

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2003				
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5						R-1 ITEM NOMENCLATURE 0604373N Airborne Mine Countermeasures					
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
Total PE Cost	249.403	58.363	73.728	88.514	49.954	13.400					533.362
Airbone Mine Hunt System / Q0529/Q2884*	164.823	10.741	16.805	17.175	4.968						214.512
ALMDS / Q2047	39.950	13.333	18.049	10.790	3.739						85.861
OASIS / Q2427/Q2883*	13.983	13.403	14.022	14.790	11.307	0.847					68.352
AMNS / Q2473/Q9069*	30.647	20.886	21.787	45.759	29.940	12.553					161.572
SNIUTT / Q9179			3.065								3.065
											0.000
Quantity of RDT&E Articles	3		2		5						10
* Funding includes the following: FY02 Congressional Adds: AQS-20 Airborne Minehunting Sonar-\$2.423M; RTASS Project -\$2.700M; MH-60S Untethered Airborne Mine Neutralization-\$4.155M FY03 Congressional Adds: RTASS Project -\$0.977M; Surface Navy Integrated Undersea Tactical Technology - \$3.065M											
(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 Battle Group/Amphibious Ready Group (CVBG/ARG) 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  
(Exhibit R-2, page 1 of 39)

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: <b>February 2003</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>Q0529/Q2884 Airborne Mine Hunt Systems</b>					
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	<b>164.823</b>	<b>10.741</b>	<b>16.805</b>	<b>17.175</b>	<b>4.968</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>214.512</b>
RDT&E Articles Qty											<b>0</b>
<p><b>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</b></p> <p>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 minehunting sonar component for the Remote Minehunting System (RMS). The AN/AQS-20A will be developed to meet the requirements of the Organic MCM platforms. Note: The AN/AQS-20/X nomenclature designation to AN/AQS-20A was approved May 02.</p>											

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Exhibit R-2a, RDTEEN Project Justification  
(Exhibit R-2a, page 2 of 39)

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## CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification					DATE:
					February 2003
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /BA-5				0604373N Airborne Mine Countermeasures	
(U) B. PROGRAM CHANGE SUMMARY:					
(U) B. PROGRAM CHANGE SUMMARY:					
		FY 2002	FY 2003	FY 2004	FY 2005
Previous President's Budget		61.097	67.240	67.027	24.861
Current BES/President's Budget		58.363	73.728	88.514	49.954
Total Adjustments		-2.734	6.488	21.487	25.093
Summary of Adjustment					
SBIR/STTR Tansfer		-1.164			
Misc Adjustments		1.570	6.488	21.487	25.093
		-1.164	6.488	21.487	25.093
<p><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 PB03, the program schedule has been modified to incorporate platform of opportunity (MH-53) CT &amp; DT testing during FY03 to mitigate impacts of MH-60S availability. MH-53 to MH-60S Delta DT and MH-60S OT testing will be conducted during FY04 and completed in FY05 in support of acheiving a scheduled FY05 FRPD and IOC. <u>ALMDS</u> Due to a 9-month delay of a test ready MH-60S (deployment platform), Developmental Testing and Operational Testing on this platform has been rescheduled. The ALMDS program will be conducting Contractor Testing and initial Developmental Testing on an alternate platform (SH-60F). This alternate platform testing will allow for an LRIP decision to support IOC. A revised Acquisition Program Baseline is currently in route with updated schedule parameters. <u>OASIS</u> The program is currently in the SD&amp;D phase where three engineering development models (EDMs) will be developed for test and evaluation. Following the Milestone C program decision for Full Rate Production in FY 2006, a total of 44 OASIS systems will be produced to meet the inventory requirement over a five-year period. <u>AMNS</u> Due to a late approval of the Acquisition Strategy resulted in the delay of schedule for the AMNS (MH-60S) SD&amp;D contract award until FY03. Due to unexpected growth of the AMNS (MH-53E) program caused by technical and explosive safety issues, it was necessary to utilize FY01 and FY02 RDT&amp;E funds originally designated for the AMNS (MH-60S) program on the MH-53E variant. As such, the RDT&amp;E and Procurement profiles for the AMNS (MH-60S) were realigned. The impact on the procurement profile has been significant. The funding realignment has caused delay of the AMNS (MH-60S) LRIP until FY06 (IOC in FY07) with full rate production to occur between FY07 and FY11. <u>RAMICS</u> Schedule revision will award a SD&amp;D contract in Aug 02, SD&amp;D contractor's inputs, and current funding profile.</p>					

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Exhibit R-2, RDTEN Budget Item Justification  
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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2003</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>Q0529/Q2884 Airborne Mine Hunt Systems</b>																	
<b>B. Accomplishments/Planned Program</b>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 02</td> <td style="width: 15%;">FY 03</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>4.650</td> <td>6.097</td> <td>4.469</td> <td>0.581</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	4.650	6.097	4.469	0.581	RDT&E Articles Quantity				
	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost	4.650	6.097	4.469	0.581															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;"> <p>Complete EDM fabrication, including incorporation of Electro-Optic Identification (EOID) sensor capabilities. Conduct EDM testing with maintainability requirements also refurb EDMs.. Acquire EOID test units.</p> </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 02</td> <td style="width: 15%;">FY 03</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>5.631</td> <td>10.148</td> <td>11.946</td> <td>3.827</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	5.631	10.148	11.946	3.827	RDT&E Articles Quantity				
	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost	5.631	10.148	11.946	3.827															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;"> <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 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) 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.</p> </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 02</td> <td style="width: 15%;">FY 03</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.460</td> <td>0.560</td> <td>0.760</td> <td>0.560</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	0.460	0.560	0.760	0.560	RDT&E Articles Quantity				
	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost	0.460	0.560	0.760	0.560															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;"> <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.</p> </div>																			

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**Exhibit R-2a, RDTEN Project Justification**  
(Exhibit R-2a, page 4 of 39)

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: <b>February 2003</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>Q0529/Q2884 Airborne Mine Hunt Systems</b>			

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

<u>Line Item No. &amp; Name</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>FY 2008</u>	<u>FY 2009</u>	<u>To Complete</u>	<u>Total Cost</u>
424800 OPN										
AQS-20	22.114	13.061								
AQS-20A				32.095	25.548	48.465	69.268	58.732	CONT.	CONT.

