CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification								DATE:			
-									Febru	ıary 2003	
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NO	MENCLATURE				
RESEARCH DEVELOPMENT TEST & EVALUATION	TION, NAVY /	'	BA-7			0204311N-Inte	egrated Surveil	lance Systems	i		
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Total PE Cost	302.260	37.711	25.365	14.278	17.028	18.057	19.968	13.541	13.746	Continuing	Continuing
X0758-SURTASS	97.810	8.356	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	106.166
X0766-Integrated Surveillance Systems	204.450	19.704	17.012	10.017	13.189	14.099	16.344	9.851	9.996	Continuing	Continuing
X9102 IUSS Mission Planning	0.000	6.686	2.927	0.000	0.000	0.000	0.000	0.000	0.000	0.000	9.613
X9103 Fixed Distribution System	0.000	2.965	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.965
Z0766 Classified Project	0.000	0.000	5.426	4.261	3.839	3.958	3.624	3.690	3.750	Continuing	Continuing
Quantity of RDT&E Articles											

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

This Program Element (P.E.) comprises four projects - X0766, X0758, X9102 and X9103. Project X0766 provides for Integrated Undersea Surveillance Systems (IUSS) Research and Development Projects. Project X0758 is for the Surveillance Towed Array Sensor (SURTASS) development efforts. IUSS provides the Navy with its primary means of submarine detection both nuclear and diesel. The program has undergone a major transition from emphasis on maintaining a large dispersed surveillance force keyed to detection and tracking of submarines to a much smaller force that is effective against modern diesel and nuclear submarines in regional/littoral or broad ocean areas of interest. This transition preserves the ability to continue open ocean surveillance. Beginning in FY03, Project X0758 budget is being moved to Project X0766 line. Projects X9102 and X9103 are Congressional Plus Ups that support development efforts for IUSS. Beginning in FY03 FSS systems previously under x0766 transfer from SPAWAR to NSMA under a project code Z0766. Details for this linbe item are held at a higher classification level.

- (U) The IUSS Research and Development project (X0766) funds SURTASS Passive and SURTASS Low Frequency Active (LFA) developments. SURTASS provides the mobile, tactical arm of the Integrated Undersea Surveillance System, providing long range detection and cueing for tactical weapons platforms against both diesel and nuclear powered submarines. SURTASS LFA provides an active adjunct capability for IUSS passive and tactical sensors to assist in countering the quieter diesel and nuclear threats of the 1990s and beyond. The LFA tasks are directed at detection of slow quiet threats in harsh littoral waters.
- (U) In order to continue with reductions in life cycle costs and continue with system-wide consolidation, a long-term goal is to develop a common IUSS processor based on NAVSEA'S Acoustic Rapid COTS Insertion (ARCI) program. The IUSS ARCI variant will have the capability to process and display data from future underwater systems. The IUSS ARCI variant will also have the capability to replace the legacy systems as they reach end of life and require upgrading. Additionally, a goal of SURTASS is to consolidate on the TB-29A/TL array, a variant of the Submarine TB-29A Long line array. This will reduce the number of array variants employed by SURTASS from 4 to 1, and will enable development and logistics cost savings by leveraging off the submarine TB-29A program.
- (U) JUSTIFICATION FOR BUDGET ACTIVITY: Budget Activity 7: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing operational systems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	ary 2003	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EL	EMENT NUME	BER AND NAM	IE	PROJECT NU	MBER AND NA	AME			
RDT&E, N / BA-7	0204311N-Inte	04311N-Integrated Surveillance Systems X0766: IUSS Detection and Cla				Classification	n System				
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Project Cost	204.450	19.704	17.012	10.017	13.189	14.099	16.344	9.851	9.996	Continuing	Continuing
RDT&E Articles Qty											0

