	7.687	12.829
RDT&E Articles Quantity		3		

**FY04 ACCOMPLISHMENTS:**  
Continued design, develop software, and integrated aboard MH-60S, conducted 2105 munition safety testing and environmental testing that includes tests for sympathetic detonation, a 40 foot drop, temperature and humidity, vibration, bullet impact, fragment impact, slow cook-off, and fast cook-off. Continued to monitor Contractor performance and technical review of CDRLs.

**FY05 PLAN:** Prepare documentation for MH-60S contract award (production), complete development of alternate platform tactical software, and begin alternate platform testing. .

**FY06 PLAN:** Complete alternate platform testing. Begin MH-60S Contractor Testing (CT). Continue to monitor Contractor performance and technical review of CDRLs. Develop program documentation to achieve MS C.

**FY07 PLAN:** Complete MH-60S contractor test and initiate MH-60S TECHEVAL. Achieve MS C decision. Exercise Low Rate Initial Production (LRIP) option in SD&D contract.

RAMICS	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	32.066	13.951	16.200	7.452
RDT&E Articles Quantity				2
Total	46.083	29.367	23.887	20.281

**FY04 ACCOMPLISHMENTS:**  
Continued RAMICS MIW design, development under SD&D contract. Conducted DT-IIA by analysis and Critical Design Review (CDR) in May 2004. Started RAMICS ASW capabilities (Sea Sniper) design. Congressional Add for Seasniper capability. Supported DODIG audit.

**FY05 PLAN:** Continue RAMICS design, develop, and fabrication of Engineering Development Models (EDMs).

**FY06 PLAN:** Conduct contractor testing (CT) and Development testing (DT) on alternate platform.

**FY07 PLAN:** Complete DT on alternate platform. Conduct ground test with regression analysis and start captive carriage and jettison testing on the MH-60S helicopter.

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME <b>0604373N Airborne Mine Countermeasures</b>			PROJECT NUMBER AND NAME <b>2473 Airborne Mine Neutralization System</b>					
<b>(U) C. OTHER PROGRAM FUNDING SUMMARY:</b>										
<u>Line Item No. &amp; 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>
AMNS 424800 OPN	0.000	0.000	0.000	4.469	4.745	14.615	0.000	0.000	0.000	23.829
AMNS 422500 WPN	0.000	0.000	1.515	4.667	3.514	5.716	4.503	4.282	CONT.	CONT.
<b>(U) D. ACQUISITION STRATEGY:</b>										
In FY07 following a successful alternate platform test, contractor test, and MS-C, an LRIP award is planned for two (2) MH-60S systems. FRPDR is planned for FY09. Full and open competition is planned for the AMNS (MH-60S) FRP contract.										
<b>AMNS ONLY</b>										

R-1 SHOPPING LIST - Item No. 107

UNCLASSIFIED

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification									DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT NUMBER AND NAME <b>0604373N Airborne Mine Countermeasures</b>			PROJECT NUMBER AND NAME <b>2473 Airborne Mine Neutralization System</b>				
<b>(U) D. OTHER PROGRAM FUNDING SUMMARY:</b>										
<u>Line Item No. &amp; 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>
RAMICS 422500 WPN	0.000	0.000	0.000	0.000	0.000	10.864	24.723	0.000	0	35.587
RAMICS 0019600 PANMC	0.000	0.000	0.000	0.000	0.585	0.586	1.831	0.000	0	3.002
<b>(U) E. ACQUISITION STRATEGY:</b>										
RAMICS: Achieved MS B in July 2002 and awarded SD&D contract in August 2002 based on a full and open competition. Following MS C , a competitive LRIP award is planned for one (2) systems for fleet use. Full Rate Production (FRP) option is scheduled to start in FY10.										