**(U) E. ACQUISITION STRATEGY: \***

Procure two (2) AN/AQS-20 towed bodies in FY02 to be modified to AN/AQS-20A units. Upon successful completion of DT and MS C, Sole Source MH-60S systems procurement will begin in FY05 with a Full Rate Procurement contract following a Full Rate Production Decision Review (FRPDR).

**(U) F. MAJOR PERFORMERS: \*\***

Raytheon Corp, Portsmouth, RI - Prime development contractor. Software and hardware developer for AN/AQS-20A towed body and integration with MH-60S platform.  
 Arete Corp, Tucson, Arizona - Major Subcontractor to Raytheon Corp. Responsible for design and development of Electro-Optic Identification (EOID) capability within AN/AQS-20A towed body.  
 CSS Panama City, Fl. - Technical Design Agent. Provide AN/AQS-20A system design, development, integration and contractor oversight; ensure operational requirements are satisfied during all SD&D test events.

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**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2003</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>Q0529/Q2884 Airborne Mine Hunt Systems</b>						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware/Software Development	SS/CPIF	Raytheon, Portsmouth, RI	18.257	6.470	10/02	4.469	10/03	0.581	10/04		29.777	
Hardware/Software Development	C/CPFF	Raytheon, Portsmouth, RI	60.150								60.150	
Hardware/Software Development	WR	CSS Panama City, FL	4.966								4.966	
Hardware/Software Development	C/FP	Northrop, Grumman	4.572								4.572	
Hardware/Software Development	SS/CPIF	Raytheon, RI (Cong Add)	0.965								0.965	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			88.910	6.470		4.469		0.581		0.000	100.430	
Remarks:												
Engineering Services	WR	CSS Panama City, FL	22.003	2.200	10/02	4.100	10/03	1.737	10/04		30.040	
Engineering Services	C/CPFF	Raytheon, Portsmouth, RI	1.500	0.500	10/02						2.000	
Engineering Services	VAR	Various	49.889	1.908	10/02	1.757	10/03	0.250	10/04		53.804	
Engineering Services	SS/CPIF	Raytheon, Portsmouth, RI	1.941			1.323	10/03	0.300	10/04		3.564	
											0.000	
ILS Functions	WR	CSS Panama City, FL	4.269	0.600	10/02	0.900	10/03		10/04		5.769	
ILS Functions	SS/CPIF	Raytheon, Portsmouth, RI	0.326	0.500	10/02						0.826	
ILS Functions	VAR	Various	0.736					0.700	10/04		1.436	
Subtotal Support			80.664	5.708		8.080		2.987		0.000	97.439	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2003</b>		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDTE, N / BA-5</b>			<b>0604373N Airborne Mine Countermeasures</b>			<b>Q0529/Q2884 Airborne Mine Hunt Systems</b>						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
T&E Functions	WR	CSS Panama City	3.409	3.367	10/02	3.104	10/03	0.400	10/04		10.280	
T&E Functions	SS/CPIF	Raytheon, Portsmouth, RI	0.422			0.562	10/03	0.300	10/04		1.284	
T&E Functions	VAR	Various	0.543	0.700	10/02	0.200	10/03	0.140	10/04		1.583	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			4.374	4.067		3.866		0.840		0.000	13.147	
Remarks:												
Management Support			1.287	0.500	10/02	0.700	10/03	0.500	10/04		2.987	
Travel			0.329	0.060	10/02	0.060	10/03	0.060	10/04		0.509	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			1.616	0.560		0.760		0.560		0.000	3.496	
Remarks:												
Total Cost			175.564	16.805		17.175		4.968		0.000	214.512	
Remarks:												

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Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 7 of 39)

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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												Q0529/Q2884 Airborne Mine Hunt Systems											
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009						
	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 △			FRP Dec △	IOC ☆																			
SD&D Phase																																			
EDMs Delivery																																			
Software Delivery V 5.X SW Delivery																																			
Test & Evaluation Milestones																																			
Development Test																																			
Operational Test																																			
Production Milestones																																			
LRIP I FY 05																																			
FRP FY 06																																			
Deliveries																																			

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

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Exhibit R-4, Schedule Profile  
(Exhibit R-4, page 8 of 39)



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**CLASSIFICATION:**

[illegible]

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**Exhibit R-4a, Schedule Detail**  
(Exhibit R-4a, page 9 of 39)

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2003			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Counterneasures					PROJECT NUMBER AND NAME Q2047 Airborne Laser Mine Detection System					
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	39.950	13.333	18.049	10.790	3.739	0.000	0.000	0.000	0.000	0.000	85.861
RDT&E Articles Qty	3										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, drifting, 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 Battle Groups and Amphibious Ready Groups. The system represents a capability that does not exist in the current Mine Countermeasures (MCM) inventory.

