

**CLASSIFICATION:**

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[illegible]

\* FY2005 budget reflects a \$1.400 million Congressional add for Littoral Airborne Acoustic ASW Enhancements, which has been reduced by \$.056 million for Congressional Undistributed Reductions.

\*\* FY2004 budget reflects a \$3.500 million Congressional add for Automatic Radar Periscope Detection and Discrimination (ARPDD), which has been reduced by \$.095 million for SBIR and \$.003 million for Navy Misc. Adjustments.

**(U) (0480)** – The ASW Sensors and Processing project provides the tools and methods necessary to maintain maritime superiority by preventing hostile submarines from disrupting the US Navy's ability to maintain naval superiority, control the sea lines of communication, and carry out their missions. This project encompasses the System Development and Demonstration (SDD) of sensor systems to improve the mission effectiveness of airborne Anti-Submarine Warfare (ASW) cueing, search, localization, and attack. Smaller and quieter threat submarines drive the requirement for continued advancement in ASW sensor capabilities for both blue water and littoral environments. The littoral regions of the world create an additional ASW challenge to defeat the increase in background clutter caused by the shallow water depth, high volume of shipping, and commercial radio frequency interference. Project 0480 provides funding for the engineering development of solutions that acquire, confirm, and attack threat submarines. Efforts being funded during the period identified are the Extended Echo Ranging (EER) family of multi-static active sensor systems and the Advanced Processing Build (APB) programs. Multi-static ASW (MSA) sensor systems provides improved threat target detection capabilities for water littoral environments. The development efforts funded during the period identified include the Improved Extended Echo Ranging (IEER) multi-static search receiver sensor for active large area ASW search; the Advanced Extended Echo Ranging (AEER) active coherent (electronic) sound source, a new start in FY09, which provides a search and localization capability in all water environments and will eliminate current impulsive source safety, training and Rules of Engagement restrictions; and Advanced Processing Builds which provide signal processing improvements to achieve increased target detection and classification capabilities. A technology adjuncts to these programs include Sonobuoy Precise Positioning.

**(U) (4017)** - The Automatic Radar Periscope Detection and Discrimination (ARPDD) Project provides a fully automated periscope detection, classification, and tracking capability to reliably detect periscopes and masts, and reliably discriminate periscopes from clutter and confusion targets. This capability is suitable for air and surface platforms. This project funds only the airborne application.

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### Exhibit R-2. RD TEN Budget Item Justification

(Exhibit R-2, page 1 of 21)

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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-05</b>	PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors				PROJECT NUMBER AND NAME 0480 ASW Sensors and Processing			
COST (\$ in Millions)	FY2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0480 ASW Sensors and Processing *	13.343	11.781	17.323	8.207	8.484	24.387	41.275	41.724
RDT&E Articles Quantity					300	300		

\* FY2005 budget reflects a \$1.400 million Congressional add for Littoral Airborne Acoustic ASW Enhancements, which has been reduced by \$.056 million for Congressional Undistributed Reductions.

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The ASW Sensors and Processing project provides the tools and methods necessary to maintain maritime superiority by preventing hostile submarines from disrupting the US Navy's ability to maintain naval superiority, control the sea lines of communication, and carry out their missions. This project encompasses the System Development and Demonstration (SDD) of sensor systems to improve the mission effectiveness of airborne Anti-Submarine Warfare (ASW) cueing, search, localization, and attack. Smaller and quieter threat submarines drive the requirement for continued advancement in ASW sensor capabilities for both blue water and littoral environments. The littoral regions of the world create an additional ASW challenge to defeat the increase in background clutter caused by the shallow water depth, high volume of shipping, and commercial radio frequency interference. Project 0480 provides funding for the engineering development of solutions that acquire, confirm, and attack threat submarines. Efforts being funded during the period identified are the Extended Echo Ranging (EER) family of multi-static active sensor systems and the Advanced Processing Build (APB) programs. Multi-static ASW (MSA) sensor systems provides improved threat target detection capabilities for water littoral environments. The development efforts funded during the period identified include the Improved Extended Echo Ranging (IEER) multi-static search receiver sensor for active large area ASW search; the Advanced Extended Echo Ranging (AEER) active coherent (electronic) sound source, a new start in FY09, which provides a search and localization capability in all water environments and will eliminate current impulsive source safety, training and Rules of Engagement restrictions; and Advanced Processing Builds which provide signal processing improvements to achieve increased target detection and classification capabilities. The 600 sonobuoy test articles will support software and hardware integration flight test for AEER Block I.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>																
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-05</b>	PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors	PROJECT NUMBER AND NAME 0480 ASW Sensors & Processing																	
<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%;">FY04</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;">13.343</td><td style="text-align: center;">10.437</td><td style="text-align: center;">17.323</td><td style="text-align: center;">8.207</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	13.343	10.437	17.323	8.207	RDT&E Articles Quantity				
	FY04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	13.343	10.437	17.323	8.207															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 60px; margin-top: 5px;"></div>																			
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Accomplishments/Effort/Subtotal Cost		1.344																	
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Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			
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EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-05</b>	PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors	PROJECT NUMBER AND NAME 0480 ASW Sensors & Processing		

