

CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2000			
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-5					R-1 ITEM NOMENCLATURE Submarine System Equipment Development/0604503N					
COST (\$ in Millions)		FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Total PE Cost		57.730	74.245	34.801	36.293	33.300	60.336	65.271	CONT.	CONT.
Submarine Support Equipment/F0775		2.205	1.001	0.942	0.654	0.649	0.663	0.675	CONT.	CONT.
Submarine Sonar Improvement/F0219		35.349	65.421	28.214	24.540	20.271	41.828	37.722	CONT.	CONT.
Multi-Purpose Processor/F2428		11.615	0.000	0.000	0.000	0.000	0.000	0.000	CONT.	CONT.
Submarine Integrated Antenna Systems/X0742		2.815	2.008	0.951	0.843	8.126	13.681	22.616	CONT.	CONT.
Submarine Tactical Communications Systems/X1411		5.746	5.815	4.694	10.256	4.254	4.164	4.258	CONT.	CONT.
Quantity of RDT&E Articles		0	2.5	0	0	0	0	0		

A. (U) Mission Description and Budget Item Justification: The Submarine Support Equipment Program develops and improves submarine Electronic Support Measures (ESM) techniques and components, equipment, and systems that will increase submarine operational effectiveness in the increasingly dense and sophisticated electromagnetic environment caused by the proliferation of complex radar, communications, and navigation equipment of potential adversaries. Improvements are necessary for submarine ESM to be effective in conducting the following mission areas: Joint Littoral Warfare, Joint Surveillance, Space and Electronic Warfare and Intelligence Collection, Maritime Protection, and Joint Strike. The major efforts in this area are the Engineering and Manufacturing Development of the Virginia Class Electronic System (formerly ASTECS), Integrated ESM Mast, ES software problem evaluation and resolution, and de-installation of the ES Engineering Developmental Model (EDM) from the DT/OT test platform. The ES system is also planned for backfit on SSN 688 and SEAWOLF class submarines.

(U) The Submarine Sonar Improvement Program delivers block updates to Sonar Systems installed on SSN 688, 688I, 21 and TRIDENT Class Submarines to maintain clear acoustic, tactical and operational superiority over submarine and surface combatants in all scenarios through detection, classification, localization and contact following. Current developments are focused on supporting Littoral Warfare, Regional Sea Denial, Battle Group Support, Diesel Submarine Detection, Surveillance, and Peacetime Engagement.

(U) The Submarine Integrated Antenna Systems project develops the antennas needed to communicate in networks such as Ultra High Frequency Satellite

R-1 SHOPPING LIST - Item No. 101

Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, page 1 of 30)

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification

DATE:

February 2000

APPROPRIATION/BUDGET ACTIVITY

RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-5

R-1 ITEM NOMENCLATURE

Submarine System Equipment Development/0604503N

Communications, Extremely Low Frequency (ELF), Extremely High Frequency (EHF), Super High Frequency and Global Positioning System. Hardware developments include: (a) mast-mounted systems; (b) buoyant cable systems; (c) expendable buoy systems and (d) submarine antenna distribution systems.

(U) The Submarine Tactical Communications Systems project provides attack submarines with an exterior communications system which: (a) minimizes the time required at communications depth; (b) enhances operability, reducing errors and manpower requirements; and (c) provides flexibility for low impact growth and change throughout the life of the submarine. Design efforts will provide increased antenna signal distribution and interconnection subsystems to accommodate ELF, EHF, and Mini-Demand Assigned Multiple Access and a message storage and processing subsystem.

	FY 1999	FY 2000	FY 2001
FY 2000 President's Budget:	61.900	48.896	34.899
Appropriated Value:	62.294	76.896	0.000
Adjustment to FY 1999/2000 Appropriated Value/ FY 2000 President's Budget:	-4.564	-2.651	-0.098
FY 2001 President's Budget Submit:	57.730	74.245	34.801

(U) Change Summary Explanation:

Funding: See individual program element summaries for specific data. In FY2000, \$1.590M portion of the extramural program is reserved for SBIR assessment IAW 15 USC 638.

Schedule: See individual program element summaries

Technical: See individual program element summaries

R-1 SHOPPING LIST - Item No. 101

Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, page 2 of 30)

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2000				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5		PROGRAM ELEMENT NAME AND NUMBER Submarine Spt Equipment Dev/0604503N			PROJECT NAME AND NUMBER Submarine Support Equipment Program/F0775						
COST (\$ in Millions)			FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Project Cost			2.205	1.001	0.942	0.654	0.649	0.663	0.675	CONT.	CONT.
RDT&E Articles Qty			0	0	0	0	0	0	0		

A. (U) Mission Description and Budget Item Justification: This program develops and improves techniques and components, equipment, and systems that will increase submarine operational effectiveness in the increasingly dense and sophisticated electromagnetic environment caused by the proliferation of complex radar, communications, and navigation equipment of potential adversaries. Improvements are necessary for Submarine Electronic Support Measures to be effective in conducting the following mission areas: Joint Littoral Warfare; Joint Surveillance, Space and Electronic Warfare and Intelligence Collection; Maritime Protection; and Joint Strike. Specific efforts include development of the: (1) Virginia Class/688 AN/BLQ-10 ES System, (2) Integrated ESM Mast, (3) AN/BLQ-10 ES System software problem evaluation and resolution and (4) de-installation of the AN/BLQ-10 ES System EDM from the DT/OT test platform. The ES system is also planned for backfit on SSN 688 and SSN-21 class submarines. Two AN/BLQ-10 ES System EDM's were put under contract in FY95 and delivered in FY99. One AN/BLQ-10 ES System EDM will be used for system integration testing and at-sea testing on board an SSN 688 class submarine. The other AN/BLQ-10 ES System EDM will be prepared as a production level system and installed on the Va. Class leadship. Two IEM EDMs were put under contract in FY93 and are provided as GFE to the AN/BLQ-10 ES system EDM contract. There are no new test articles being procured during this timeframe. The AN/BLQ-10 ES System software problem evaluation and resolution will provide for correction of EDM software problems identified during Land Based Integration Testing (LBIT), at-sea testing and Follow-on Test and Evaluation (FOT&E).

(U) Program Accomplishment and Plans:

1. (U) FY 1999 Accomplishments:

- (U) (\$1.807) Completed AN/BLQ-10 ES System EDM development with acceptance of EDMs.
- (U) (\$.398) Performed AN/BLQ-10 ES System EDM software problem evaluation and resolution.

