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Exhibit R-2, FY 2002 RDT&E,N BUDGET ITEM JUSTIFICATION

DATE: June 2001

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604784N
PROGRAM ELEMENT TITLE: Distributed Surveillance System

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 2000 ACTUAL	FY 2001 ESTIMATE	FY 2002 ESTIMATE
Advanced Deployable System X1300	39,077	30,924	34,711
Total	39,077	30,924	34,711

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Advanced Deployable System (ADS) is an undersea surveillance system composed of distributed sensors that can be rapidly and unobtrusively deployed in regional contingency areas for use against enemy submarines and in support of littoral warfare. It is designed to detect and track modern diesel electric and nuclear submarines, as well as provide the capability for tracking surface ships and detecting sea minelaying. ADS possesses great flexibility with respect to laydown options, ranging from single barrier to large area fields. It has built upon test experience with distributed sensor fields in shallow noisy water, and used collected data for processing verification. ADS utilizes conventional acoustic sensors and incorporates processing technologies and advanced sensors and technologies from other related programs.

1. (U) FY 2000 ACCOMPLISHMENTS:

- (U) (\$29,368) Initiated engineering and manufacturing development. Effort included the development of the operational Command and Control techniques for the Mission Planner. Also performed system engineering trade studies, conceptual design, functional analysis and requirements analysis. Initiated manufacturing technology /cost reduction engineering analysis and process design for array assembly and integration. Initiated engineering development of installation subsystem. Incorporated lessons learned from FET into PAS. Performed Design trade studies for EMD. Conducted Platform B deployment demonstration. Built and

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tested all optical array. Designed and tested low cost sensor (Smart Work Initiative). Continued to update all Logistics documentation incorporating PB-AODS material in support of a PB-AODS Independent Logistics Assessment (ILA) and the MS II Decision. Initiated long lead planning for manpower, personnel, training, spares, and support equipment.

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- (U) (\$2,709) Continued EDM contract definition. Managed ADS through monitoring of contractor and government technical, schedule, and cost performance. Participated in common efforts for DII COE Display, IUSS Systems Engineering, C4I initiatives, and IUSS Common processor.
 - (U) (\$7,000) In order to support Web Centric Warfare, continued process development efforts at Orincon in field automation, event detection algorithm development and C4I. Supported definition and integration of ADS requirement into ARCI (formerly NCAP).
2. (U) FY 2001 PLAN:
- (U) (\$21,834) Continue engineering and manufacturing development. Continue manufacturing technology /cost reduction engineering analysis and process design for array assembly and integration. Within engineering and manufacturing development will begin detailed design of the EDM, component testing, and the detailed design and testing of deployment approach for the PB Underwater System arrays. Conduct Platform F deployment demonstration of single array system.
 - (U) (\$8,392) Continue to conduct system engineering analysis of array design and array deployment options for P³I program. This includes efforts to begin PAS/C4I development of a small field OPEVAL system and the software development. Also includes engineering development of the PB method A barrier deployment and relay van concept. The PAS development will primarily occur through the ARCI(I) program and the C4I development is a coordinated effort with PD-15 and PD-17. Effort also includes beginning the software development of the Mission Planning workstation and preplanning for OPEVAL/TECHEVAL area. Initiate development of Logistics Management Information.
 - (U) (\$698) Conduct integrated baseline review for EMD contract effort and award EMD contract. Manage ADS through monitoring of contractor and government technical, schedule, and cost performance.

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3. (U) FY 2002 PLAN:

- (U) (\$2,100) Perform critical design review for Mission Planning work station. Begin to develop mission plans for OPEVAL/TECHEVAL.
- (U) (\$26,603) Continue development of PB Underwater System array design and design verification testing. Continue PB installation subsystem design.
- (U) (6,008) Processor development and C4I integration for OPEVAL will continue with unit and subsystem testing occurring during the year.

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B. (U) PROGRAM CHANGE SUMMARY:

FY 2000: Congressional Add for Advance Deployable System Acceleration (+22,000K), Across-the-Board Reduction (-\$203K), Federal Technology Transfer (FTT) (-\$20K), SBIR Assessment (-\$627K), Midyear Review Adjustment (+\$3,600K), Section 8055 Congressional Proportionate Rescission (-\$144K), Miscellaneous Navy Adjustments (-\$439K).

FY 2001: Congressional Add for Advance Deployable System Acceleration (+10,500K), Section 8086: .%7 Pro-Rata Reduction (-\$218K), Government-Wide rescission PL 106-554, Sec. 14 (-\$68K).

C. (U) OTHER PROGRAM FUNDING SUMMARY: (Dollars in Thousands)

	FY2002
	<u>ESTIMATE</u>
OPN# 2221	N/A

(U) RELATED RDT&E: Not applicable.