**C. PROGRAM CHANGE SUMMARY:**

Funding:	FY 2004	FY 2005	FY 2006	FY2007
Previous President's Budget:	13.479	10.507	17.518	9.790
Current BES/ President's Budget	13.343	11.781	17.323	8.207
Total Adjustments	-0.136	1.274	-0.195	-1.583
Summary of Adjustments				
Congressional undistributed reductions		-0.107		
SBIR/STTR Transfer	-0.124			
Navy Misc. Adjustments		-0.019	-1.784	-1.726
Economic Assumptions			1.589	0.143
Reprogrammings	-0.012			
Congressional Increases		1.400		
Subtotal	-0.136	1.274	-0.195	-1.583

Schedule:

( U ) Schedule: MSA Integration contract slipped from 2QTR FY04 to 3QTR FY04 due to contract negotiations. Added depiction of Advanced Processing Builds (APB) for program clarification. AEER program schedule will commence in FY09 versus FY07. Hydostatic Device R4 and R4a, deleted as FY2003 was the last year of RDT&E funding. Added schedule for the FY05 Congressional Add - Littoral Airborne Acoustic ASW Enhancement.

Technical:

N/A

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EXHIBIT R-2a, RDT&E Project Justification								DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-05</b>			PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors			PROJECT NUMBER AND NAME 0480 ASW Sensors & Processing				
<b>D. OTHER PROGRAM FUNDING SUMMARY:</b>										
<u>Line Item No. &amp; Name</u>	<u>FY2004</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>
(U) OPN (404800) Q110B	4.3	4.3	5.1	6.0	5.9	7.4	7.5	7.6	Continuing	Continuing
<u>(U) Related RDT&amp;E</u> (U) P.E. 0603254N (ASW Systems Dev)										
<b>E. ACQUISITION STRATEGY:</b>										
The integration of Multi-Static ASW (MSA) into increased number of P-3 Aircraft can be achieved as an option under the current MSA contracts. Various alternatives of MSA implementation are also being investigated that could require Full and Open competition.										