R-1 SHOPPING LIST - Item No. 101

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 3 of 30)

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification		DATE:	February 2000																								
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER																									
RDT&E, N/BA-5	Submarine Spt Equipment Dev/0604503N	Submarine Support Equipment Program/F0775																									
<p>2. (U) FY 2000 Plan:</p> <ul style="list-style-type: none"> - (U) Installed AN/BLQ-10 ES System EDM on a SSN 688 test platform. (Effort funded by P.E. 0604558N, Project F1950) - (U) (\$.301) Perform at-sea technical and operational evaluations of AN/BLQ-10 ES System EDM on SSN 688 test platform. - (U) (\$.700) Continue to perform AN/BLQ-10 ES System EDM software problem evaluation and resolution. <p>3. (U) FY 2001 Plan:</p> <ul style="list-style-type: none"> - (U) (\$.300) De-Install AN/BLQ-10 ES System EDM from 688 test platform. - (U) (\$.642) Continue to perform AN/BLQ-10 ES System EDM software problem evaluation and resolution. <p>(U) Program Change Summary:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"></th> <th style="width: 15%; text-align: center;">FY 1999</th> <th style="width: 15%; text-align: center;">FY 2000</th> <th style="width: 10%; text-align: center;">FY 2001</th> </tr> </thead> <tbody> <tr> <td>FY 2000 President's Budget:</td> <td style="text-align: center;">2.606</td> <td style="text-align: center;">1.007</td> <td style="text-align: center;">0.950</td> </tr> <tr> <td>Appropriated Value:</td> <td style="text-align: center;">2.606</td> <td style="text-align: center;">1.007</td> <td></td> </tr> <tr> <td>Adjustment to FY 1999/2000 Appropriated Value/</td> <td style="text-align: center;">-0.401</td> <td style="text-align: center;">-0.006</td> <td style="text-align: center;">-0.008</td> </tr> <tr> <td>FY 2000 President's Budget:</td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY 2001 PRES Budget Submit:</td> <td style="text-align: center;">2.205</td> <td style="text-align: center;">1.001</td> <td style="text-align: center;">0.942</td> </tr> </tbody> </table>					FY 1999	FY 2000	FY 2001	FY 2000 President's Budget:	2.606	1.007	0.950	Appropriated Value:	2.606	1.007		Adjustment to FY 1999/2000 Appropriated Value/	-0.401	-0.006	-0.008	FY 2000 President's Budget:				FY 2001 PRES Budget Submit:	2.205	1.001	0.942
	FY 1999	FY 2000	FY 2001																								
FY 2000 President's Budget:	2.606	1.007	0.950																								
Appropriated Value:	2.606	1.007																									
Adjustment to FY 1999/2000 Appropriated Value/	-0.401	-0.006	-0.008																								
FY 2000 President's Budget:																											
FY 2001 PRES Budget Submit:	2.205	1.001	0.942																								

R-1 SHOPPING LIST - Item No. 101

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 4 of 30)

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2000			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5	Submarine Spt Equipment Dev/0604503N			Submarine Support Equipment Program/F0775						
(U) Change Summary Explanation:										
Funding: FY99 decrease of .099 was for minor pricing adjustments and \$0.302 to fund approved emergent requirements and approved program reductions. FY00 decrease of 0.006 is for approved program reductions. The FY01 decrease of 0.008 is for minor pricing adjustments and approved program reductions.										
Schedule: Acceptance of the two (2) AN/BLQ-10 ES Engineering Development Models was delayed due to technical issues. All issues were resolved and the EDMs were accepted in May 99 instead of Nov 98. The AN/BLQ-10 ES production contract award for the first two (2) Virginia Class systems and first (4) 688 class systems was delayed from Mar 99 to Dec 99. This delay was a result of constrained contract organization resources needed to award the contract and changes in system architecture requirements. Completion of AN/BLQ-10 ES System DTIIB/Land Based Integration Testing (LBIT) and OT IIA was delayed until 4th quarter FY99 due to a technical problem identified during LBIT.										
Technical: Not Applicable										
	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Cost	
OPN Line 256000	1.802	36.547	15.112	26.740	44.214	27.130	45.844	0.000	197.389	
PE0204281N										
SSEP ML015										
MLXX1	0.000	0.000	0.000	0.000	5.933	0.000	6.849	0.000	12.782	
MLXX2	0.000	0.000	0.000	0.000	0.000	0.000	9.784	0.000	9.784	
OPN Line 256005	2.096	1.640	2.204	4.226	2.599	2.914	4.797	5.900	26.376	
PE 0204281N										
SSEP ML5IN										
O&M,N	0.000	0.678	1.833	2.296	2.375	2.391	2.456	CONT.	12.049	
PE 0702827N/Subhead 8B2B										
SSEP										
SCN LI 201300	19.240	0.000	20.025	20.483	21.796	22.271	22.849	647.473	800.700	
PE 0204287N										
Partial (AN/BLQ-10 ES Only)										

R-1 SHOPPING LIST - Item No. 101

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 5 of 30)

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2000
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NAME AND NUMBER Submarine Spt Equipment Dev/0604503N	PROJECT NAME AND NUMBER Submarine Support Equipment Program/F0775
<p>Related RDT&E: (U) PE 0603562N/Submarine Tactical Warfare System (U) PE 064558N/New SSN Combat Systems Development/Project F1950 (U) PE 064558N/New SSN Combat Systems Development/Project F2430</p> <p>C. (U) Acquisition Strategy: Current efforts in this project consist of P3 improvements (Tech Insertion) to the ESM system which is already under contract.</p> <p>D. (U) Schedule Profile: ESM Program Schedule attached.</p>		

R-1 SHOPPING LIST - Item No. 101

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 6 of 30)

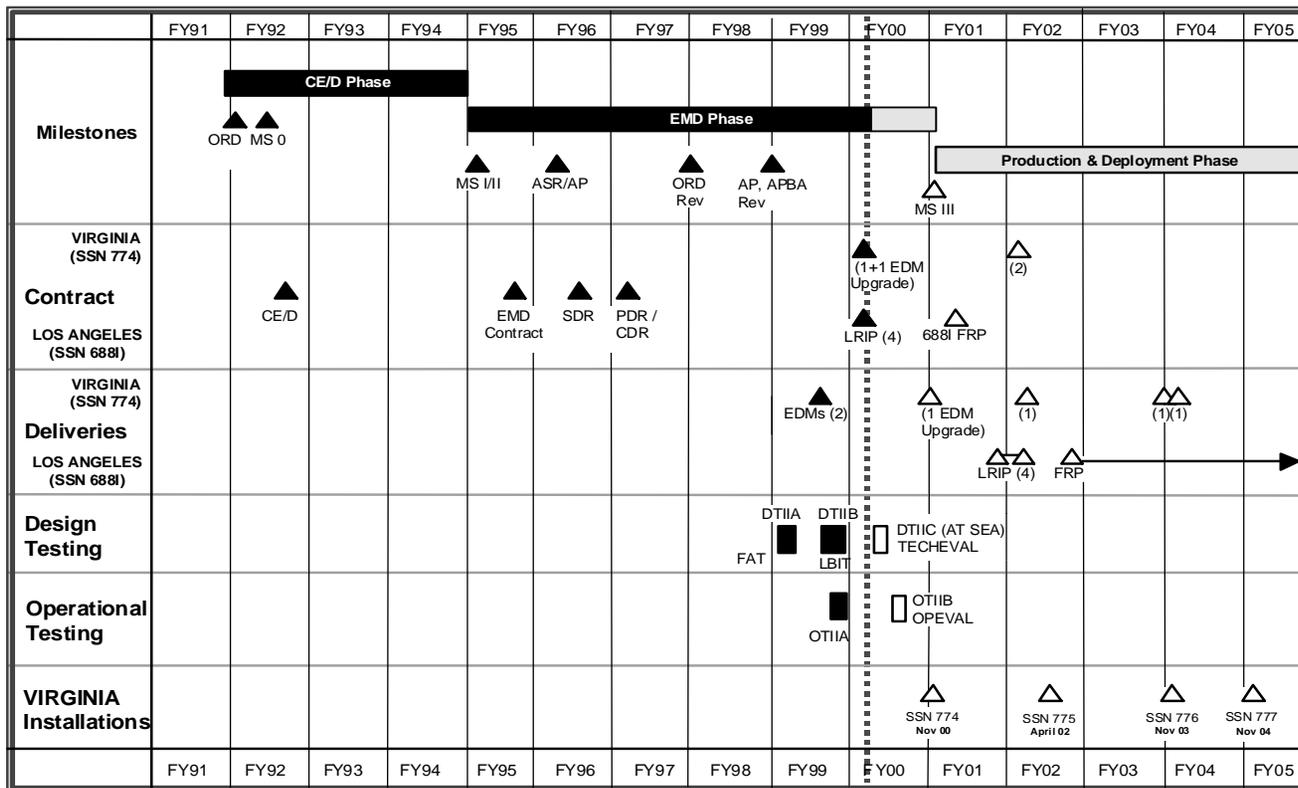
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APPROPRIATION/BUDGET ACTIVITY
RDT&E, N/BA-5