R-1 SHOPPING LIST - Item No. 107

UNCLASSIFIED

# UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: <b>February 2005</b>				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
<b>RDT&amp;E, N / BA-5</b>			<b>0604373N Airborne Mine Countermeasures</b>			<b>2473 Airborne Mine Neutralization System</b>								
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/Software Development	C/845	Lockheed Syracuse, NY	3.331										3.331	
Hardware/Software Development	VAR	Various	3.359										3.359	
Hardware/Software Development	WX	NSWC Panama City, FL	0.761	0.512	10/03	0.173	10/04						1.446	
Hardware/Software Development	C/CPIF	Raytheon, Portsmouth RI	6.009	5.898	10/03	3.769	10/04						15.676	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Product Development			13.460	6.410		3.942		0.000				0.000	23.812	
Remarks: AMNS Only														
Engineering Services	VAR	Various	3.300										3.300	
Engineering Services	WX	NSWC Panama City, FL	8.374	3.329	10/03	3.108	10/04	2.681	10/05	3.346	10/06	3.800	24.638	
Engineering Services	C/CPIF	Raytheon, Portsmouth RI	1.951	2.943	10/03	1.210	10/04	0.656	10/05	2.424	10/06	1.854	11.038	
													0.000	
ILS Functions	WX	NSWC Panama City, FL	3.061	0.158	10/03	0.115	10/04	0.089	10/05				3.423	
ILS Functions	SS/BOA	Lockheed Syracuse, NY	0.227										0.227	
ILS Functions	C/CPIF	Raytheon, Portsmouth RI	0.561	0.699	10/03	0.475	10/04	0.320	10/05				2.055	
													0.000	
Subtotal Support			17.474	7.129		4.908		3.746		5.770		5.654	44.681	
Remarks: AMNS ONLY														

R-1 SHOPPING LIST - Item No. 107

# UNCLASSIFIED

**Exhibit R-3, Project Cost Analysis**  
(Exhibit R-3, page 28 of 45)

# UNCLASSIFIED

## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>				
APPROPRIATION/BUDGET ACTIVITY <b>RDTE, N / BA-5</b>			PROGRAM ELEMENT <b>0604373N Airborne Mine Countermeasures</b>			PROJECT NUMBER AND NAME <b>2473 Airborne Mine Neutralization System</b>								
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	VAR	Various	0.300										0.300	
Developmental Test & Evaluation	WX	CSS Panama City, FL	8.647			2.092	10/04	0.671	10/05	2.865	10/06	0.000	14.275	
Developmental Test & Evaluation	SS/BOA	Lockheed Syracuse, NY	1.254										1.254	
Developmental Test & Evaluation	C/CPIF	Raytheon, Portsmouth RI				4.064	10/04	2.871	10/05	3.790	10/06	0.000	10.725	
Operational Test & Evaluation	WX	COTF Norfolk, VA	1.388									3.475	4.863	
Operational Test & Evaluation	SS/BOA	Lockheed Syracuse, NY	0.767										0.767	
													0.000	
Subtotal T&E			12.356	0.000		6.156		3.542		6.655		3.475	32.184	
Remarks:														
Program Management Support	VAR	Various	1.038	0.438	10/03	0.370	10/04	0.359	10/05	0.364	10/06	0.268	2.837	
Travel			0.134	0.040	10/03	0.040	10/04	0.040	10/05	0.040	10/06	0.040	0.334	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Management			1.172	0.478		0.410		0.399		0.404		0.308	3.171	
Remarks:														
Total Cost			44.462	14.017		15.416		7.687		12.829		9.437	103.848	
Remarks: AMNS ONLY														

R-1 SHOPPING LIST - Item No. 107

UNCLASSIFIED

Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 29 of 45)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:										
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME													
RDT&E, N / BA-5									0604373N Airborne Mine Countermeasures												2473 Airborne Mine Neutralization System													
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						
Acquisition Milestones															MS C △																			
Prototype Phase	SD&D Phase (MH-60S)																																	
EDM Contract Award																																		
Significant Events		CDR △			Alternate Platform Testing ▬								Contractor Testing (MH-60S) ▬																					
EDM Deliveries																																		
Test & Evaluation Milestones																																		
Development Test																																		
Operational Test																																		
Production Milestones																																		
PROD (MH-53E) FY 03																																		
LRIP (MH-60S) FY 06																																		
FRP (MH-60S) FY 07																																		
Deliveries																																		

AMNS ONLY

R-1 SHOPPING LIST - Item No. 107

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

UNCLASSIFIED

Exhibit R-4, Schedule Profile  
(Exhibit R-4, page 30 of 45)

**UNCLASSIFIED**

**CLASSIFICATION:**

[illegible]