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D. (U) ACQUISTION STRATEGY:

	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>
Program	MS II		
Milestones	2 nd Qtr		
Engineering		Technical Baseline Rvw 1 st Qtr	
Milestones		PB Baseline Review 2 nd Qtr	
T&E	AODS System		Begin Design Verification
Milestones	Demo Test 4 th Qtr		Testing (DVT) 2 nd Qtr
Contract	Award EMD Eng.	EMD IBR 3 rd Qtr	
Milestones	Svcs. Contract 4 rd Qtr	Award EMD Contract 3 rd Qtr	

E. (U) SCHEDULE PROFILE:

See paragraph D above.

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Exhibit R-3, FY 2002/FY 2003 RDT&E,N PROJECT COST ANALYSIS

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A. (U) PROJECT COST BREAKDOWN: (\$ in thousands)

Project Cost Categories	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>
a. Mission Planning	2,900	1,062	2,100
b. PA Underwater System	12,211	1,034	
c. PB Underwater System	12,866	20,768	26,603
d. Processor	11,100	8,060	6,008
Total	39,077	30,924	34,711

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B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ in thousands)

Exhibit R-3 Cost Analysis (Page 1)												
APPROPRIATION/BUDGET ACTIVITY: RDT&E,N / BA 5		PROGRAM ELEMENT: 0604784N										
Cost Categories	Contract Method & Type	Performing Activity & Location	Total FY00 & Prior Cost	FY01 Cost	Award Date	FY02 Cost	Award Date					
Prime Mission Product Development	C/CPAF	LMFS Manassas, VA	89,334		9/95							
Prime Mission Product Development	C/CPAF	LMFS Manassas, VA		12,669	10/00	11,402	10/01					
Government Engineering Support	WX	SSC-San Diego San Diego, CA	33,040	4,806	10/00	3,000	10/01					
Engineering Supt Services	C/CPFF	AHA Rockville, MD	3,100	20	10/00	159	10/01					
Engineering Supt Services	SS/CPFF	APL/JHU Laurel, MD	4,258	272	10/00	317	10/01					
Engineering Supt Services	SS/CPFF	ARL/UT Austin, TX	6,009	559	10/00	530	10/01					
Software Development	C/CPFF	Orincon San Diego, CA	11,420	4,114	10/00	2,650	10/01					
OTHER CONTRACTS			14,279	1,348		3,280						
OTHER ACTIVITIES			18,106	3,664		10,463						
Subtotal Product Development			179,546	27,452		31,801						
Remarks:												
1) Various contracts with different award dates and total cost values.												

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B.(U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ in thousands)

Exhibit R-3 Cost Analysis (Page 2)												
APPROPRIATION/BUDGET ACTIVITY: RDT&E,N / BA 5			PROGRAM ELEMENT: 0604784N									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total FY00 & Prior Cost	FY01 Cost	Award Date	FY02 Cost	Award Date					
Contractor Engineering Support	C/CPFF	AMRON San Diego, CA	1,887									
Government Engineering Support	WX	SSC-San Diego San Diego, CA	6,824	200	10/00	300	10/01					
		OTHER CONTRACTS	12,940	1,657	1	700	1					
		OTHER ACTIVITIES	820	335								
Subtotal Support			22,471	2,192		1,000						
Remarks: 1) Various contracts with different award dates and total cost values.												

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B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ in thousands)

Exhibit R-3 Cost Analysis (Page 3)												
APPROPRIATION/BUDGET ACTIVITY: RDT&E,N / BA 5		PROGRAM ELEMENT: 0604784N										
Cost Categories	Contract Method & Type	Performing Activity & Location	Total FY00 & Prior Cost	FY01 Cost	Award Date	FY02 Cost	Award Date					
Developmental Test and Evaluation		OTHER CONTRACTS	7,574	308		100						
Developmental and Operational Test and Evaluation	WX	SSC-San Diego San Diego, CA	10,738	242		250						
Developmental and Operational Test and Evaluation		OTHER ACTIVITIES	4,658			610						
Subtotal T&E			22,970	550		960						
Remarks: 1) Various contracts with different award dates and total cost values.												

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B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ in thousands)

Exhibit R-3 Cost Analysis (Page 4)												
APPROPRIATION/BUDGET ACTIVITY: RDT&E,N / BA 5		PROGRAM ELEMENT: 0604784N										
Cost Categories	Contract Method & Type	Performing Activity & Location	Total FY00 & Prior Cost	FY01 Cost	Award Date	FY02 Cost	Award Date					
Program Management Support	C/CPFF	AMRON San Diego, CA	5,277									
Program Management Support		OTHER CONTRACTS	5,041	300	1	500	1					
Program Management Support		OTHER ACTIVITIES	1,941	430		450						
Subtotal Management			12,259	730		950						
Total Cost			237,246	30,924		34,711						
Remarks:												
1) Various contracts with different award dates and total cost values.												