PROGRAM ELEMENT NAME AND NUMBER
Submarine Spt Equipment Dev/0604503N

PROJECT NAME AND NUMBER
Submarine Support Equipment Program/F0775

AN/BLQ-10(V) Program Schedule



R-1 SHOPPING LIST - Item No. 101

CLASSIFICATION:

UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 1)							DATE: February 2000					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			Submarine Sys Equip Dev/0604503N			Submarine Support Equipment Program/F0775						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development												
IEM/HPI Interface	SS/CPIF	SENSYS Tech Newington, VA	2.700	0.000	N/A	0.000	N/A	0.000	N/A	0.000	2.700	2.700
AN/BLQ-10 ES/IEM BDE EDMS	C/FFP	Lockheed Syracuse, NY	7.500	0.278	05/99	0.000	N/A	0.000	N/A	0.000	7.778	7.778
AN/BLQ-10 ES P3 Improvements	SS/FFP	Lockheed Syracuse, NY	0.000	0.398	06/99	0.700	02/00	0.617	12/00	CONT.	CONT.	TBD
Ancillary Hardware Development											0.000	
Systems Engineering	WR	NUWC Newport, RI	3.800	0.592	11/98	0.000	N/A	0.000	N/A	0.000	4.392	N/A
Miscellaneous	VARIOUS	VARIOUS	12.400	0.359	Var	0.276	Var	0.300	Var	CONT.	13.335	N/A
Licenses											0.000	
Tooling											0.000	
GFE (AN/UYQ-70 Displays)	C/FFP	Lockheed Eagan, MN	0.700	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.700	N/A
IEM ADSU EMD (EDMs)	C/CPIF/CPAF	E-Systems Goleta, CA	38.100	0.286	05/99	0.000	N/A	0.000	N/A	0.000	38.386	38.386
Award Fees	C/CPAF	E-Systems Goleta, CA	0.200	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.200	0.200
Subtotal Product Development			65.400	1.913		0.976		0.917		CONT.	CONT.	N/A
<p>Remarks: Both IEM and GFE EDM's will be used by the ESM EDM prime contractor for systems integration and shock qualification testing. Payment of award fees on the IEM ADSU EMD contract were discontinued due to cost and schedule problems. The contract was subsequently re-structured.</p>												
Development Support Equipment											0.000	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Engineering Technical Services	C/CPIF	GRCI McLean, VA	2.700	0.000	N/A	0.000	N/A	0.000	N/A	0.000	2.700	N/A
Studies Analysis & Evaluations	MIPR	MITRE, McLean, VA	1.000	0.000	N/A	0.000	N/A	0.000	N/A	0.000	1.000	N/A
GFE											0.000	
Subtotal Support			3.700	0.000		0.000		0.000		0.000	3.700	
<p>Remarks:</p>												

R-1 SHOPPING LIST - Item No. 101

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 8 of 30)

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 2)							DATE: February 2000					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			Submarine Sys Equip Dev/0604503N			Submarine Support Equipment Program/F0775						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Tooling											0.000	
GFE											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	
Management Support Services	C/CPAF	EG&G, Arlington, VA	0.000	0.292	01/99	0.000	N/A	0.000	N/A	0.000	0.292	N/A
Travel	TO's	Various		0.000		0.025	10/00	0.025	10/00	CONT.	0.050	N/A
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			0.000	0.292		0.025		0.025		CONT.	CONT.	CONT.
Remarks:												
Total Cost			69.100	2.205		1.001		0.942		CONT.	CONT.	CONT.
Remarks:												

R-1 SHOPPING LIST - Item No. 101

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 9 of 30)

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2000				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5		PROGRAM ELEMENT NAME AND NUMBER Submarine Sys Equip Dev/0604503N			PROJECT NAME AND NUMBER Submarine Sonar Improvement/F0219						
COST (\$ in Millions)			FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Project Cost			35.349	65.421	28.214	24.540	20.271	41.828	37.722	CONT.	CONT.
RDT&E Articles Qty			0	2.5	0	0	0	0	0		

A. (U) Mission Description and Budget Item Justification: This program delivers block updates to Sonar Systems installed on SSN 688, 688I, 21 and TRIDENT Class Submarines to maintain clear acoustical, tactical and operational superiority over submarine and surface combatants in all scenarios through detection, classification, localization and contact following. Current developments, detailed below, are focused on supporting Littoral Warfare, Regional Sea Denial, Battle Group Support, Diesel Submarine Detection, Surveillance, and Peacetime Engagement. The AN/BSY-1 ECP 1000, the AN/BQQ-5 Medium Frequency Active Improvement program and Improved Control Display Console Obsolete Equipment Replacement have been modified to become the basis of the Acoustics Rapid Commercial Off The Shelf Insertion program (A-RCI). A-RCI is a multi-phased, evolutionary development effort geared toward addressing Acoustic Superiority issues through the rapid introduction of interim development products applicable to SSN 688, 688I Flight, SSN21, and SSBN 726 Class Submarines. A-RCI Phases I and II introduce towed array processing improvements; A-RCI Phase III introduces spherical array processing improvements. The AN/BSY-1 High Frequency Upgrade is a stand-alone program which will be introduced as A-RCI Phase IV for SSN 688I only. Precision Bottom Mapping transition, integration and testing begin in FY01. Towed systems development efforts will focus on: (a) tow cable improvements for shallow water towing in littoral environments; (b) hydrophone and telemetry cost and risk reduction initiatives; (c) mechanical endurance improvements; (d) TB-29 (A) towed array Engineering Developmental Model (EDM) development; and (e) TB-16 replacement EDM development. The TB-29(A) array will provide additional war fighting capability over the TB-23 at a reduced unit cost compared to the TB-29, through the use of Commercial Off The Shelf (COTS) telemetry, lower cost hydrophones, and fewer non-acoustic sensors. TB-29(A) EDMs are being procured in FY00 to support developmental and operational testing. AN/BSY-2 efforts will focus on Block 5 Upgrade, which resolves reliability and obsolescence issues and maximizes commonality with existing submarine combat systems under the Integrated Development Plan (IDP) to minimize life cycle costs.