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Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2005</b>				
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-05</b>			PROGRAM ELEMENT 0604261N Acoustic Search Sensors			PROJECT NUMBER AND NAME 0480 ASW Sensors & Processing						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/FFP	Sparton, FL	3.178								3.178	3.178
	C/FFP	USSI, IN	2.710								2.710	2.710
	C/CPFF	Various Contracts	1.000								1.000	1.000
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			6.888	0.000		0.000		0.000			6.888	
Remarks:												
Software Development	CPFF	Lockheed Martin, VA		0.490	02/05						0.490	0.490
Software Development (GASS)	C/CPIF	Northrop Grumman, NY	46.314								46.314	46.314
Integrated Logistics Support	C/CPFF	Misc GASS Con	12.834								12.834	12.834
Software Development (Phase I)	C/CPFF	Misc /P-3 Baseline Cont's	8.300								8.300	8.300
Software Development (Phase II)	WX	NAWCAD, Pax River, MD	1.000	2.040	11/04	2.600	10/05	2.100	10/06	Continuing	Continuing	
Technical Data	WX	NAWCAD, Pax River, MD	4.382	1.630	11/04	1.630	10/05	0.900	10/06	Continuing	Continuing	
Studies & Analyses	CPFF	Lockheed Martin, VA		0.200	02/05						0.200	0.200
Award Fees											0.000	
Subtotal Support			72.830	4.360		4.230		3.000		Continuing	Continuing	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDTE, N / BA-05</b>			0604261N Acoustic Search Sensors			0480 ASW Sensors & Processing						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCAD, Pax River, MD	3.200	0.400	11/04	0.750	11/05	0.750	11/06	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			3.200	0.400		0.750		0.750		Continuing	Continuing	
Remarks:												
Program Mgmt Support (Cont)	C/FFP	Various	40.085	0.710	12/04	0.700	11/05	0.700	11/06		42.195	42.195
Engineering Support (Gov)	WX	NAWCAD, Pax River, MD	54.872	4.645	11/04	7.460	10/05	2.261	10/06	Continuing	Continuing	
Program Mgmt Support (Gov)	WX	NAWCAD, Pax River, MD	7.023	0.150	11/04	0.190	10/05	0.200	10/06	Continuing	Continuing	
Engineering Support (Contract)	RX	Various	2.861	1.516	11/04	3.993	10/05	1.296	10/06	Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
Subtotal Management			104.841	7.021		12.343		4.457		Continuing	Continuing	
Remarks:												
Total Cost			187.759	11.781		17.323		8.207		Continuing	Continuing	
Remarks:												

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EXHIBIT R4, Schedule Profile																								DATE:								
Multi-Static Active																								Februray 2005								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-05										0604261N Acoustic Search Sensors										0480 ASW Sensors & Processing												
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		MSA Integration Contract △																														
Prototype Phase																																
System Development								MSA Integration CDR △																								
EDM Delivery																																
Software Development/Integration									Start APB Development △								APB (1) S/W release △							APB (2) S/W release △								
Test & Evaluation Milestones														MSA Integration TECH EVAL △										APB (2) SQT △								
Development Test															APB (1) SQT △																	
Operational Test		Q110B FOT&E △													MSA Integration OPEVAL △																	
Production Milestones																																
LRIP I FY 05																																
LRIP II FY 06																																
FRP FY 07																																
Deliveries																																

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Exhibit R-2, RD TEN Budget Item Justification  
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## CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
Multi-Static Active						February 2005		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME		
RDT&BA-05		0604261N Acoustic Search Sensors				0480 ASW Sensors & Processing		
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase								
System Design Review (SDR)								
Milestone II (MSII)								
Integration Contract	3Q							
Software Specification Review (SSR)								
Preliminary Design Review (PDR)								
System Development								
Critical Design Review (CDR)		4Q						
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Radar Delivery - Lab								
Software Development			2Q					
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C)								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I)								
Software Delivery 2XXSW					3Q		3Q	
Developmental Testing (DT-IIB1)								
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)				2Q				
Software Qualification Test (SQT)					1Q		1Q	
Operational Evaluation (OT-IIC) (OPEVAL)	2Q			4Q				
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision								
Full Rate Production Start								
First Deployment								

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Exhibit R-2, RD TEN Budget Item Justification

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile Advanced Extended Echo Ranging (AEER)																							DATE: February 2005									
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05									PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors									PROJECT NUMBER AND NAME 0480 ASW Sensors & Processing														
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 B △											
System Development Localization SL																								CDR (blk 1) △								
EDM Delivery																									H/W EDM (blk 1) △							
Software Integration																											Integration S/W Delivery (blk 1) △					
Test & Evaluation Milestones Developmental Test																										Commence S/W and H/W Integrated Flt Test (blk 1) △						
Production Milestones																																

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Note: AEER, is a spiral upgrade development effort consisting of two block builds. Block 1 is to develop and produce a Coherent Source buoy to provide a multi-static active localization system capability.