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Exhibit R-2a, RDTEN Project Justification  
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EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2003</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>Q2047 Airborne Laser Mine Detection System</b>																	
<b>(U) 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 02</th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">11.495</td><td style="text-align: center;">9.427</td><td style="text-align: center;">2.259</td><td></td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">EDM development, fabrication, software coding. Continue to conduct technical studies, MH-60 S Interface, C4I Interface, and MEDAL.</div>						FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	11.495	9.427	2.259		RDT&E Articles Quantity				
	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost	11.495	9.427	2.259																
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 02</th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">1.838</td><td style="text-align: center;">2.505</td><td style="text-align: center;">2.191</td><td style="text-align: center;">1.183</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">Integrated Logistics Support and delivery of Technical Data Package Continue to monitor contractor performance and technical review of CDRLs.</div>						FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	1.838	2.505	2.191	1.183	RDT&E Articles Quantity				
	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost	1.838	2.505	2.191	1.183															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 02</th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">6.117</td><td style="text-align: center;">6.340</td><td style="text-align: center;">2.556</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">Contractor Testing, Developmental Testing-IIB/Operational Assessment on platform of opportunity (FY03) Developmental Testing-IIC, and begin Operational Testing (OPEVAL) (FY04) Completion of Operational Testing (OPEVAL) (FY05)</div>						FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		6.117	6.340	2.556	RDT&E Articles Quantity				
	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		6.117	6.340	2.556															
RDT&E Articles Quantity																			

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APPROPRIATION/BUDGET ACTIVITY <b>RDTE, N / BA-5</b>			PROGRAM ELEMENT NUMBER AND NAME <b>0604373N Airborne Mine Countermeasures</b>			PROJECT NUMBER AND NAME <b>Q2047 Airborne Laser Mine Detection System</b>			

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

Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
424800 OPN	0.000	0.000	11.120	21.407	23.358	52.418	53.584	54.542	0.000	216.429

**(U) E. 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 underrun. Successful completion of DT-IIB, on an alternate platform (SH-60F), will support a Low-Rate Initial Production (LRIP) decision (2 units), which will be an option to the current E&MD contract. These LRIP units will be used to meet initial capability requirements. After a successful OPEVAL on the intended deployment platform (MH-60S), Full-Rate Production will begin. The first full-rate production lot will be an option to the current E&MD contract to prove out the producibility of the system. The remaining 38 production units will be awarded after a full and open competition.

**(U) F. MAJOR PERFORMERS: \*\***

Northrop Grumman, Melbourne, FL - Prime Contractor for Engineering, Manufacture Development, awarded 4/00.  
 Costal Systems Station, Panama City, FL - Technical Direction Agent

R-1 SHOPPING LIST - Item No. 111

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**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2003</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>Q2047 Airborne Laser Mine Detection System</b>						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware/Software Development	WR	CSS, Panama City	0.465	0.250	10/02	0.217	10/03				0.932	
Hardware/Software Development	RCP	CSS, (Prime Contractor)	19.086	1.454	10/02	0.433	10/03				20.973	
Hardware/Software Development	RCP	Metron	0.625								0.625	
Hardware/Software Development	RCP	CSS, Panama City		0.200	10/02	0.200	10/03				0.400	
Hardware/Software Development		SAIC		0.400	10/02						0.400	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			20.176	2.304		0.850		0.000		0.000	23.330	
Remarks:												
Engineering Services	WR	CSS, Panama City	7.441	1.173	10/02	0.677	10/03	0.300	10/04		9.591	
Engineering Services	RCP	CSS, (Prime Contractor)	9.632	0.780	10/02	0.100	10/03				10.512	
Engineering Services	VAR	Various	4.080	2.638	10/02	1.418	10/03	0.449	10/04		8.585	
Engineering Services	RCP	Metron/NRL Stennis	2.871								2.871	
ILS Functions	WR	CSS, Panama City	1.097	0.498	10/02	0.375	10/03	0.219	10/04		2.189	
ILS Functions	RCP	CSS, (Prime Contractor)	4.405	1.750	10/02	0.341	10/03	0.670	10/04		7.166	
ILS Functions	VAR	Various/NRL Stennis	1.062	0.025	10/02	0.025	10/03	0.025	10/04		1.137	
ILS Functions	RCP	CSS, Panama City		0.232	10/02			0.400	10/04		0.632	
Subtotal Support			30.588	7.096		2.936		2.063		0.000	42.683	
Remarks:												

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## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2003</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>Q2047 Airborne Laser Mine Detection System</b>						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Testing and Evaluation	RCP	CSS, (Prime Contractor)	1.008	3.100	10/02	1.307	10/03	0.063	10/04		5.478	
Testing and Evaluation	WR	CSS, Panama City	0.199	3.017	10/02	3.847	10/03	0.113	10/04		7.176	
Testing and Evaluation	VAR	Various	0.392	0.050	10/02						0.442	
Testing and Evaluation	RCP	CSS, Panama City				0.400	10/03				0.400	
											0.000	
											0.000	
											0.000	
Subtotal T&E			1.599	6.167		5.554		0.176		0.000	13.496	
Remarks:												
Management Support		Travel	0.220	0.050	10/02	0.050	10/03	0.050	10/04		0.370	
Management Support	VAR	Various	0.700	0.700	10/02	0.700	10/03	0.310	10/04		2.410	
Management Support	RCP	CSS, (Prime Contractor)		1.282	10/02	0.500	10/03	0.890	10/04		2.672	
Management Support	WR	CSS, Panama City		0.450	10/02	0.200	10/03	0.250	10/04		0.900	
											0.000	
											0.000	
Subtotal Management			0.920	2.482		1.450		1.500		0.000	6.352	
Remarks:												
Total Cost			53.283	18.049		10.790		3.739		0.000	85.861	
Remarks:												