R-1 SHOPPING LIST - Item No. 101

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 10 of 30)

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification		DATE:	February 2000
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER	
RDT&E, N/BA-5	Submarine Sys Equip Dev/0604503N	Submarine Sonar Improvement/F0219	
<p>1. (U) FY 1999 Accomplishments:</p> <ul style="list-style-type: none"> - (U) (\$15.710) Conducted at-sea testing of Acoustic Rapid Commercial Off-the-Shelf Insertion (A-RCI) Phase II and continued development of A-RCI Phase III. - (U) (\$10.936) Continued development of A-RCI Phase IV. Began Advanced Processing Build Sea Testing. - (U) (\$ 7.803) Continued development of TB-29(A) towed array. - (U) (\$.900) Continued development for Desk Top Computer (DTC) Improvements. <p>2. (U) FY 2000 Plan:</p> <ul style="list-style-type: none"> - (U) (\$11.473) Continue development of A-RCI phase III. Conduct at-sea testing of A-RCI Phase I – IV. - (U) (\$ 8.972) Continue development of A-RCI Phase IV. Continue Advanced Processing Build Sea Testing. - (U) (\$28.000) Continued research, development, training, and deployment of the Multipurpose Processor - (U) (\$ 9.316) Continue development of TB-29(A) towed array. Conduct TB-29(A) DT-IIA to support Low-Rate Initial Production Decision. - (U) (\$.900) Continue development for DTC Improvements. - (U) (\$ 4.660) Begin AN/BSY-2 block 5 development. - (U) (\$ 2.100) Begin Precision Bottom Mapping transition, integration and testing. <p>3. (U) FY 2001 Plan:</p> <ul style="list-style-type: none"> - (U) (\$6.656) Continue Advance Processing Build Sea Testing, Integration and Certification. - (U) (\$5.433) Complete development, Opeval and Techeval for A-RCI Phase III and IV, and obtain Milestone III. - (U) (\$4.839) Complete development of TB-29(A) towed array. - (U) (\$.790) Begin development of TB-16 replacement. - (U) (\$.900) Continue development for DTC Improvements. - (U) (\$6.096) Continue AN/BSY-2 block 5 development and integration. - (U) (\$3.500) Continue Precision Bottom Mapping transition, integration and testing. 			
	FY 1999	FY 2000	FY 2001
FY 2000 President's Budget:	37.209	40.023	28.032
Appropriated Value:	37.209	68.023	0.000
Adjustment to FY 1999/2000 Appropriated Value/	-1.860	-2.602	0.182
FY 2000 President's Budget:			
FY 2001 President's Budget Submit:	35.349	65.421	28.214

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2000																							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5		PROGRAM ELEMENT NAME AND NUMBER Submarine Sys Equip Dev/0604503N			PROJECT NAME AND NUMBER Submarine Sonar Improvement/F0219																								
<p>(U) Change Summary Explanation:</p> <p>Funding: FY 1999 decrease of \$1.860M for minor pricing adjustments. FY2000 increase of \$.061M for Strategic Sourcing Redistribution and a decrease of \$2.3M for reduction of NMRS O&MN funding and a decrease \$0.363M for approved reductions. FY2001 increase of \$.263 for Strategic Sourcing Redistribution and a decrease of \$0.81M for approved reductions.</p> <p>Schedule: This submit establishes Acoustic Rapid Commercial Off-the-Shelf Insertion Phase I-IV program schedule.</p> <p>Technical: A-RCI increases technical capabilities over programs through the use of commercial off –the- shelf components, open system architecture, and leveraging advanced development efforts.</p> <p>B. (U) Other Program Funding Summary:</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:25%;"></th> <th style="width:10%;">FY 1999</th> <th style="width:10%;">FY 2000</th> <th style="width:10%;">FY 2001</th> <th style="width:10%;">FY 2002</th> <th style="width:10%;">FY 2003</th> <th style="width:10%;">FY 2004</th> <th style="width:10%;">FY 2005</th> <th style="width:10%;">To Complete</th> <th style="width:10%;">Total Cost</th> </tr> </thead> <tbody> <tr> <td>OPN BLI 21470</td> <td style="text-align: right;">146.698</td> <td style="text-align: right;">216.379</td> <td style="text-align: right;">106.647</td> <td style="text-align: right;">117.922</td> <td style="text-align: right;">229.302</td> <td style="text-align: right;">162.787</td> <td style="text-align: right;">165.387</td> <td style="text-align: center;">CONT.</td> <td style="text-align: center;">CONT.</td> </tr> </tbody> </table> <p>RELATED RDT&E:</p> <ul style="list-style-type: none"> PE 0604524N (Submarine Combat Systems) PE 0604558N (New SSN Combat Systems Development) PE 0604561N (SSN-21 Development) PE 0604562N (Submarine Tactical Warfare System (ENG)) <p>C. (U) Acquisition Strategy: The TB-29(A) will be developed and manufactured under the US Navy Towed Systems Omnibus contract, awarded in FY99 to Lockheed Martin Integrated Systems, Bethesda, MD using full and open competition. This flexible contract vehicle will be used by submarine, surface ship, and surveillance towed system program offices. The contract is planned to take advantage of economies of scale in development and manufacturing and to encourage the use of commonality among all Navy towed systems. A Low-Rate Initial Production (LRIP) decision for TB-29 (A) is planned in FY00 based on developmental tests (DT- IIA). An Operational Evaluation (OPEVAL) on a SSN688 or SSN688I platform is planned in FY01 to support a Milestone III Release to Fleet (RTF) decision for TB-29(A).</p>											FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Cost	OPN BLI 21470	146.698	216.379	106.647	117.922	229.302	162.787	165.387	CONT.	CONT.
	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Cost																				
OPN BLI 21470	146.698	216.379	106.647	117.922	229.302	162.787	165.387	CONT.	CONT.																				

R-1 SHOPPING LIST - Item No. 101

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 12 of 30)

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EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NAME AND NUMBER Submarine Sys Equip Dev/0604503N	February 2000
<p>A-RCI utilizes an open architecture and Commercial Off-the-Shelf products in support of new and upgraded sonar systems. A sole source cost plus award fee contract was awarded to Lockheed Martin Federal Systems. Program Review with Milestone Decision Authority was conducted in April 1999 granting approval for the FY99 production option.</p> <p>A Sole Source Cost Plus Award Fee contract was awarded to Lockheed Martin, Syracuse in 1997. The B2-CI program adapts ARCI open architecture COTS equipment into the AN/BSY-2 Combat System to improve performance and maximize commonality across submarine platforms.</p> <p>D. (U) Schedule Profile: See attached schedules.</p>		

R-1 SHOPPING LIST - Item No. 101

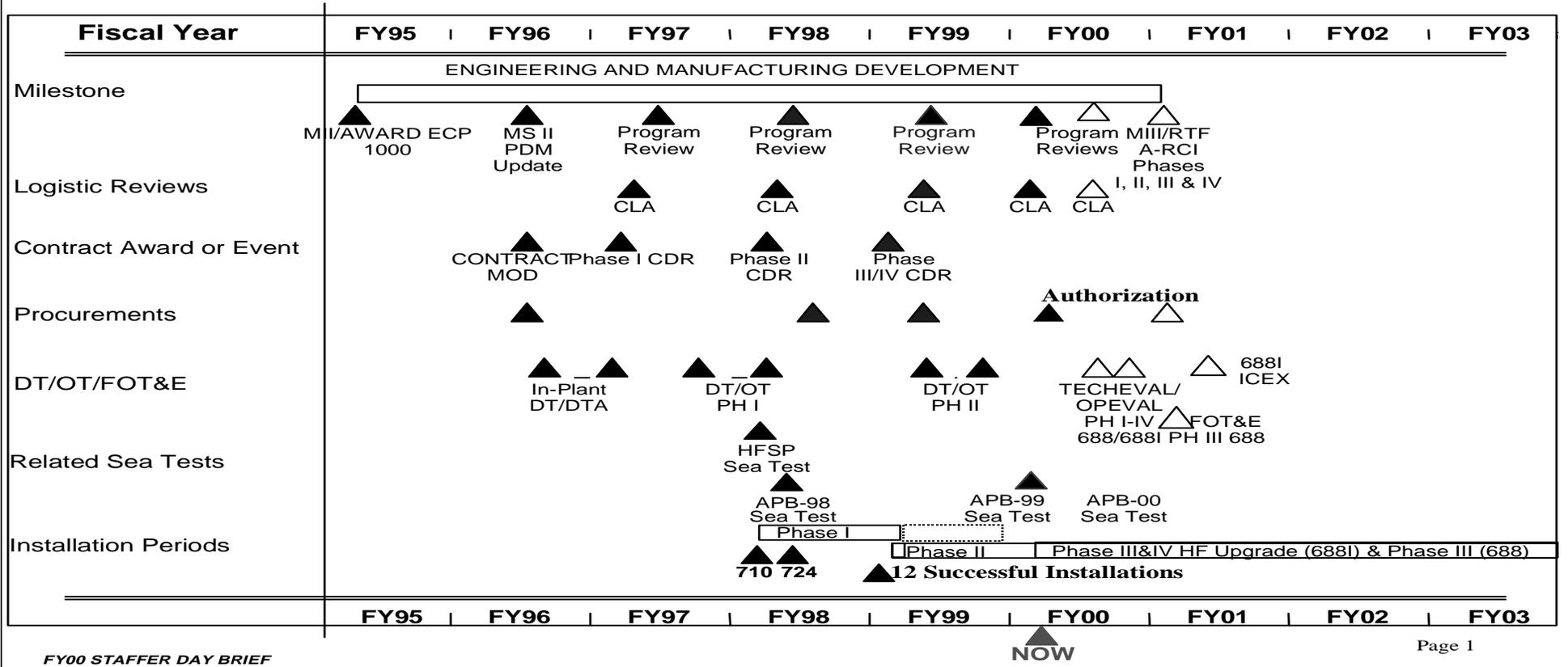
Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 13 of 30)