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

A. (U) The SURTASS project comprises the mobile, tactical arm of the Integrated Undersea Surveillance System, providing long range detection and cueing for tactical weapons platforms against both diesel and nuclear powered submarines. SURTASS also provides the undersea surveillance necessary to support regional conflicts and sea-lane protection. SURTASS has experienced recent passive and active success against diesel submarines operating in shallow water. SURTASS is greatly reducing costs by consolidating logistics support, using Non-Developmental Items and commercial hardware, while increasing operator efficiency through computer aided detection and classification processing. SURTASS development efforts include: twin-line array processing, improved detection and classification/passive automation to counter quieter threats; additional signal processing and bi-static active capability; integrated active and passive operations; improved Battle Group support; and improved information processing. Functional improvements are delivered to the Fleet in software "Builds". Future builds will be based upon the Advanced Processor Build (APB) process begun by the NAVSEA Submarine USW program. APB-99 was used to support an ARCI (I) Engineering Development Model (EDM) demonstration system, providing A-180R long-line processing only. APB-01 will be used for the production ARCI (I) systems for all long-line arrays. APB-02 will provide Twin-line processing capabilities, and APB-03 will provide active processing capabilities. Additionally, each APB will introduce new capabilities into SURTASS systems including improved automation, normalizer techniques, adaptive beam forming, and display enhancements. SURTASS participates in the process by contributing algorithms for consideration, supplying peer group members for review of candidate algorithms, participating in test evolutions, and incorporating improved algorithms into operational systems. LFA provides an active adjunct capability for IUSS passive and tactical sensors to count

B. (U) PEO LMW is involved with the development and maintenance of various IUSS systems. These systems include FDS, FDS-C, SDS, SURTASS, and ADS. The near term objective is to obtain a common Operator Machine Interface (OMI) among currently fielded systems. The long-term goal is to develop a single IUSS processor baseline, with minor maintenance efforts continuing on fielded systems. The existing system architecture, signal processing, contract management, and reporting requirements will be evaluated as well as the requirements for future systems. The development of the IUSS processor will take advantage of automation advancement, array technology improvements, and IUSS, submarine, and surface USW system commonality.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justifica	tion	DATE:	
		February 2003	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA 7	0204311N-Integrated Surveillance Systems	X0766: IUSS Detection and Classification System	
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(U) B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
FSS	1.877	0.000	0.000	0.000
RDT&E Articles Quantity				

FY02 FSS (\$1,887K) – Continued design and development of software to support and perform hardware evaluations to transition IUSS to a common processing architecture. Verified design and functionality via in-lab demonstration testing. Developed FSS system improvements to optimize system performance. Development efforts included calibrated data collection, increased frequency capability and bandwidth for signal processing. Beginning in FY03 FSS transferred from SPAWAR to NSMA under a new project code.

	FY 02	FY 03	FY 04	FY 05
T-23 DT/OT	2.160	1.825	0.000	0.750
RDT&E Articles Quantity				

FY02 T-23 Dt/OT (\$2,160K) — Conducted T-23 development testing/Operational Testing (DT/OT) certification test planning. Corrected software issues uncovered during on-going lab developmental testing.

FY03 T-23 DT/OT (\$1,825K) - Continue T-23 development testing/Operational Testing (DT/OT) certification testing. Correct software issues uncovered during testing.

FY05 T-23 DT/OT(\$750K) - Complete T-23 Operational Testing (DT/OT) certification testing. Correct software issues uncovered during testing.

	FY 02	FY 03	FY 04	FY 05
Common Acoustic Processor	3.099	3.275	2.566	2.500
RDT&E Articles Quantity				

FY02 Common Acoustic Processor (\$3,099K) – Continued development of SURTASS ARCI (I) capability for all single line array types. Began development of software for Twin-Line processing in the ARCI (I) architecture.

FY03 Common Acoustic Processor (\$3,275K) – Continue software development for Twin-Line processing in the ARCI (I) architecture. Add APB improvements to single line ARCI (I) capability.

FY04 Common Acoustic Processor (\$2,566K) – Complete software development for Twin-Line processing in the ARCI (I) architecture. Begin software development for Active processing in the ARCI (I) architecture. Add APB improvements to single line ARCI (I) capability.

FY05 Common Acoustic Processor (\$2,500K) – Continue software development for Active processing in the ARCI (I) architecture. Add APB improvements to Twin-Line ARCI (I) capability.

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		February 2003	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA 7	0204311N-Integrated Surveillance Systems	X0766: IUSS Detection and Classification System	
	·	·	

(U) B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
Surveillance Systems	1.504	0.000	0.000	0.000
RDT&E Articles Quantity				

FY02 Surveillance System Integration (\$1,504K) – Continued integration of SURTASS ARCI (I) capability with IUSS legacy systems. Continued integration of ARCI (I), Comms, and TDA improvements.

