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Exhibit R-2, RDT&E Budget Item Justification						Date: February 1999				
APPROPRIATION/BUDGET ACTIVITY: RDT&E,N/B.A.-4						R-1 ITEM NOMENCLATURE PE 0603553N Surface ASW / V1704 ASW Advanced Development				

COST (\$ in Millions)	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
P.E. #0603553N Surface ASW	\$ 3.738	\$ 1.075	\$ 2.949	\$ 2.963	\$ 3.007	\$ 3.049	\$ 3.094	\$ 3.139	Continuous	Continuous
V1704 ASW Advanced Dev	\$ 3.738	\$ 1.075	\$ 2.949	\$ 2.963	\$ 3.007	\$ 3.049	\$ 3.094	\$ 3.139	Continuous	Continuous
Quantity of RDT&E Articles & cost	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification: The ASW Advanced Development project provides advanced development demonstration and validation of technology for potential surface sonar and combat system applications. Efforts focus on resolution of technical issues associated with providing capability against the Year 2005 and beyond threat with emphasis on shallow water/littoral area USW and on dem/val of Undersea Warfare (USW) concepts and technology. Key technology areas investigated include active sonar transmissions, signal and advanced processing, active sonar classification, towed and hull arrays and transducer technology, multi-static sonar, and multi-sensor data fusion. The development of a mid-frequency Towed Active Receive Subsystem (TARS) prototype which will function as a deep receiver adjunct for the AN/SQS-53C transmitter providing significantly enhanced submarine detection performance against deep submarine targets will complete in FY1999 and transition to the AN/SQQ-89 program. In FY2000 this Program Element 0603553N, has been increased to support Multi-Static Sonar efforts associated with the Distant Thunder program in order to transition from a DARPA program into the Navy Impulsive Low Frequency Active Multi-Static ASW Program. This project conducts advanced development and testing of active multi-static acoustic concepts. The concept development is directed at providing surface ships combat groups with the capability of detection, classification, and localization of quiet threat submarines in difficult acoustic environments associated with Littoral waters. The project concentrates on the development of acoustic processor algorithms and information sharing technologies to develop a coordinated multi-static acoustic picture employing distributed sensors and active sources.

FY 1998 Accomplishments:

- (\$3.738) TARS: Completed TARS wet end installation and conducted TARS array at-sea tactical system demonstration. Performed post sea test data analysis and provided initial support for transition to MFTA under PMS411 for FY99.

FY 1999 Plan:

- (\$1.048) TARS: Complete TARS test and evaluation program and complete the transition of this technology to the AN/SQQ-89 Multi-Functional Towed Array (MFTA).
- (\$0.027) Portion of extramural program is reserved for Small Business Innovation Research assessment in accordance with 15 USC 638.

FY 2000 Plan:

- (\$2.949) Distant Thunder: Assess spectrum of multi-static algorithms and select desirable performance specifications. Improve acoustic processors and communication schemes. Participate in sea tests (SHAREMS) to collect multi-static processors/communication systems data and environmental acoustic data and analyze system performance.

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B. Program Change Summary:

	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>
FY 1999 President's Budget:	\$ 5.491	\$ 11.871	\$ 15.792
Appropriated Value:	\$ 5.704	\$ 11.871	
Adjustment to FY 1998 Appropriated Value/ FY 1999 President's Budget:			
a. SBIR Reduction	-.065	.000	.000
b. Federal Technology Transfer	-.001	.000	.000
c. Congressional Undistributed Reductions	+.027	.000	.000
d. Sponsor Realign IUSW-21 under PEO DD-21	-1.700	-10.794	-15.792
e. Sponsor Distant Thunder Addition	.000	.000	+ 3,000
f. Competitive Sourcing Savings Adjustment	.000	.000	-.005
g. DD1002: April 1998 Update	-.014	.000	.000
h. Contract Advisory Assistance Services	.000	-.102	.000
i. NAVSEA PEO Restructure/Comp Adjust	.000	+.127	.000
j. Revised Economic Assumptions	.000	-.027	.000
k. Inflation Reduction	.000	.000	-.046
FY 2000 PRES Budget Submit:	\$ 3.738	\$ 1.075	\$ 2.949