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## CLASSIFICATION:

Exhibit R-4a, Schedule Detail Advanced Extended Echo Ranging (AEER)						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&BA-05		PROGRAM ELEMENT 0604261N Acoustic Search Sensors				PROJECT NUMBER AND NAME 0480 ASW Sensors & Processing		
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase								
System Design Review (SDR)								
Milestone B (MS B)						2Q		
Integration Contract								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)								
System Development								
Critical Design Review (CDR) Block 1							1Q	
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Block 1							2Q	
Software Intergration								
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C) Block 1								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I) Block 1								
Integration Software Delivery Block 1							4Q	
Developmental Testing (DT-IIB) Block 1								1Q
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL) Block 1								
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision Block 1								
Full Rate Production Start Block 1								
First Deployment								

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Exhibit R-2, RDTEN Budget Item Justification

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EXHIBIT R4, Schedule Profile																								DATE:								
Littoral Airborne Acoustic ASW Enhancements																								February 2005								
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-05									0604261N Acoustic Search Sensors												0480 ASW Sensors & Processing											
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																																
Prototype Phase																																
System Development																																
Software 1XX S/W Delivery 2XX S/W Delivery																																
Test & Evaluation Milestones																																
Demonstration																																
Production Milestones																																

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

Exhibit R-4a, Schedule Detail <b>Littoral Airborne Acoustic ASW Enhancements</b>						DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;BA-05</b>		PROGRAM ELEMENT 0604261N Acoustic Search Sensors				PROJECT NUMBER AND NAME 0480 ASW Sensors & Processing		
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase		2Q-3Q						
System Design Review (SDR)								
Milestone B (MS B)								
Integration Contract								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)								
System Development		2Q-4Q						
Critical Design Review (CDR) Block 1								
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Block 1								
Software Intergration								
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C) Block 1								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I) Block 1								
Software Delivery 1XX		3Q						
Software Delivery 2XX		4Q						
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Demonstration		4Q						
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL) Block 1								
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision Block 1								
Full Rate Production Start Block 1								
First Deployment								

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Exhibit R-2, RDTEN Budget Item Justification

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**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05		PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors			PROJECT NUMBER AND NAME 4017 ARPDD			
COST (\$ in Millions)	FY2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
4017 ARPDD	3.363	2.809	12.199	46.892	57.078	30.004	30.567	31.067
RDT&E Articles Quantity							2	2
FY2004 budget reflects a \$3.500 million Congressional add for Automatic Radar Periscope Detection and Discrimination (ARPDD), which has been reduced by \$.095 million for SBIR and \$.003 million for Navy Misc. Adjustments.								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Automatic Radar Periscope Detection and Discrimination (ARPDD) Project provides a fully automated periscope detection, classification, and tracking capability to reliably detect periscopes and masts, and reliably discriminate periscopes from clutter and confusion targets. This capability is suitable for air and surface platforms. This project funds only the airborne application. This capability is essential for effective detection of submarines in congested Littoral areas. This funding is for engineering development of the ARPDD system. The output will be a productionized form, fit, function incorporation of ARPDD into the AN/APS-137 radar. Two engineering development models for systems and integration testing and four test article prototypes for environmental, reliability, development and operational testing will be provided. Full testing will be performed to support the production approval milestone (milestone C).								

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-05</b>	PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors	PROJECT NUMBER AND NAME 4017 ARPDD																	
<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%;">FY04</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;">3.363</td><td style="text-align: center;">2.809</td><td style="text-align: center;">12.199</td><td style="text-align: center;">46.892</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	3.363	2.809	12.199	46.892	RDT&E Articles Quantity				
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<div style="border: 1px solid black; padding: 5px; min-height: 60px;">ARPDD is a follow-on to a Science and Technology program previously funded by the Office of Naval Research in PE060374N. FY04 Congressional plus up was issued to accelerate the ARPDD program for more rapid introduction of the technology to the Fleet. FY05 funding is being used for project planning, acquisition documentation preparation, performing technical trade-off studies, developing specifications, and a Statement of Work in preparation for awarding a contract for development of an airborne ARPDD capability. FY06 funding will be used to award a development contract for ARPDD SDD and associated government support. FY07 will continue support for ARPDD development.</div>																			
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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>																																																			
APPROPRIATION/BUDGET ACTIVITY <b>RDTE, N / BA-05</b>	PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors	PROJECT NUMBER AND NAME 4017 ARPDD																																																				
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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-05			0604261N Acoustic Search Sensors			4017 ARPDD				
D. 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>
Line Item #36 (APN P-3 OSIP 29-94)	0	0	0	0	0	48.3	49.8	60.5	TBD	TBD
PE# 0204251N										
E. ACQUISITION STRATEGY:										
Analyze merits of sole source versus competitive procurement. Explore Alternatives. Award prime contract to TBD contractor. Technical support will be provided by NAWCWD (China Lake) and JHU/APL.										