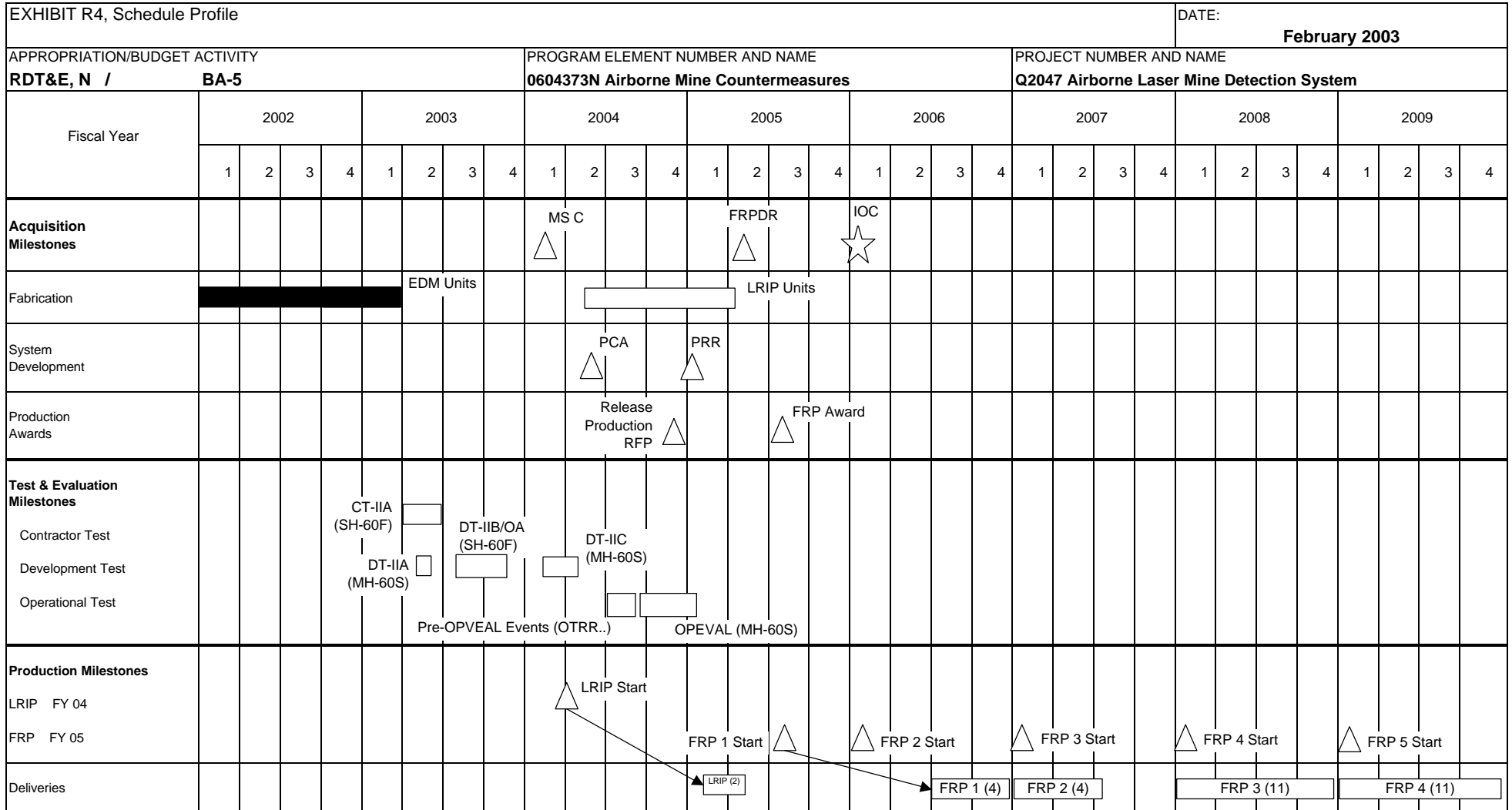
R-1 SHOPPING LIST - Item No. 111

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Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 14 of 39)

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R-1 SHOPPING LIST - Item No. 111

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

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Exhibit R-4, Schedule Profile  
(Exhibit R-4, page 15 of 39)

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[illegible]

R-1 SHOPPING LIST - Item No. 111

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**Exhibit R-4a, Schedule Detail**  
(Exhibit R-4a, page 16 of 39)



# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2003			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures					PROJECT NUMBER AND NAME Q2427/Q2883 Organic Airborne and Surface Influence Sweep					
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	13.983	13.403	14.022	14.790	11.307	0.847	0.000	0.000	0.000	0.000	68.352
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 or surface craft in support of the Carrier Battle Group (CVBG) and the Amphibious Ready Group (ARG). The system provides a rapid response sweeping capability against bottom and moored, 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, a magnetic/acoustic influence capability, a control/monitoring system under software control and interfaces to the helicopter 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. Following the Milestone C program decision for Full Rate Production in FY 2006, a total of 44 OASIS systems will be produced to meet the inventory requirement over a five-year period.

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Exhibit R-2a, RDTEN Project Justification  
(Exhibit R-2a, page 17 of 39)

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2003</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>Q2427/Q2883 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: 30%;"></th><th style="width: 15%;">FY 02</th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">4.975</td><td style="text-align: center;">4.822</td><td style="text-align: center;">4.992</td><td style="text-align: center;">0.899</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	4.975	4.822	4.992	0.899	RDT&E Articles Quantity				
	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost	4.975	4.822	4.992	0.899															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Obtained Milestone B approval. Awarded SD&amp;D Contract for engineering design and Engineering Development Model (EDM) fabrication and begin to integrate EDMs into platform.. Awarded SD&amp;D contract to complete Design, Conduct CDR, Fabricate 3 EDM, and begin to integrate EDMs into platform.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 02</th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">7.813</td><td style="text-align: center;">7.724</td><td style="text-align: center;">9.228</td><td style="text-align: center;">9.843</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	7.813	7.724	9.228	9.843	RDT&E Articles Quantity				
	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost	7.813	7.724	9.228	9.843															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Conduct technical studies on MHC60S interface and other technical studies.(Cong. add) Conducted remote technical assistance to MCM ship. Conduct TECHEVAL and OPEVAL Conducted shock test and other technical studies. Conduct studies on C4I Interface and MEDAL.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 02</th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.615</td><td style="text-align: center;">1.476</td><td style="text-align: center;">0.570</td><td style="text-align: center;">0.565</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	0.615	1.476	0.570	0.565	RDT&E Articles Quantity				
	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost	0.615	1.476	0.570	0.565															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Monitored Contractor performance and technical review of CDRLs. Conduct HCDR and PDR. Continue to monitor Contractor performance and technical review of CDRLs. Support platform integration.</div>																			