Funding: **FY98** - Reductions from the FY98 Appropriated Value are due to SBIR reduction (-\$.065), Federal Technology Transfer (-\$.001), Minor Pricing Adjustment (+\$.027), Reductions (-\$1.700) are due to the realignment of IUSW-21 program under PEO DD-21, and DD1002: April 1998 Update (-\$.014). **FY99** - Reductions (-\$10.794) are due to the realignment of IUSW-21 program under PEO DD-21 PE 0603513N/Project 32468, contract advisory assistance services (-\$.102), (+\$.127) resulted from NAVSEA PEO restructuring, revised economic assumptions (-\$.027).). **FY00** - Reductions (-\$15.792) are due to the realignment of IUSW-21 program under PEO DD-21 PE 0603513N/Project 32468, increase of (+\$3.000) is due to the addition of funds associated with the DARPA transition of the Distant Thunder program into Dem/Val, competitive sourcing savings associated with consolidation of service contracting efforts (-\$.005), and decreases for Inflation Reduction of (-\$.046).

Schedule: N/A

Technical: N/A

C. Other Program Funding Summary:

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	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Complete</u>	<u>Total Cost</u>
Not Applicable										
<p><u>Related RDT&E:</u> PE 0205620N (Surface ASW Combat Systems Integration) PE 0602121N (Surface Ship & Submarine HM&E Technology) PE 0603504N (Advanced Submarine Combat Systems Development) PE 0603513N (DD-21 Associated System Development) PE 0603561N (Advanced Submarine System Development) PE 0603747N (Undersea Warfare Advanced Technology)</p> <p>D. <u>Acquisition Strategy:</u> Plan to continue competitively awarded contract(s).</p> <p>E. <u>Schedule Profile:</u> See attached Schedule</p>										

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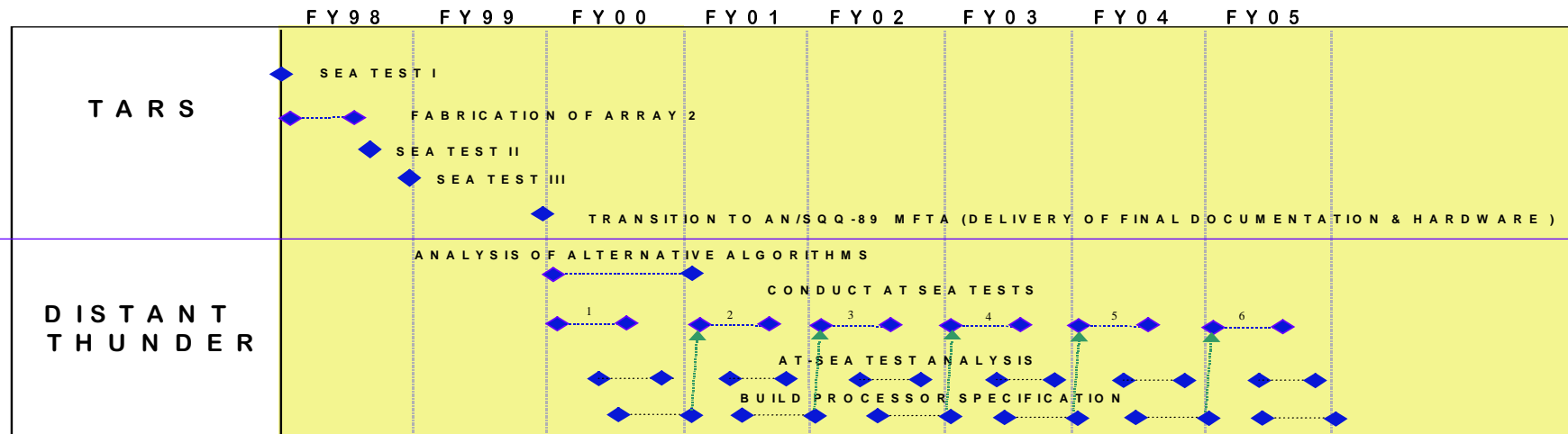
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T A R S / D I S T A N T T H U N D E R



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Exhibit R-3 Cost Analysis		Date: February 1999
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/B.A.-4	PROGRAM ELEMENT NAME AND NUMBER Surface ASW/PE # 0603553N	PROJECT NAME AND NUMBER ASW Advanced Development/V1704

Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY99 Cost	FY99 Award Date	FY00 Cost	FY00 Award Date	FY01 Cost	FY01 Award Date	Cost To Complete	Total Cost	Target Value of Contract
TARS Product Development	C/CPFF	Lockheed Martin, NY	1.775	.050	11/98	.000	-	.000	-	.000	1.825	
TARS Product Development	C/CPFF	DSR, VA	.020	.000	-	.000	-	.000	-	.000	.020	
TARS Product Development	WR	NUWC/Newport, RI	9.597	.250	10/98	.000	-	.000	-	.000	9.847	
Product Development	WR	Various	4.821	.000	-	.000	-	.000	-	.000		
Product Development	CPFF	Various	3.350	.000	-	.000	-	.000	-	.000		
Product Development	Various	NUWC/Newport, RI	34.557	.000	-	.000	-	.000	-	.000		
Multi-Static (Distant Thunder) Algorithm Development	CPFF	BBN	-	-	-	.300	11/99	.300	11/00	Cont.	Cont.	
Multi-Static (Distant Thunder) System Architecture Development	WR	NUWC/Newport, RI	-	-	-	.200	10/99	.200	10/00	Cont.	Cont.	
Multi-Static (Distant Thunder) System Architecture Development	WR	NSWC/Dahlgren, VA	-	-	-	.200	10/99	.516	10/00	Cont.	Cont.	
Subtotal Product Development			54.310	.300		.700		1.016				
Remarks:												
TARS Support	WR	NUWC/Newport, RI	3.700	.300	10/98	.000	-	.000	-	.000	4.000	
Multi-Static (Distant Thunder) Algorithm Assessment/Improv	CPFF	BBN	-	-	-	.300	11/99	.000	11/00	Cont.	Cont.	
Multi-Static (Distant Thunder) Performance Assessment	SS/CPFF	APL/JHU, MD	-	-	-	.300	11/99	.300	11/00	Cont.	Cont.	
Multi-Static (Distant Thunder) Analysis of Alternatives	MIPR	US Army/Mitre	-	-	-	.150	11/99	.150	11/00	Cont.	Cont.	
Subtotal Support			5.190	.300		.750		.450				

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APPROPRIATION/BUDGET ACTIVITY RDT&E,N/B.A.-4	PROGRAM ELEMENT NAME AND NUMBER Surface ASW/PE # 0603553N	PROJECT NAME AND NUMBER ASW Advanced Development/V1704

Remarks												
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total Pys Cost	FY99 Cost	FY99 Award Date	FY00 Cost	FY00 Award Date	FY01 Cost	FY01 Award Date	Cost To Complete	Total Cost	Target Value of Contract
TARS Developmental T&E	WR	NUWC/Newport, RI	1.150	.300	10/98	.000	-	.000	-	.000	1.450	
Distant Thunder Developmental T&E and Evaluation	CPFF	BBN	-	-	-	.704	11/99	.746	11/00	Cont.	Cont.	
Distant Thunder Developmental T&E and Evaluation	SS/CPFF	APL/JHU, MD	-	-	-	.500	11/99	.500	11/00	Cont.	Cont.	
Distant Thunder Developmental T&E and Evaluation	WR	NAWC/Pax River, MD	-	-	-	.200	10/99	.200	10/00	Cont.	Cont.	
Subtotal T&E			1.150	.300		1.404		1.446				
Remarks:												
Management Support	Various	Various	.870	.000	-	.000	-	.000	-	.000	.870	
TARS/Distant Thunder Program Management Support	C/CPFF	Misc / Stanley Associates, VA	.270	.130	11/98	.050	11/99	.026	11/00	Cont.	Cont.	
TARS/Distant Thunder Travel	PD/WR	PEO(USW)/ASTO & Others	.080	.045	10/98	.045	10/99	.025	10/00	Cont.	Cont.	
Subtotal Management			1.240	.175		.095		.051				

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APPROPRIATION/BUDGET ACTIVITY RDT&E,N/B.A.-4	PROGRAM ELEMENT NAME AND NUMBER Surface ASW/PE # 0603553N	PROJECT NAME AND NUMBER ASW Advanced Development/V1704

Remarks:

Total Cost			61.890	1.075		2.949		2.963		Cont.	Cont.	
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Remarks:

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