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**Exhibit R-2, RD TEN Budget Item Justification**  
(Exhibit R-2, page 17 of 21)

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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						
RDT&E, N / BA-05			0604261N Acoustic Search Sensors			4017 ARPDD						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	TBD	TBD				9.500	12/05	42.200	12/06	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.000	0.000		9.500		42.200		0.000	51.700	
Remarks:												
											0.000	
Software Development	WX	Various		1.112	12/04						1.112	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses	C/CPFF	Various	0.511	0.500	11/04	0.300	11/05	0.300	11/06		1.611	1.611
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.511	1.612		0.300		0.300			2.723	
Remarks:												

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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-05</b>			PROGRAM ELEMENT 0604261N Acoustic Search Sensors			PROJECT NUMBER AND NAME 4017 ARPDD						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Program Mgmt Support (Cont)	TBD	TBD	0.240	0.250	12/04	0.300	12/05	0.300	12/06	Continuing	Continuing	
Government Engineering Support	WX	Various	0.502	0.400	03/05	1.889	11/05	3.882	11/06	Continuing	Continuing	
Program Mgmt Support (Gov)	WX	Various	0.400	0.537	03/05	0.200	11/05	0.200	11/06	Continuing	Continuing	
Travel	WX	NAWCAD, Pax River, MD	0.010	0.010	02/05	0.010	10/05	0.010	10/06	Continuing	Continuing	
Engineering Support (Cont)	TBD	TBD	1.700	0.000		0.000		0.000			1.700	1.700
											0.000	
Subtotal Management			2.852	1.197		2.399		4.392		Continuing	Continuing	
Remarks:												
Total Cost			3.363	2.809		12.199		46.892		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
Automatic Radar Periscope Detection and Discrimination (ARPDD)																								February 2005								
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME												
RDT&E, N / BA-05								0604261N Acoustic Search Sensors												4017 ARPDD												
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-B △														MS-C △											
Prototype Phase (Prior to FY02)																																
System Development						SRR △	SFR △		Award △		SSR △	PDR △		CDR △							PRR △											
EDM & Pre Production Delivery																					Lab Units △ 1	△ 1					Test Articles △ 2	△ 2				
Software														Initial GFE																		
Test & Evaluation Milestones																																
Development Test																																
Operational Test																																
Production Milestones																																
LRIP																																
Deliveries																																

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Note: FY05 program commencement. Acquisition Status Report (ASR) still pending.

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**Exhibit R-2, RDTEN Budget Item Justification**  
(Exhibit R-2, page 20 of 21)

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## CLASSIFICATION:

Exhibit R-4a, Schedule Detail Automatic Radar Periscope Detection and Discrimination (ARPDD)						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&BA-05		PROGRAM ELEMENT 0604261N Acoustic Search Sensors				PROJECT NUMBER AND NAME 4017 ARPDD		
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase								
Systems Requirement Review (SRR)		2Q						
System Functional Review (SFR)		3Q						
Milestone B		3Q						
Contract Award			1Q					
Software Specification Review (SSR)			3Q					
Preliminary Design Review (PDR)			4Q					
System Development			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q - 4Q	1Q - 4Q
Critical Design Review (CDR)				3Q				
Quality Design and Build								
Test Readiness Review (TRR)							3Q	
Developmental Testing (DT-IIA)								
Lab Units						3Q-4Q		
Software Delivery								
Preproduction Readiness Review (PRR)						3Q		
Test Article Delivery							4Q	1Q
Milestone C (MS C)						4Q		
Operational Testing (OT-IIA)								
Low-Rate Initial Production (LRIP ) Decision						4Q		
Software Delivery 2XXSW								
Developmental Testing (DT)								1Q-3Q
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT)								2Q-4Q
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL)								
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision								
Full Rate Production Start								
First Deployment								

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Exhibit R-2, RDTEN Budget Item Justification

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