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**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification							DATE:			
							February 2003			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N / BA-5			0604373N Airborne Mine Countermeasures			Q2427/Q2883 Organic Airborne and Surface Influence Sweep				
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. &amp; Name</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>FY 2008</u>	<u>FY 2009</u>	To <u>Complete</u>	Total <u>Cost</u>
424800 OPN	0.000	0.000	0.000	0.000	11.120	28.388	29.012	29.532	CONT.	CONT.
(U) E. ACQUISITION STRATEGY:										
After Milestone B review in FY02, a SD&D contract was awarded. In FY06, following a successful DT and MS C, procurement options will be exercised.										
(U) F. MAJOR PERFORMERS:										
EDO Corporation, Amityville, NY. - Production of EDM units, participate in engineering, system integration, and meeting ILS requirements.										
Coastal Systems Station, Panama City, Fl. - Contributing to ILS, program management, engineering, and system integration.										

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## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2003</b>				
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT <b>Airborne Mine Countermeasures/0604373N</b>			PROJECT NUMBER AND NAME <b>Q2427/Q2883 Organic Airborne and Surface Influence Sweep</b>						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 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.	2.200	3.845	10/02	4.992	10/03	0.899	10/04	0.000	11.936	
Hardware/Software Development	SS/CPFF	Aeptec Microsystems Inc	5.681	0.977							6.658	
		Rockville, MD									0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			9.603	4.822		4.992		0.899		0.000	20.316	
Remarks:												
Support											0.000	
Engineering Services	C/CPIF	EDO Corp	3.663	1.993	10/02	1.913	10/03	0.750	10/04	0.200	8.519	
Engineering Services	WR	CSS Panama City	7.012	2.003	10/02	1.291	10/03	0.375	10/04	0.647	11.328	
Engineering Services	WR	NSWC Carderock MD	0.725								0.725	
Engineering Services/ILS	VAR	Various	1.255	0.000	10/02	1.231	10/03	0.935	10/04		3.421	
Engineering Services	PD	ONR	0.000	0.000		0.992	10/03	0.643	10/04		1.635	
ILS Functions	C/CPIF	EDO Corp	0.732	0.664	10/02	0.667	10/03	0.675	10/04		2.738	
ILS Functions	WR	CSS Panama City	0.876	0.305	10/02	0.307	10/03	0.250	10/04		1.738	
Subtotal Support			14.263	4.965		6.401		3.628		0.847	30.104	
Remarks:												

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## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: <b>February 2003</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>Q2427/Q2883 Organic Airborne and Surface Influence Sweep</b>						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test and Evaluation Functions											0.000	
T&E Functions	C/CPIF	EDO Corp	0.732	2.659	10/02	2.827	10/03	4.252	10/04		10.470	
T&E Functions	WR	CSS Panama City, FL	1.186	0.100	10/02	0.000	10/03	1.963	10/04		3.249	
T&E Functions	VAR	Various	0.554								0.554	
											0.000	
											0.000	
											0.000	
Subtotal T&E			2.472	2.759		2.827		6.215		0.000	14.273	
Remarks:												
Management Support											0.000	
Management Support	VAR	Various	0.913	1.446	10/02	0.540	10/03	0.540	10/04		3.439	
Management Support		Travel	0.135	0.030	10/02	0.030	10/03	0.025	10/04		0.220	
											0.000	
											0.000	
											0.000	
Subtotal Management			1.048	1.476		0.570		0.565		0.000	3.659	
Remarks:												
Total Cost			27.386	14.022		14.790		11.307		0.847	68.352	
Remarks:												

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Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 21 of 39)

**UNCLASSIFIED**

**Exhibit R-4, Schedule Profile**  
(Exhibit R-4, page 22 of 39)

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**UNCLASSIFIED**

**CLASSIFICATION:**

[illegible]

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**Exhibit R-4a, Schedule Detail**  
(Exhibit R-4a, page 23 of 39)

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2003			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures					PROJECT NUMBER AND NAME Q2473/Q9069 Airborne Mine Neutralization Systems					
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	30.647	20.886	21.787	45.759	29.940	12.553	0.000	0.000	0.000	0.000	161.572
RDT&E Articles Qty			AMNS 2		RAMICS 2						4

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

The **Airborne Mine Neutralization Systems (AMNS)** research and development effort was restarted in FY97 in Project Q0529 P.E. 0604373N. AMNS will provide the MH-60S 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 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 Battle Groups (CVBG) and Amphibious Ready Groups (ARG). This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA).

The **Rapid Airborne Mine Clearance System (RAMICS)** program began Concept & Technoogy 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 minehunting 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:

- (a) Gun Subsystem (including gun and turret)
- (b) Munition Subsystem - MK258 Mod 1 Armor Piercing, Fin Stabilized, Discarding Sabot-Tracer (APFSDS-T)
- (c) Targeting Sensor Subsystem.
- (d) Fire Control Subsystem.
- (e) Software

The system will be deployed from the MH-60S helicopter and will provide organic airborne mine defense for Carrier Battle Groups (CVBG) and Amphibious Ready Groups (ARG). 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.