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EXHIBIT R-2a, RDT&E Project Justification	DATE: February 2000
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NAME AND NUMBER Submarine Sys Equip Dev/0604503N	PROJECT NAME AND NUMBER Submarine Sonar Improvement/F0219
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MASTER PROGRAM SCHEDULE



FY00 STAFFER DAY BRIEF

Page 1

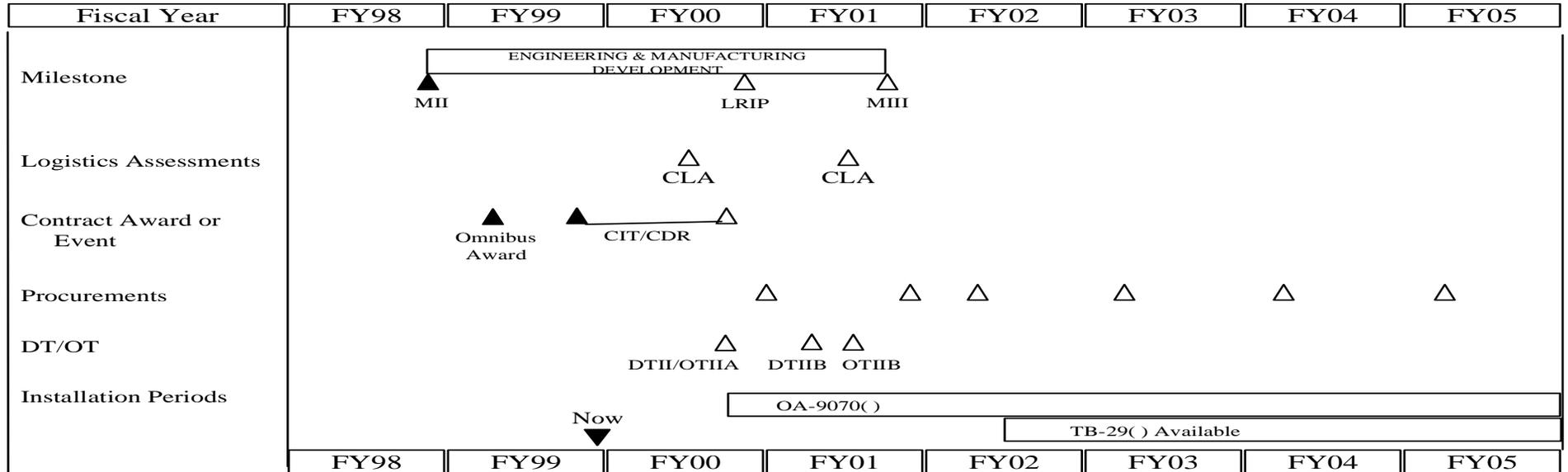
EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2000
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NAME AND NUMBER Submarine Sys Equip Dev/0604503N	PROJECT NAME AND NUMBER Submarine Sonar Improvement/F0219
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Submarine Combat Systems

Master Program Schedule TB-29() Development/Production



98002/1
6/7/99

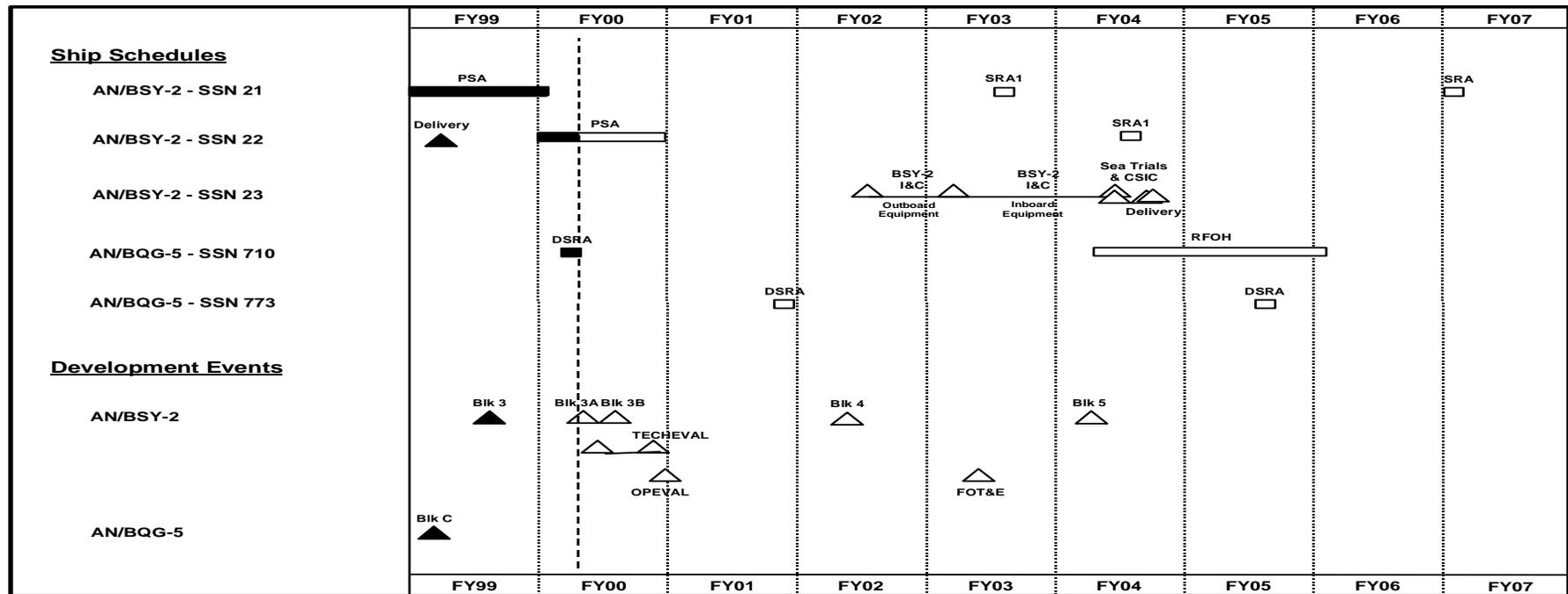
APPROPRIATION/BUDGET ACTIVITY
RDT&E, N/BA-5