R-1 SHOPPING LIST - Item No. 107

**UNCLASSIFIED**

**Exhibit R-4a, Schedule Detail**  
(Exhibit R-4a, page 31 of 45)

# UNCLASSIFIED

## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N / BA-5			0604373N Airborne Mine Countermeasures				2473 Airborne 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
Hardware/Software Development	C/CPIF	Northrop Grumman, FL	5.239	13.691	10/03	5.626	10/04	4.339	11/05	0.649	10/06		29.544	
Hardware/Software Development	WX	CSS - Panama City, FL	1.634			0.614	01/01						2.248	
Hardware/Software Development	RCP	Crane - Crane, IN	1.381										1.381	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Product Development			8.254	13.691		6.240		4.339		0.649		0.000	33.173	
Remarks: This is RAMICS only .														
Engineering Services	C/CPIF	Northrop Grumman, FL	2.177	5.205	10/03	1.290	10/04	1.293	10/05	3.440	10/06	1.500	14.905	
Engineering Services	WX	CSS - Panama City, FL	4.960	1.545	10/03	0.466	10/04	0.322	10/05	0.700	10/06	0.600	8.593	
Engineering Services	Various	Crane - Crane, IN	2.200			0.200				0.300	10/06	0.400	3.100	
Engineering Services	WX	Various	0.725	0.781	10/03			0.880	10/05	0.050	10/06	0.500	2.936	
													0.000	
ILS Functions	C/CPIF	Northrop Grumman, FL	1.309	2.957	10/03	1.783	10/04	0.943	10/05			1.000	7.992	
ILS Functions	WX	CSS Panama City, FL	0.484	0.401	10/03	0.260	10/04	0.255	10/05			0.764	2.164	
ILS Functions	Various	Various		1.500	10/03			0.280	10/05				1.780	
Subtotal Support			11.855	12.389		3.999		3.973		4.490		4.764	41.470	
Remarks: This is RAMICS only .														

R-1 SHOPPING LIST - Item No. 107

UNCLASSIFIED

Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 32 of 45)



# UNCLASSIFIED

## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>				
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT <b>0604373N Airborne Mine Countermeasures</b>			PROJECT NUMBER AND NAME <b>2473 Airborne Mine Neutralization System</b>								
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
Test & Evaluation	C/CPIF	Northrop Grumman, FL	0.082	2.248	10/03	0.489	10/04	3.590	10/05	0.416	10/06	1.521	8.346	
Test & Evaluation	WX	CSS - Panama City, FL	1.130	0.100	10/03	1.917	10/04	2.885	10/05	0.400	10/06	2.000	8.432	
Test & Evaluation	WX	Crane - Crane, IN	0.500			0.216	10/04	0.190	10/05	0.167	10/06	0.217	1.290	
Test & Evaluation	Various	Various	1.646	3.142	10/03	0.769	10/04	0.893	10/05	1.000	10/06	5.000	12.450	
													0.000	
													0.000	
													0.000	
Subtotal T&E			3.358	5.490		3.391		7.558		1.983		8.738	30.518	
Remarks: This is RAMICS only .														
Management Support	Various	Various	1.684	0.462	10/03	0.300	10/04	0.300	10/05	0.300	10/06	0.600	3.646	
Management Support		Travel	0.118	0.034	10/03	0.021	10/04	0.030	10/05	0.030	10/06	0.060	0.293	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Management			1.802	0.496		0.321		0.330		0.330		0.660	3.939	
Remarks: This is RAMICS only .														
Total Cost			25.269	32.066		13.951		16.200		7.452		14.162	109.100	
Remarks: This is RAMICS only .														