R-1 SHOPPING LIST - Item No. 111

**Exhibit R-2a, RDTE Project Justification**  
(Exhibit R-2a, page 24 of 39)

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2003</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>Q2473/Q9069 Airborne Mine Neutralization Systems</b>																	
<b>(U) B. Accomplishments/Planned Program</b>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"><b>AMNS</b></td> <td style="width: 15%;">FY 02</td> <td style="width: 15%;">FY 03</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>16.486</td> <td>11.723</td> <td>14.539</td> <td>15.711</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td>2</td> <td></td> <td></td> </tr> </table>					<b>AMNS</b>	FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	16.486	11.723	14.539	15.711	RDT&E Articles Quantity		2		
<b>AMNS</b>	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost	16.486	11.723	14.539	15.711															
RDT&E Articles Quantity		2																	
<p><b>FY02 ACCOMPLISHMENTS:</b> Complete MH-53E TECHEVAL. Conduct MH-53E OPEVAL. Investigate/Award Untethered Airborne Mine Neutralization Systems (Congressional Add).</p> <p><b>FY03 PLAN:</b> Award SD&amp;D contract, initiate design, develop software, and integrate aboard MH-60S for test and evaluation.</p> <p><b>FY04 PLAN:</b> Continue design, develop software, and integrate aboard MH-60S, conduct 2105 testing and environmental testing. Continue to monitor Contractor performance and technical review of CDRLs.</p> <p><b>FY05 PLAN:</b> Prepare documentation for MH-60S contract award (production), conduct contractor test, MH-60S TECHEVAL, initiate MH-60S OPEVAL. Continue to monitor Contractor performance and technical review of CDRLs. Develop program documentation to achieve MS-C.</p>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"><b>RAMICS</b></td> <td style="width: 15%;">FY 02</td> <td style="width: 15%;">FY 03</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>4.400</td> <td>10.064</td> <td>31.220</td> <td>14.229</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td></td> <td>2</td> </tr> </table>					<b>RAMICS</b>	FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	4.400	10.064	31.220	14.229	RDT&E Articles Quantity				2
<b>RAMICS</b>	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost	4.400	10.064	31.220	14.229															
RDT&E Articles Quantity				2															
<p><b>FY02 ACCOMPLISHMENTS:</b> Completed ORD and other Acquisition documentation and obtained a successful Milestone (MS) B on 29 July 2002. Awarded System Development &amp; Demonstration (SD&amp;D) contract and initiated Design Phase including Integrated Logistics Support (ILS) and Technical Design Agent (TDA) engineering efforts. Conducted 30mm Cannon risk reduction efforts including Recoil Reduction Tests.</p> <p><b>FY03 PLAN:</b> Conduct Rig and Munition Tests. Continue design and development under SD&amp;D contract. Conduct Preliminary Design Review (PDR).</p> <p><b>FY04 PLAN:</b> Continue design, development under SD&amp;D contract. Conduct Critical Design Review (CDR).</p> <p><b>FY05 PLAN:</b> Complete design, develop, and fabrication of Engineering Development Models (EDMs). Complete Contractor's Testing (CT) and initiate Technical Evaluation (TECHEVAL).</p>																			

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**Exhibit R-2a, RDTEN Project Justification**  
(Exhibit R-2a, page 25 of 39)

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: <b>February 2003</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>Q2473/Q9069 Airborne Mine Neutralization System</b>			

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

<u>Line Item No. &amp; Name</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>FY 2008</u>	<u>FY 2009</u>	<u>To Complete</u>	<u>Total Cost</u>
AMNS										
424800 OPN	11.200	3.365	0.000	0.000	4.452	11.475	15.285	17.548	CONT.	CONT.
AMNS										
422500 WPN	0.000	0.720	0.000	0.000	2.845	7.145	3.843	3.918	CONT.	CONT.

**(U) E. ACQUISITION STRATEGY: \***

Procurement for eight (8) MH-53E system in FY02-03 will be sole source to Lockheed Martin. Full and open competition is planned for the AMNS (MH-60S) program. In FY06, following a successful DT and MS-C, an LRIP award is planned for two (2) MH-60S systems. FRPDR is planned for FY06.

**(U) F. MAJOR PERFORMERS: \*\***

Lockheed Martin Corporation (Ocean, Radar, & Sensor Systems) Syracuse, NY Modification and fabrication of a non-developmental item (NDI) AMNS prototype system and the design, construction, and integration of AMNS equipment into the MH-53E helicopter Actual OTA Award: 12/98 Projected Production Contract Award: 5/03

Naval Surface Warfare Center Coastal Systems Station Dahlgren Division Panama City, FL Serves as the Technical Direction Agent (TDA) for the AMNS program.

**AMNS ONLY**

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:		
								February 2003		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N / BA-5			0604373N Airborne Mine Countermeasures			Q2473/Q9069 Airborne Mine Neutralization System				
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
RAMICS 422500 WPN	0.000	0.000	0.000	0.000	10.508	19.251	19.605	19.965	CONT	CONT
RAMICS 0019600 PANMC	0.000	0.000	0.000	0.000	0.222	0.674	0.686	0.698	CONT	CONT
(U) E. ACQUISITION STRATEGY:										
RAMICS: Achieved MS B in July 2002 and awarded SD&D contract in August 2002 based on a full and open competition. Following a successful DT and MS C in FY06 , a FY06 LRIP award is planned for two (2) systems for fleet use. Full Rate Production (FRP) is scheduled to start in FY07.										
(U) F. MAJOR PERFORMERS:										
SD&D Contractor, Northrop Grumman Melbourne, FL - Awarded RAMICS SD&D contract in August 2002 for two RAMICS Engineering Development Models (EDMs) scheduled for delivery in FY05.										
Alliant TechSystems (ATK) - Awarded RAMICS Gun Subsystem contract in July 2001 via NSWC Crane. Performed PDR, CDR, and Acceptance Testing in FY02. The contract has option for production units.										
NSWC CSS, Panama City, FL - As Technical Design Agent (TDA) for RAMICS; supported successful completion of CTD Phase, prepared draft Request For Proposal (RFP) for the SD&D contract, supported the proposal evaluation, and conducted a series of risk reduction tests in FY00 - FY02 and plans to conduct additional tests .										
NSWC Crane, Crane IN - As a Weapon System Development, Crane is responsible for definition and selection of the RAMICS Gun Subsystem. Accordingly, awarded contract to ATK.										
NAWC Pax, Pautaxant River, MD - As Aircraft(A/C) Integration Agent, coordinates all tests with A/C Integration.										
RAMICS ONLY										