PROGRAM ELEMENT NAME AND NUMBER
Submarine Sys Equip Dev/0604503N

PROJECT NAME AND NUMBER
Submarine Sonar Improvement/F0219



CURRENT PLAN OF RECORD MASTER SCHEDULE



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Exhibit R-3 Cost Analysis (page 1)							DATE: February 2000					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			SSN-688 and Trident Modernization/0604503N			Submarine Sonar Improvement/F0219						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/Various	Lockheed Martin (OMNIBUS)	0.300	3.261	12/98	6.892	N/A	1.898	N/A	CONT.	CONT.	23.140
Primary Hardware Development	SS/Various	Chesapeake Science	1.400	3.028	N/A	0.420	N/A	0.000	N/A	CONT.	CONT.	6.620
Primary Hardware Development	SS/CPAF	Lockheed Manassas, VA	57.800	7.310	11/98	36.400	11/99	1.800	N/A	0.000	103.310	82.500
Primary Hardware Development												
Ancillary Hardware Development											0.000	
Systems Engineering	WR	NUWC Newport, RI	55.800	3.938	10/98	4.200	10/99	4.500	10/00	CONT.	CONT.	N/A
Systems Engineering	SS/CPAF	LMC, Syracuse	0.000	0.000	N/A	4.490	11/99	5.331	11/00	CONT.	CONT.	N/A
Systems Engineering	Various	Various	0.000	6.000	N/A	6.300	N/A	6.000	N/A			
Miscellaneous	Various	Various	0.000	2.888	N/A	4.947	N/A	4.202	N/A	CONT.	CONT.	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees	SS/CPAF	Lockheed, Syracuse NY	0.000	0.000		0.520	05/00	0.615	05/01	CONT.	CONT.	N/A
Subtotal Product Development			115.300	26.425		64.169		24.346		CONT.	CONT.	
<p>Remarks: Maximum award fee budgeted for LMC, Syracuse contract averages 10% of the value placed on contract. Maximum award fee budgeted for Lockheed Martin Federal Systems contract averages 12% of the value placed on contract</p> <p>10/1/96 - 3/31/97 received a rating of outstanding and 100% award . 4/1/97 - 9/30/97 received a rating of outstanding and 100% award. 10/1/97 - 2/21/98 received a rating of above average and 80% award.</p> <p>8/1/96 - 12/31/96 received a rating of Excellent and 88.4% award. 1/1/97 - 6/30/97 received a rating of Outstanding and 100% award. 7/1/97 - 12/31/97 received a rating of Outstanding and 100% award.</p>												
Development Support Equipment											0.000	
Primary Software Development	SS/CPAFF	Digital Systems Resources,VA	16.300	7.700	11/98	0.000	N/A	0.000	N/A	0.000	24.000	29.500
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Subtotal Support			16.300	7.700		0.000		0.000		0.000	24.000	
Remarks:												

R-1 SHOPPING LIST - Item No. 101

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 17 of 30)

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2000		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			SSN-688 and Trident Modernization/0604503			Submarine Sonar Improvement/F0219						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Developmental/Operational T&E	Various	Various	3.700	0.372	N/A	0.355	N/A	2.956	N/A	CONT.	CONT.	N/A
Tooling											0.000	
GFE											0.000	
Subtotal T&E			3.700	0.372		0.355		2.956		CONT.	CONT.	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Management Support Services	Various	Various	0.700	0.672	N/A	0.687	N/A	0.702	N/A	CONT.	CONT.	N/A
Travel	PD	NAVSEA	0.180	0.180	N/A	0.210	N/A	0.210	N/A	CONT.	CONT.	N/A
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			0.880	0.852		0.897		0.912		CONT.	CONT.	
Remarks:												
Total Cost			136.180	35.349		65.421		28.214		CONT.	CONT.	
Remarks:												

R-1 SHOPPING LIST - Item No. 101

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 18 of 30)

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EXHIBIT R-2a, FY 2001 RDT&E Project Justification							DATE: February 2000				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5		PROGRAM ELEMENT NAME AND NUMBER Submarine Spt Equipment Dev/0604503N			PROJECT NAME AND NUMBER Submarine Integrated Antenna System/X0742						
COST (\$ in Millions)			FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Project Cost			2.815	2.008	0.951	0.843	8.126	13.681	22.616	CONT.	CONT.
RDT&E Articles Qty			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. (U) Mission Description and Budget Item Justification: The Submarine Integrated Antenna System (SIAS) project provides submarines with antenna systems designed to: (a) permit greater operational flexibility through improved speed/depth performance; (b) improve reliability and availability; and (c) be compatible with existing and emerging communications systems. This project funds research and development for the communications Master Plan (Program Summary). It specifically funds the following developments: OE-538/BRC (Improved AN/BRA-34), High Speed Buoyant Cable Antennas (HSBCAs), High Data Rate Antennas (HDR), Extremely High Frequency (EHF), Super High Frequency (SHF), Advanced HDR (Phased Array Antennas) and Global Positioning Systems (GPS).

(U) Program Accomplishments and Plans:

1. (U) FY 1999 Accomplishments:

- (U) (\$0.484) HDR – Supported Navy/contractor confidence testing on the RP unit.
- (U) (\$0.119) OE-538 – Conducted and supported development and operational testing.
- (U) (\$2.212) Antenna Transition Engineering – Provided system engineering, evaluated technology for submarine antenna applications, provided system architecture, and established exit criteria for MSII. Also conducted Navy/contractor confidence testing, P3I on Iridium antenna modifications.

R-1 SHOPPING LIST - Item No. 101

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 19 of 30)

UNCLASSIFIED

EXHIBIT R-2a, FY 2001 RDT&E Project Justification		DATE:	February 2000
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER	
RDT&E, N/BA-5	Submarine Spt Equipment Dev/0604503N	Submarine Integrated Antenna System/X0742	
<p>2. (U) FY 2000 Plan:</p> <ul style="list-style-type: none"> - (U) (\$0.452) HDR – Continue development and operational testing. - (U) (\$0.382) OE-538 – Initiate development for design changes required for Trident platform applications. - (U) (\$1.174) Antenna Transition Engineering – Evaluation of Transitional Antenna Technology, catalog data, and provide testing of critical antenna parameters to meet submarine platform requirements. Development of UHF SATCOM 3dB antenna gain. Investigate UAV link requirements and antenna modifications required to support this effort. <p>3. (U) FY 2001 Plan:</p> <ul style="list-style-type: none"> - (U) (\$0.561) Antenna Transition Engineering – Conduct test for UHF SATCOM 3dB antenna gain. - (U) (\$0.390) OE-538 – Continue development for design changes required for Trident platform application. 			
	FY 1999	FY 2000	FY 2001
FY 2000 President's Budget:	2.878	2.019	0.955
Appropriated Value:	2.878	2.019	0.000
Adjustment to FY 1999/2000 Appropriated Value/			
FY 2000 President's Budget:	-0.063	-0.011	-0.004
FY 2001 President's Budget Submit:	2.815	2.008	0.951
<p>(U) Change Summary Explanation:</p> <p>Funding: N/A</p> <p>1) FY 1999 decrease of \$0.010M for SBIR/STTR Transfer, \$0.007M for Civilian Personnel Underexecution, \$0.007M for Revised Economic Assumptions, \$0.026M for BTR 99-49 LOCO-GPSI Reprogramming, and \$0.013 for Inflation Savings.</p> <p>2) FY 2000 decrease of \$0.009 for Across-the-Board reductions and \$0.002 for an Across-the-Board Recission Balance.</p> <p>3) FY 2001 decrease of \$0.001M for Strategic Sourcing (Contracts), \$0.001M for NUWC Contracting Efficiencies, \$0.006 for Inflation Savings, \$0.002 for Active Navy Operations and an increase of \$0.006M for NWCF Rates-NUWC.</p>			