R-1 SHOPPING LIST - Item No. 107

UNCLASSIFIED

Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 33 of 45)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME												
RDT&E, N / BA-5								0604373N Airborne Mine Countermeasures												2473 Airborne Mine Neutralization System												
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				
Acquisition Milestones																			MSC △							FRPD △	IOC ☆					
Program Phases	System Development and Demonstration (SD&D) <div></div>																															
Significant Events			CDR ▲																													
EDM Delivery															EDM (2) △																	
Test & Evaluation Milestones																																
Development Test																CT/DT Alt Plat																
Operational Test																	CT (MH-60S)															
Production Milestones																																
LRIP FY09																																
FRP FY 10																																
Deliveries																																

RAMICS ONLY

R-1 SHOPPING LIST - Item No. 107

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

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Exhibit R-4, Schedule Profile  
(Exhibit R-4, page 34 of 45)

**UNCLASSIFIED**

**CLASSIFICATION:**

[illegible]

R-1 SHOPPING LIST - Item No. 107

**UNCLASSIFIED**

**Exhibit R-4a, Schedule Detail**  
(Exhibit R-4a, page 35 of 45)

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: <b>February 2005</b>			
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME <b>0604373N Airborne Mine Countermeasures</b>				PROJECT NUMBER AND NAME <b>4026 - C4I, Tactics, and Mission Planning</b>					
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	<b>0.000</b>	<b>0.000</b>	<b>1.257</b>	<b>1.827</b>	<b>1.560</b>	<b>1.371</b>	<b>1.310</b>	<b>1.335</b>	<b>1.356</b>	<b>Continuing</b>	<b>Continuing</b>
RDT&E Articles Qty											<b>0</b>
<b>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</b>  The C4I, Tactics, Mission Planning, and Post-Mission Analysis (CTMP) program began in FY97 as an initiative to provide near-real-time data linking of mine sensor data between the MH-53E aircraft and ship- and/or shore-based command centers. Additionally, the program began to develop MEDAL modules for each "Next Generation" system; and plans to develop "Next Generation" tactics; provide threat data and system requirements and capabilities to the MEDAL software development effort; and develop a common post-mission analysis tool for "Next Generation" systems. This program was previously funded under PE-0603502N, project 1233.											

R-1 SHOPPING LIST - Item No. 107

UNCLASSIFIED

Exhibit R-2a, RDTEN Project Justification  
(Exhibit R-2a, page 36 of 45)

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME <b>0604373N Airborne Mine Countermeasures</b>	PROJECT NUMBER AND NAME <b>4026 - C4I, Tactics, and Mission Planning</b>		
<b>(U) B. Accomplishments/Planned Program</b>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.625	0.570	0.346
RDT&E Articles Quantity				
Mission Planning and Post Mission Analysis (MEDAL)				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.310	0.745	0.740
RDT&E Articles Quantity				
Common Post Mission Analysis (PMA)				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.322	0.512	0.474
RDT&E Articles Quantity				
Total		1.257	1.827	1.560
Tactics Evaluation, Data Bases, and Algorithms Tactics Documentation and Training				

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UNCLASSIFIED

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2005</b>																								
APPROPRIATION/BUDGET ACTIVITY <b>RDTE&amp;E, N / BA-5</b>			PROGRAM ELEMENT NUMBER AND NAME <b>0604373N Airborne Mine Countermeasures</b>			PROJECT NUMBER AND NAME <b>4026 - C4I, Tactics, and Mission Planning</b>																									
<p><b>(U) C. OTHER PROGRAM FUNDING SUMMARY:</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Line Item No. &amp; 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 colspan="11" style="height: 100px; vertical-align: top; padding-top: 20px;">N/A</td> </tr> </tbody> </table> <p><b>(U) D. ACQUISITION STRATEGY:</b></p> <p>An initial Common Post-Mission Analysis (CPMA) capability for the OAMCM systems will be developed by Northrop Grumman, Melbourne, FL. This will be a cost-plus effort contracted through NSWPC-PC. The CPMA project will leverage existing system-specific developmental PMA software, maximize commonality, and host the software on a common shipboard computer. Development of OAMCM-system-specific MEDAL modules will be performed by SAIC, McLean, VA. This effort will include post-test updates for the system-specific MEDAL modules to allow transition to a Fleet release. NSWPC-PC will contract for this work on a time and materials basis. The tactics development, tactics training, and tactics algorithms/database efforts are performed by NSWPC-PC. These efforts will provide reach back support as the OAMCM systems begin to be fielded; will develop modifications to environmental databases necessary to support OAMCM mission planning; will update the MIW Tactics Continuum to address OAMCM; and will update the gear and mine database for threats addressed by the OAMCM systems.</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	N/A										
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost																					
N/A																															