	FY 02	FY 03	FY 04	FY 05
Active Acoustics	2.400	2.531	0.000	0.500
RDT&E Articles Quantity				

FY02 Active Acoustics (\$2,400K) — Continued implementation of a multi-year sea test program focused on CONOPS and the physics of shallow water. Developed improvements for LFA operations in shallow water, conducted analysis, simulations, and trade-off studies to define the optimum configuration of shallow water sources. Continued sea test program planning to support system improvements. Prepared for re-activation of LFA system on Cory based on environmental approvals.

FY03 Active Acoustics (\$2,531K) — Continue implementation of a multi-year sea test program focused on CONOPS and the physics of shallow water. Continue development of improvements for LFA operations in shallow water. Continue sea test program to support system improvements and demonstrate/validate operational performance.

FY05 Active Acoustics (\$500K) - Restart multi-year sea test program focused on CONOPS and the physics of shallow water.

	FY 02	FY 03	FY 04	FY 05
LFA Environmental	1.200	0.600	0.000	0.000
RDT&E Articles Quantity				

FY02 LFA Environmental (\$1,200K) - Continued environmental research on the effect of low frequency active sonar on marine mammals.

FY03 LFA Environmental (\$600K) - Continue environmental research on the effect of low frequency active sonar on marine mammals. Funding for this effort transfers to ONR in FY04.

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	EXHIBIT R-2a, RDT&E Project Justification	01102/1001112		DATE:	
				February 2003	
Ī	APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
	RDT&E, N / BA 7	0204311N-Integrated Surveillance Systems	X0766: IUSS Detection and	Classification System	

(U) B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
N74 ASW Study	1.067	1.074	1.175	1.175
RDT&E Articles Quantity				

FY02 N74 ASW Study (\$1,067K) – Continued conducting trade-off and mission studies to explore networked ASW system concepts, investment alternatives and development of a community-wide strategy for common performance.

FY03 N74 ASW Study (\$1,074K) – Continue conducting trade-off and mission studies to explore networked ASW system concepts, investment alternatives and development of a community-wide strategy for common performance models.

FY04 N74 ASW Study (\$1,175K) – Continue conducting trade-off and mission studies to explore networked ASW system concepts, investment alternatives and development of a community-wide strategy for common performance models.

FY05 N74 ASW Study (\$1,175K) – Continue conducting trade-off and mission studies to explore networked ASW system concepts, investment alternatives and development of a community-wide strategy for common performance models.

	FY 02	FY 03	FY 04	FY 05
ASW C4I	0.200	0.200	0.200	0.200
RDT&E Articles Quantity				

FY02 ASWC4I (\$200K) – Continued performing engineering, analysis and trade-offs; conducted proof of concept testing to support IUSS integration into the Navy's C4I architecture, including IT-21 implementation. Continued supporting IUSS C4I IPT. Coordinated the development of GCCS-M ASW Tactical Decision Aids (TDAs). Defined ASWC4I system concepts, system interfaces and architecture.

FY03 ASWC4I (\$200K) – Continue performing engineering, analysis and trade-offs; conduct proof of concept testing to support IUSS integration into the Navy's C4I architecture, including IT-21 implementation.

FY04 ASWC4I (200K) – Continue performing engineering, analysis and trade-offs; conduct proof of concept testing to support IUSS integration into the Navy's C4I architecture, including IT-21 implementation.

FY05 ASWC4I (200K) - Continue performing engineering, analysis and trade-offs; conduct proof of concept testing to support IUSS integration into the Navy's C4I architecture.

	FY 02	FY 03	FY 04	FY 05
System Engineering	0.250	0.255	0.260	0.270
RDT&E Articles Quantity				

FY02 System Engineering (\$250K) - Provided system level engineering across IUSS programs. Translated Fleet requests into system level design solutions.

FY03 IUSS System Engineering (\$255K) - Continue to provide system level engineering across IUSS programs. Translate Fleet requests into system level design solutions.

FY04 IUSS System Engineering (\$260K) - Continue to provide system level engineering across IUSS programs. Translate Fleet requests into system level design solutions.

FY05 IUSS System Engineering (\$270K) – Continue to provide system level engineering across IUSS programs. Translate Fleet requests into system level design solutions.

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EXHIBIT R-2a, RDT&E Project Justification			DATE:	
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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA 7	0204311N-Integrated Surveillance Systems	X0766: IUSS Detection an	d Classification System	

(U) B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
WeCAN	5.947	0.000	0.000	0.000
RDT&E Articles Quantity				

(5,947) **FY02** WECAN - CONGRESSIONAL PLUS-UP – Expanded capability of WECAN collaborative planning functionality to include other multi-mission warfare areas. Provided WECAN functionality to new ASW platforms. Funding provided continued program support and the migration of existing capabilities to the Navy Common Collaborative Tool Set and integration with other warfare areas and domains.