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EXHIBIT R-2a, Fy 2001 RDT&E Project Justification						DATE: February 2000																							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5		PROGRAM ELEMENT NAME AND NUMBER Submarine Spt Equipment Dev/0604503N			PROJECT NAME AND NUMBER Submarine Integrated Antenna System/X0742																								
<p>Schedule:</p> <p>1) HDR: Contract delivery of the Rapid Prototype (RP) development system delayed the first Production System award and delivery. All milestones have been adjusted to reflect impact of these schedule delays.</p> <p>2) OE-538/BRC: Due to delay in LRIP delivery, MSIII slipped to 2QFY00.</p> <p>Technical: N/A</p> <p>B. (U) Other Program Funding Summary:</p> <table style="width: 100%; margin-top: 20px;"> <thead> <tr> <th></th> <th>FY 1999</th> <th>FY 2000</th> <th>FY 2001</th> <th>FY 2002</th> <th>FY 2003</th> <th>FY 2004</th> <th>FY 2005</th> <th>To Complete</th> <th>Total Cost</th> </tr> </thead> <tbody> <tr> <td>OPN Line 313000 Hardware and 313005 Installation (Full)</td> <td style="text-align: right;">63.740</td> <td style="text-align: right;">83.202</td> <td style="text-align: right;">77.957</td> <td style="text-align: right;">88.884</td> <td style="text-align: right;">107.808</td> <td style="text-align: right;">95.329</td> <td style="text-align: right;">104.377</td> <td style="text-align: center;">CONT.</td> <td style="text-align: center;">CONT.</td> </tr> </tbody> </table> <p>RELATED RDT&E:</p> <p>PE 0602232N (Space and Electronic Warfare (SEW) Technology)</p> <p>PE 0303109N (Satellite Communications) – Provides for the EHF transmitter and receiver that utilizes the antenna developed under this program.</p>											FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Cost	OPN Line 313000 Hardware and 313005 Installation (Full)	63.740	83.202	77.957	88.884	107.808	95.329	104.377	CONT.	CONT.
	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Cost																				
OPN Line 313000 Hardware and 313005 Installation (Full)	63.740	83.202	77.957	88.884	107.808	95.329	104.377	CONT.	CONT.																				

R-1 SHOPPING LIST - Item No. 101

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 21 of 30)

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EXHIBIT R-2a, FY 2001 RDT&E Project Justification			DATE: February 2000
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NAME AND NUMBER Submarine Spt Equipment Dev/0604503N	PROJECT NAME AND NUMBER Submarine Integrated Antenna System/X0742	
C. (U) Acquisition Strategy:			
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Program Milestones	3Q OE-538/BRC Revised MSII	2Q OE-538/BRC MSIII	1Q HDR MSIII
Engineering Milestones			
T&E Milestones	3Q OE-538/BRC DTIIF 4Q OE-538/BRC OTIIC	4Q HDR DT/OTII	
Contract Milestones	2Q HDR (LRIP)*	2Q HDR (LRIP)* 2Q OE-538 (FRP)	2Q HDR (FRP)
* MSII decision for 9 LRIPs in FY 1999 and 13 in FY 2000.			
D. (U) Schedule Profile: See paragraph C above.			

R-1 SHOPPING LIST - Item No. 101

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 22 of 30)

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CLASSIFICATION:

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2000		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			Submarine Spt Equipment Dev/0604503N			Submarine Integrated Antenna System/X0742						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Hardware Development	CPFF	Raytheon Marlboro, MA	3.800	0.000	N/A	0.000	N/A	0.000	N/A	0.000	3.800	13.700
Hardware Development	WX	NUWC Newport, RI	0.800	0.900	Various	0.382	Various	0.390	Various	CONT.	CONT.	CONT.
Software Development	Various	Various	0.200	0.100	Various	0.000	Various	0.000	Various	CONT.	CONT.	CONT.
Ancillary Hardware Development											0.000	
Systems Engineering	Various	Various	0.437	0.787	Various	1.074	Various	0.460	Various	CONT.	CONT.	CONT.
Site Platform Integration	Various	Various	0.100	0.100	Various	0.000	Various	0.000	Various	CONT.	CONT.	CONT.
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			5.337	1.887		1.456		0.850		CONT.	CONT.	CONT.
Remarks:												
Development Support Equipment											0.000	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support	Various	Various	0.200	0.055	Various	0.000	Various	0.000	Various	CONT.	CONT.	CONT.
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Subtotal Support			0.200	0.055		0.000		0.000		CONT.	CONT.	CONT.
Remarks:												

R-1 SHOPPING LIST - Item No. 101

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 23 of 30)

UNCLASSIFIED

CLASSIFICATION:

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Exhibit R-3 Cost Analysis (page 2)							DATE: February 2000					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			Submarine Spt Equipment Dev/0604503N			Submarine Integrated Antenna System/X0742						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Developmental/Operational T&E	Various	Various	0.100	0.699	Various	0.452	Various	0.000	Various	CONT.	CONT.	CONT.
Tooling											0.000	
GFE											0.000	
Subtotal T&E			0.100	0.699		0.452		0.000		CONT.	CONT.	CONT.
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	Various	Various	0.400	0.174	Various	0.100	Various	0.101	Various	CONT.	CONT.	CONT.
Management Support Services											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			0.400	0.174		0.100		0.101		CONT.	CONT.	CONT.
Remarks:												
Total Cost			6.037	2.815		2.008		0.951				
Remarks:												

R-1 SHOPPING LIST - Item No. 101

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 24 of 30)

UNCLASSIFIED

CLASSIFICATION:

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EXHIBIT R-2a, FY 2001 RDT&E Project Justification							DATE: February 2000				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5		PROGRAM ELEMENT NAME AND NUMBER Submarine Spt Equipment Dev/0604503N			PROJECT NAME AND NUMBER Submarine Tactical Communication System/X1411						
COST (\$ in Millions)			FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Project Cost			5.746	5.815	4.694	10.256	4.254	4.164	4.258	CONT.	CONT.
RDT&E Articles Qty			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. (U) Mission Description and Budget Item Justification: The Submarine Tactical Communications System project provides attack submarines with communications systems designed to: (a) enhance data throughput through automation and integrated network management; (b) copy tactical data networks, such as Tactical Data Information Exchange System (TADIXS); (c) be interoperable with other U.S. and allied military networks; and (d) improve reliability, maintainability, and availability. This is accomplished by providing the attack submarine with a properly integrated mix of Navy standard communication equipment covering a wide range of frequencies and modes. Included in this project is the Submarine Communications Support System (SCSS) which provides a system engineering approach for the design and evaluation of new and existing submarine radio rooms. In addition, the project provides support for the Land-Based Submarine Radio Room (LBSRR) for new systems evaluation and integration. The project includes system engineering efforts associated with demonstration of new technology which will allow the submarine to be a participant in battle group and joint operations. The new technology will increase the submarine's communications, command, and control capability. This project funds research for equipment in the OPNAV approved SCSS Program Summary. It specifically funds the development of the improved Submarine Message Buffer (SMB) and SCSS. These two efforts will develop the computer controlled radio room for submarines. Submarines without SCSS capability will be limited in their interoperability with the rest of the Navy. Lastly, this program provides funds to integrate Joint Tactical Information Distribution System (JTIDS) into the SCSS and the transition to a Tactical Data Link.