R-1 SHOPPING LIST - Item No. 107

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604373N Airborne Mine Countermeasures			PROJECT NUMBER AND NAME 4026 - C4I, Tactics, and Mission Planning								
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/Software Development	RX	SAIC				0.300	10/04	0.455	10/05	0.255	10/06	Continuing	Continuing	
Hardware/Software Development	RCP	Northrop Grumman				0.295	10/04					0.000	0.295	
Hardware/Software Development	WX	NSWC, Panama City, FL						0.424	10/05	0.404	10/06	Continuing	Continuing	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Product Development			0.000	0.000		0.595		0.879		0.659		0.000	2.133	
Remarks:														
Engineering Services	RX	SAIC				0.214	10/04	0.000				0.000	0.214	
Engineering Services	WR	NAVO				0.015	10/04	0.015	10/05	0.015	10/06	Continuing	Continuing	
Engineering Services	VAR	Various						0.369	10/05	0.270	10/06	Continuing	Continuing	
Engineering Services	WX	NSWC, Panama City, FL				0.306	10/04	0.404	10/05	0.416	10/06	Continuing	Continuing	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Support			0.000	0.000		0.535		0.788		0.701		Continuing	Continuing	
Remarks:														

R-1 SHOPPING LIST - Item No. 107

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604373N Airborne Mine Countermeasures			4026 - C4I, Tactics, and Mission Planning								
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
Test and Evaluation	WX	NSWC, Panama City, FL								0.040	10/06	Continuing	Continuing	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.040		Continuing	Continuing	
Remarks:														
Management Support	WX	NSWC, Panama City, FL						0.140	10/05	0.140	10/06	Continuing	Continuing	
Management Support	RX	SAIC				0.127	10/04	0.020	10/05	0.020	10/06	Continuing	Continuing	
													0.000	
													0.000	
													0.000	
Subtotal Management			0.000	0.000		0.127		0.160		0.160		Continuing	Continuing	
Remarks:														
Total Cost			0.000	0.000		1.257		1.827		1.560		Continuing	Continuing	
Remarks:														

R-1 SHOPPING LIST - Item No. 107

UNCLASSIFIED



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**Exhibit R-4, Schedule Profile**  
(Exhibit R-4, page 41 of 45)

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**CLASSIFICATION:**

[illegible]

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**Exhibit R-4a, Schedule Detail**  
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures				PROJECT NUMBER AND NAME 9179 Surface Navy Integrated Undersea Tactical Technology					
COST (\$ in Millions)	Prior Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost	3.692	0.000	0.000	0.000	1.486	0.000	0.000	0.000	0.000	0.000	5.178
RDT&E Articles Qty											0
<p><b>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</b> This congressional add for Surface Navy Integrated Undersea Tactical Technology (SNIUTT) will be used to develop AN/AQS-14, AN/AQS-24 and AN/AQS-20A sensor training module for a LAN-based Surface Network Embedded Analysis and Tactical Trainer (SNEATT).</p>											

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA -5</b>	PROGRAM ELEMENT NUMBER AND NAME <b>0604373N Airborne Mine Countermeasures</b>	PROJECT NUMBER AND NAME <b>Q9179 Surface Navy Integrated Undersea Tactical Technology</b>		
<b>B. Accomplishments/Planned Program</b>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	1.486	0.000	0.000
RDT&E Articles Quantity				
<div>Congressional Add. - Investigate development of an AN/AQS-14, AN/AQS-24 and AN/AQS-20A sensor training module for a LAN-based Surface Network Embedded Analysis and Tactical Trainer (SNEATT).</div>				

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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-5			0604373N Airborne Mine Countermeasures					9179 Surface Navy Integrated Undersea Tactical Technology (SNIUTT)						
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/Software Development	C/CPFF	AAC, Ronkonkoma, NY	3.359			1.236	03/05						4.595	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Product Development			3.359			1.236		0.000		0.000		0.000	4.595	
Remarks:														
Development Support	WR	NSWC, PC Panama City, FL	0.333			0.250	03/05						0.583	
Software Development													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			0.333			0.250		0.000		0.000		0.000	0.583	
Remarks:														
Total Cost			3.692			1.486		0.000		0.000		0.000	5.178	

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