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Exhibit R-2a, RDTEN Project Justification  
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**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2003</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>Q2473/Q9069 Airborne Mine Neutralization System</b>						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 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	0.338								0.338	
Hardware/Software Development	WR	CSS Panama City, FL	0.290	0.383	12/02	0.483	10/03	0.150	10/04		1.306	
Hardware/Software Development	C/CPIF	Unknown	7.176	6.487	01/03	5.156	10/03	0.965	10/04		19.784	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			11.135	6.870		5.639		1.115		0.000	24.759	
Remarks:												
Engineering Services	WR	Various	0.787								0.787	
Engineering Services	WR	CSS Panama City, FL	7.096	0.631	12/02	1.730	10/03	2.153	10/04	0.192	11.802	
Engineering Services	C/CPIF	Unknown	1.949	2.998	01/03	4.533	10/03	2.812	10/04	0.301	12.593	
											0.000	
ILS Functions	WR	CSS Panama City, FL	2.908	0.155	12/02	0.168	10/03	0.123	10/04	0.096	3.450	
ILS Functions	SS/BOA	Lockheed Syracuse, NY	0.227								0.227	
ILS Functions	C/CPIF	Unknown		0.570	01/03	0.747	10/03	0.509	10/04	0.344	2.170	
											0.000	
Subtotal Support			12.967	4.354		7.178		5.597		0.933	31.029	
Remarks: AMNS ONLY												

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## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: <b>February 2003</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>Q2473/Q9069 Airborne Mine Neutralization System</b>						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	VAR	Various	0.300								0.300	
Developmental Test & Evaluation	WR	CSS Panama City, FL	8.648					5.382	10/04		14.030	
Developmental Test & Evaluation	SS/BOA	Lockheed Syracuse, NY	1.255								1.255	
Developmental Test & Evaluation	C/CPIF	Unknown				1.103	10/03	2.937	10/04		4.040	
Operational Test & Evaluation	WR	COTF Norfolk, VA	1.400							1.068	2.468	
Operational Test & Evaluation	SS/BOA	Lockheed Syracuse, NY	0.331								0.331	
Test Assets	SS/BOA	Lockheed Syracuse, NY	0.436								0.436	
Subtotal T&E			12.368	0.000		1.103		8.319		1.068	22.858	
Remarks:												
Program Management Support	VAR	Various	0.649	0.459	10/02	0.579	10/03	0.640	10/04	0.088	2.415	
Travel			0.094	0.040	10/02	0.040	10/03	0.040	10/04	0.010	0.224	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			0.743	0.499		0.619		0.680		0.098	2.639	
Remarks:												
Total Cost			37.213	11.723		14.539		15.711		2.099	81.285	
Remarks: AMNS ONLY												






















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Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 29 of 39)

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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										Q2473/Q9069 Airborne Mine Neutralization System															
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009						
	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					PDM (MH-53E) 										MS C 		FRPDR (MH-60S) 			IOC First Deployment  															
Prototype Phase	E&MD Phase (MH-53E) 				SD&D Phase (MH-60S) 																														
EDM Contract Award					Contract Award (MH-60S) 																														
Significant Events					PDR 		CDR 				Contractor Testing (MH-60S) 																								
EDM Deliveries											 1	 2	 3																						
Test & Evaluation Milestones	TECHEVAL (MH-53E) 															TECHEVAL (MH-60S) 																			
Development Test																																			
Operational Test								OPEVAL (MH-53E)										OPEVAL (MH-60S)																	
Production Milestones																																			
PROD (MH-53E) FY 03							PROD (MH-53E) Start																												
LRIP (MH-60S) FY 06																		LRIP (MH-60S) Start																	
FRP (MH-60S) FY 07																					FRP (MH-60S) Start														
Deliveries											2	3	3								2(LRIP)					3	3	1		3	3	3	1		

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

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

[illegible]

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**UNCLASSIFIED**

**Exhibit R-4a, Schedule Detail**  
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# UNCLASSIFIED

## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2003				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604373N Airborne Mine Countermeasures			Q2473/Q9069 Airborne Mine Neutralization System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware/Software Development	C/CPIF	Northrop Grumman, FL	0.494	4.207	10/02	12.061	10/03	5.626	10/04	4.364	26.752	
Hardware/Software Development	Various	CSS - Panama City, FL	1.383								1.383	
Hardware/Software Development	RCP	Crane - Crane, IN	0.881								0.881	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			2.758	4.207		12.061		5.626		4.364	29.016	
Remarks: This is RAMICS only .												
Engineering Services	C/CPIF	Northrop Grumman, FL	0.553	2.533	10/02	8.162	10/03	3.073	10/04	2.676	16.997	
Engineering Services	Various	CSS - Panama City, FL	5.024	0.971	10/02	1.314	10/03	0.860	10/04	0.784	8.953	
Engineering Services	Various	Crane - Crane, IN	2.200								2.200	
Engineering Services	WR	Various	0.725			2.281	10/03	1.000	10/04	0.720	4.726	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			8.502	3.504		11.757		4.933		4.180	32.876	
Remarks: This is RAMICS only .												



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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2003</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>Q2473/Q9069 Airborne Mine Neutralization System</b>						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test & Evaluation	C/CPIF	Northrop Grumman, FL		0.082	10/02	2.248	10/03	0.489	10/04	0.087	2.906	
Test & Evaluation	WR	CSS - Panama City, FL	0.930	0.200	10/02	0.100	10/03	0.661	10/04	0.600	2.491	
Test & Evaluation	WR	Crane - Crane, IN		0.500	10/02						0.500	
Test & Evaluation	Various	Various	0.893	1.000	10/02	4.720	10/03	2.199	10/04	0.893	9.705	
											0.000	
											0.000	
											0.000	
Subtotal T&E			1.823	1.782		7.068		3.349		1.580	15.602	
Remarks: This is RAMICS only .												
Management Support	Various	Various	1.149	0.541	10/02	0.300	10/03	0.300	10/04	0.300	2.590	
Management Support		Travel	0.088	0.030	10/02	0.034	10/03	0.021	10/04	0.030	0.203	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			1.237	0.571		0.334		0.321		0.330	2.793	
Remarks: This is RAMICS only .												
Total Cost			14.320	10.064		31.220		14.229		10.454	80.287	
Remarks: This is RAMICS only .												