	FY 02	FY 03	FY 04	FY 05
SURTASS System Eng & Shore Support	0.000	1.595	1.750	1.750
RDT&E Articles Quantity				

FY03 (\$1,595K): Continue development of SURTASS ARCI (I) interfaces with IUSS legacy systems. Continue incorporation of future ARCI (I), Comms, and TDA improvements. Develop shore processing/display software in the ARCI (I) architecture. Investigate data compression algorithms; link management implementations, and improved reach back capabilities. Continue implementation of Common OMI.

FY04 (\$1,750K): Continue development of SURTASS ARCI (I) interfaces with IUSS legacy systems. Continue incorporation of future ARCI (I), Comms, and TDA improvements. Develop shore processing/display software in the ARCI (I) architecture. Investigate data compression algorithms; link management implementations, and improved reach back capabilities. Complete implementation of Common OMI.

FY05 (\$1,750K): Continue incorporation of future ARCI (I), Comms, and TDA improvements. Continue development of shore processing/display software in the ARCI (I) architecture. Incorporate improved data compression algorithms, link management implementations, and improved reach back capabilities.

	FY 02	FY 03	FY 04	FY 05
Passive Processing & Automation	0.000	3.257	2.066	1.980
RDT&E Articles Quantity				

FY03 (\$3,257K): Continue development of algorithms and software for signal processing and automation associated with unique SURTASS requirements and environments, in conjunction with the SPWG and AWG. Develop automated tools to reduce operator workload caused by increased beam count and high clutter in shallow water. Participation in SDWG and related working groups.

FY04 Passive Processing & Automation (\$2,066K) – Continue development of algorithms and software for signal processing and automation associated with unique SURTASS requirements and environments. Participation in SDWG and related working groups.

FY05 Passive Processing & Automation (\$1,980K) – Continue development of algorithms and software for signal processing and automation associated with unique SURTASS requirements and environments. Participation in SDWG and related working groups.

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Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 6 of 27)

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		February 2003
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 7	0204311N-Integrated Surveillance Systems	X0766: IUSS Detection and Classification System

(U) B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
TB-29A/Twin-Line	0.000	2.400	2.000	1.500
RDT&E Articles Quantity				

FY03 (2,400K): Continue processing improvements to support TB-29A operations and expand array interoperability. Develop across platform telemetry architecture. Develop Twin-Line modifications to TB-29A architecture. Continue work to implement twin-line to long-line conversion capabilities, including processing and hardware changes.

FY04 (\$2,000K): Continue processing improvements to support TB-29A operations and expand array interoperability. Develop across platform telemetry architecture. Continue development of Twin-Line modifications to basic TB-29A architecture. Continue work to implement twin-line to long-line conversion capabilities, including processing and hardware changes.

FY05 (\$1,500K): Continue processing improvements to support TB-29A operations and expand array interoperability. Continue development of across platform telemetry architecture.

	FY 02	FY 03	FY 04	FY 05
Littoral LFA	0.000	0.000	0.000	2.110
RDT&E Articles Quantity				

FY05: Littoral LFA (\$2,110K) – Begin development of prototype littoral LFA system for both SURTASS platforms and deployable source array. Develop higher frequency, smaller, lower cost sources for deployment from SWATH-P and platforms of opportunity.

	FY 02	FY 03	FY 04	FY 05
Towed Array Technologies	0.000	0.000	0.000	0.454
RDT&E Articles Quantity				

FY05: Towed Array Technology (\$454K)—Begin development of all fiber optic arrays. Develop improved array front-end components and handling systems. Develop array locator and array recovery systems. Develop processing for extension into tactical frequency regions.