(U) Program Accomplishments and Plans:

1. (U) FY 1999 Accomplishments:

- (U) (\$3.711) SCSS – Completed Integration and conducted landbased testing of SCSS Phase II. Commence planning and design of Phase of SCSS Phase III.
- (U) (\$2.035) Submarine Tactical Data Link (STD L) - Continued integration and development testing for STD L.

R-1 SHOPPING LIST - Item No. 101

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 25 of 30)

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CLASSIFICATION:

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EXHIBIT R-2a, FY 2001 RDT&E Project Justification

DATE:

February 2000

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT NAME AND NUMBER

PROJECT NAME AND NUMBER

RDT&E, N/BA-5

Submarine Spt Equipment Dev/0604503N

Submarine Tactical Communication System/X1411

2. (U) FY 2000 Plan:

- (U) (\$4.483) SCSS – Complete design and begin integration of SCSS Phase III. Commence planning and design of SCSS Phase IV.
- (U) (\$1.332) Submarine Tactical Data Link (STDL) – Continue integration and development testing for STDL.

3. (U) FY 2001 Plan:

- (U) (\$3.404) SCSS – Complete integration of SCSS Phase III. Continue design of SCSS Phase IV.
- (U) (\$0.990) Trident SCSS – Start planning and design of SCSS incorporation into Ohio class.
- (U) (\$0.300) Submarine Tactical Data Link (STDL) – Continue integration and development testing for STDL .

(U) Program Change Summary:

	FY 1999	FY 2000	FY 2001
FY 2000 President's Budget:	7.607	5.847	4.962
Appropriated Value:	7.607	5.847	0.000
Adjustment to FY 1999/2000 Appropriated Value/			
FY 2000 President's Budget:	-1.861	-0.032	-0.268
FY 2001 President's Budget Submit:	5.746	5.815	4.694

R-1 SHOPPING LIST - Item No. 101

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 26 of 30)

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CLASSIFICATION:

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EXHIBIT R-2a, FY 2001 RDT&E Project Justification

DATE:

February 2000

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT NAME AND NUMBER

PROJECT NAME AND NUMBER

RDT&E, N/BA-5

Submarine Spt Equipment Dev/0604503N

Submarine Tactical Communication System/X1411

(U) Change Summary Explanation:

Funding:

1) FY 1999 decrease of \$0.104M for SBIR/STTR Transfer, \$0.049M for FFRDC Distribution, \$0.004M for Contract Advisory & Assistance, \$0.011M for Civilian Personnel Underexecution, \$0.017M for Revised Economic Assumption, \$1.0M for DD 1002 Update, \$0.640M for FY99 Midyear Review BTRs, \$0.034 for Inflation Savings and \$0.002 for FY99 BTRs.

2) FY 2000 decrease of \$0.026M for Across-the-Board Reductions and \$0.006M for an Across-the-Board Rescission Balance.

3) FY 2001 decrease of \$0.300M for Sub Comms Adjustment, \$0.004M for Strategic Sourcing (Contracts), \$0.004 for NCWF Rates-NCCOSC, \$0.005M for NUWC Functionality Assessments, \$0.018M for NUWC Contract Efficiencies, \$0.002 for NWCF Rates-NUWC, \$0.032 for Inflation Savings, \$0.012 for Active Navy Operations and an increase of \$0.098M for NCWF Rates-NUWC, \$0.008 for RDTE Rate Changes, and \$0.003 for Military/Civilian Pay Rates.

Schedule: N/A

Technical: N/A

	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Cost
OPN Line 31300 Hardware and 313005 Installation (Full)	63.740	83.202	77.957	88.884	107.808	95.329	104.377	CONT.	CONT.

OPN Line 31300 Hardware and 313005 Installation (Full)

RELATED RDT&E:

PE 0204163N (Fleet Communications)

PE 0602232N (Space & Electronic Warfare (SEW) Technology)

R-1 SHOPPING LIST - Item No. 101

Exhibit R-2a, RDT&E Project Justification

(Exhibit R-2a, page 27 of 30)

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CLASSIFICATION:

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EXHIBIT R-2a, FY 2001 RDT&E Project Justification		DATE: February 2000
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NAME AND NUMBER Submarine Spt Equipment Dev/0604503N	PROJECT NAME AND NUMBER Submarine Tactical Communication System/X1411
<p>C. (U) Acquisition Strategy: SCSS transforms multiple suites of class-specific, closed system equipment to a common submarine suite incorporating OSA communications equipment. The transition from today's existing submarine radio room to a hybrid SCSS should be completed within a 10-year period. The strategy makes use of common OSA and NDI acquisitions while actively seeking industry participation during the requirements definition and procurement process. SCSS strategy leverages emerging technologies and the implementation of block upgrades on a periodic basis that produces incremental integration of P3I and COTS systems.</p> <p>SCSS will: Apply a systems approach to design and implementation of JMCOMS. Maximize use of COTS products and emerging technologies. Use existing software modules as feasible.</p>		
	<u>FY 1999</u>	<u>FY 2000</u>
Program Milestones		<u>FY2001</u>
Engineering Milestones		
T&E Milestones		3/4Q STDL TECHEVAL DT-IIC
Contract Milestones		1Q STDL OPEVAL OT-IIC

R-1 SHOPPING LIST - Item No. 101

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 28 of 30)

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2000		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			Submarine Spt Equipment Dev/0604503N			Submarine Tactical Communication System/X1411						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Hardware Development	CPFF	SSC-SD San Diego, CA	0.700	0.600	10/98	0.600	TBD	0.500	TBD	1.800	4.200	
Software Development	CPFF	SSC-SD San Diego, CA	0.300	0.300	10/98	0.500	TBD	0.500	TBD	2.500	4.100	
Software Development	WX	NUWC Newport, RI	1.000	1.500	Various	1.500	TBD	1.200	TBD	Cont.	Cont.	Cont.
Ancillary Hardware Development											0.000	
Systems Engineering	Various	Misc Labs	1.287	1.292	Various	1.447	Various	0.958	Various	Cont.	Cont.	Cont.
Site Platform Integration											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			3.287	3.692		4.047		3.158		Cont.	Cont.	Cont.
Remarks:												
Development Support Equipment											0.000	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support			0.000	0.000		0.000		0.000		0.000	0.000	
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

R-1 SHOPPING LIST - Item No. 101

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 29 of 30)

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Exhibit R-3 Cost Analysis (page 2)							DATE: February 2000					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			Submarine Spt Equipment Dev/0604503N			Submarine Tactical Communication System/X1411						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Developmental/Operational T&E	Various	Various	0.600	1.288	Various	1.000	Various	0.930	Various	Cont.	Cont.	Cont.
Tooling											0.000	
GFE											0.000	
Subtotal T&E			0.600	1.288		1.000		0.930		Cont.	Cont.	Cont.
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	Various	Various	0.800	0.766	Various	0.768	Various	0.606	Various	Cont.	Cont.	Cont.
Management Support Services											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			0.800	0.766		0.768		0.606		Cont.	Cont.	Cont.
Remarks:												
Total Cost			4.687	5.746		5.815		4.694				
Remarks:												

R-1 SHOPPING LIST - Item No. 101

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 30 of 30)

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