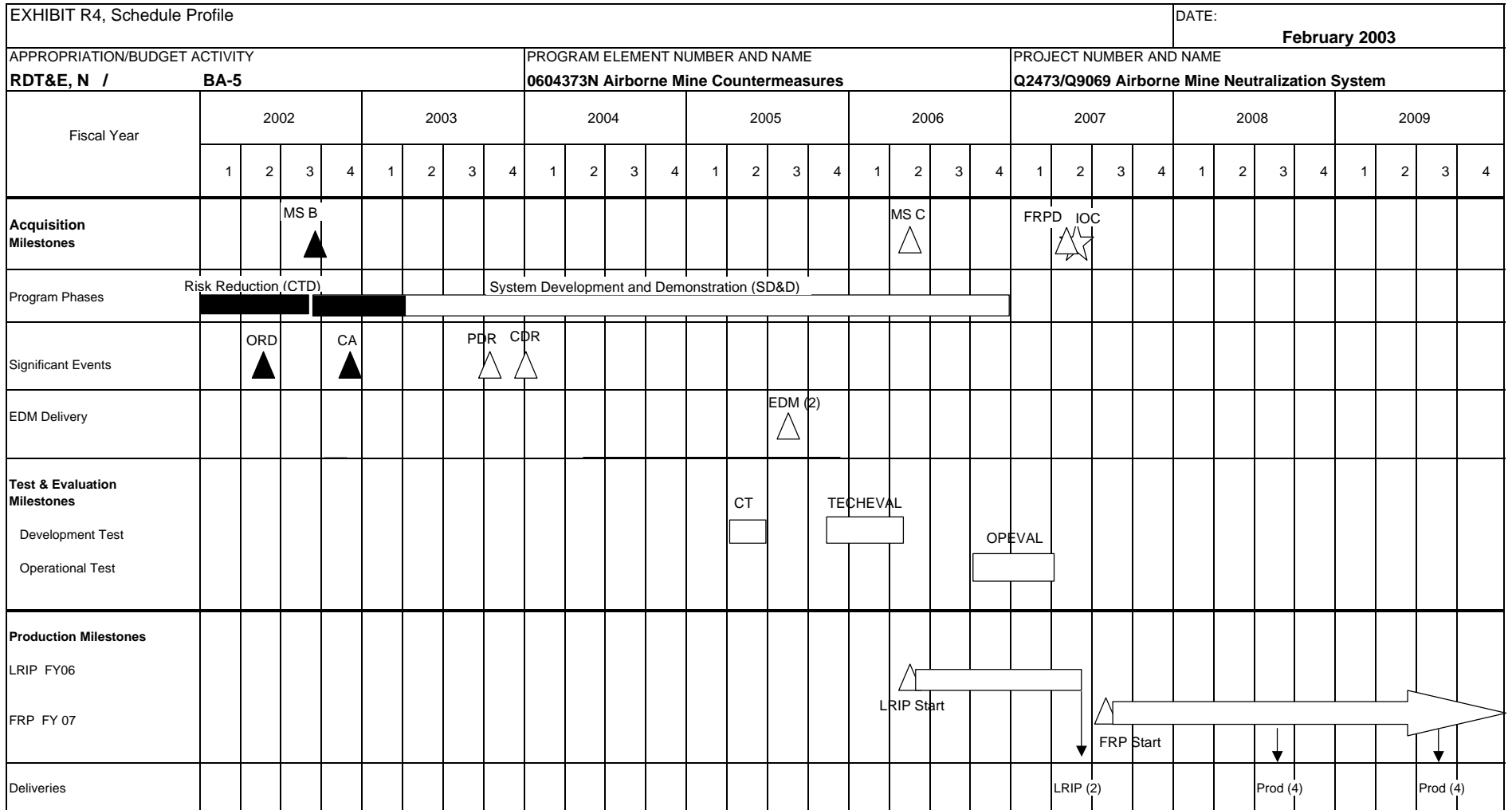
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Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 33 of 39)

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CLASSIFICATION:



RAMICS ONLY

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

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**UNCLASSIFIED**

**CLASSIFICATION:**

[illegible]

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**Exhibit R-4a, Schedule Detail**  
(Exhibit R-4a, page 35 of 39)

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2003			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
RDT&E, N / BA-5	0604373N Airborne Mine Countermeasures					Q9179 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	0.000	0.000	3.065	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.065
RDT&E Articles Qty											0

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

This congressional add for Surface Navy Integrated Undersea Tactical Technology (SNIUTT) will be used to develop an AN/AQS-20A sensor training module for the Carrier Vessel - Tactical Support Center (CV-TSC) LAN-based Surface Network Embedded Analysis and Tactical Trainer (SNEATT).

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Exhibit R-2a, RDTEN Project Justification  
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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2002</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 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.065	0.000	0.000
RDT&E Articles Quantity				
<div>Congressional Add. - Investigate development of an AN/AQS-20A sensor training module for the Carrier Vessel - Tactical Support Center (CV-TSC) LAN-based Surface Network Embedded Analysis and Tactical Trainer (SNEATT).</div>				

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Exhibit R-2a, RDTEN Project Justification  
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**Exhibit R-3, Project Cost Analysis**  
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Exhibit R-3 Cost Analysis (page 2)								DATE: February 2003				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604373N Airborne Mine Countermeasures			Q9179 Surface Navy Integrated Undersea Tactical Technology						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	3.065		0.000		0.000		0.000	3.065	
Remarks:												

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Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 39 of 39)