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UNCLASSIFIED Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 7 of 27)

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Remarks:

								DATE:				
Exhibit R-3 Cost Analysis (pa										February 200	03	
APPROPRIATION/BUDGET ACTIV	/ITY	PROGRAM	ELEMENT	EMENT PROJECT NUMBER AND NA			NAME					
RDT&E, N / BA-7		l l	tegrated Survei	lance Systems		X0766: IUSS	X0766: IUSS Detection and Classification System					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
WeCAN	CPFF	ORINCON / VARIOUS	10.780	0.000		0.000		0.000)	0.000	10.780)
FDS/ AODS	CPFF	TBD	8.000	0.000		0.000		0.000)	0.000	8.000)
IUSS Common Architecture	CPFF	DSR/LM/ARL	34.712	4.465	11/02	3.926	11/03	3.870	11/04	Continuing	Continuing	
Environmental Research	WR	ONR / VARIOUS	7.900	0.600	11/02	0.000		0.000		0.000	8.500	
LFA Improvements /DT-OT/LLFA	CPFF	BAE / DSR/ VARIOUS	84.479	2.206	11/02	0.000	11/03	2.310	11/04	Continuing	Continuing	
C4I Integration	CPFF	VARIOUS	31.543	0.150	11/02	0.150	11/03	0.150	11/04	Continuing	Continuing	
N74 AWS Study	WX/PD	NUWC / APL	1.767	1.074	11/02	1.175	11/03	1.175	11/04	Continuing	Continuing	
Various	WX	VARIOUS	28.389	0.000						Continuing	Continuing	
Passive Signal Processing/ Sonar	CPFF	APL/DSR	0.000	1.707	11/02	1.016	11/03	0.930	11/04	Continuing	Continuing	
Array Improvements	CPFF/WR	APL/SSC/VAR	0.000	1.650	11/02	1.080	11/03	1.184	11/04	Continuing	Continuing	
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											0.000	
											0.000	
											0.000	
Subtotal Product Development			207.570	11.852		7.347		9.619)	0.000	236.388	<u> </u>

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Exhibit R-3 Cost Analysis (pag	ge 1)									February 200) 3	
APPROPRIATION/BUDGET ACTIV	'ITY	PROGRAM E				PROJECT NU	IMBER AND N	IAME				
RDT&E, N / BA-7				llance Systems				d Classification				
Cost Categories		Performing	Total		FY 03		FY 04		FY 05			
	Method	Activity &	PY s		Award	FY 04	Award	FY 05	Award	Cost to		Target Value
	& Type	Location	Cost	Cost	Date		Date	Cost	Date	Complete		of Contract
IUSS Common Architecture	WX	Various	0.990			0.150		0.150		Continuing		
LFA Improvements /Active Acoustic	CPFF	TRW/Various	4.005			0.000		0.500		Continuing	<u> </u>	
C4ISR Integration	CPPF	TRW/Various	1.719	1		0.050		0.050		Continuing	,	
FDS/AODS	WX	Various	1.216			0.000		0.000		0.000		
Passive Signal Processing/ Sonar	Var/WX	Various	0.000			0.400		0.400		Continuing	` 	
Array Improvements	Var/WX	Various	0.000	0.300	11/02	0.320	11/03	0.320	11/04	Continuing	,	
											0.000	1
											0.000	
											0.000	
											0.000	
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											0.000	,
											0.000	,
											0.000	,
											0.000	1
											0.000	
Subtotal Support			7.930	1.510		0.920		1.420		0.000		
Remarks:												

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Exhibit R-3 Cost Analysis (pag	e 2)											February 200	3	
APPROPRIATION/BUDGET ACTIV	ITY		PROGRAM ELEME				PROJECT							
RDT&E, N / BA-7		•	0204311N-Integrate		lance System		X0766: IU			d Classification		_		
Cost Categories	Contract	Performing	Tota			FY 03		FY 0			FY 05	_	_	
	Method	Activity &	PY s		FY 03	Award	FY 04	Awa			Award	Cost to	Total	Target Value
W100 0 A 11% A	& Type	Location	Cost		Cost	Date	Cost	Date			Date	· ·		of Contract
IUSS Common Architecture LFA Improvements	Var/ WX Var/ WX	VARIOUS VARIOUS		1.051	0.50		0.5	_	11/03	0.500	11/04	Continuing	Continuing	
	1			5.866		-	0.0	_	11/03	0.400	11/04	Continuing	Continuing	
Passive Signal Processing/ Sonar	Var/ WX	VARIOUS			0.95		0.5		11/03	0.500	11/04	Continuing	Continuing	
Array Improvements	Var/ WX	VARIOUS			0.25	0	0.4	00	11/03	0.250	11/04	Continuing	Continuing	
													0.000	
													0.000	
0.14.4.1.70.5				0.047	0.00	10	+ -	100		4.050		0.000		
Subtotal T&E		<u> </u>		6.917	3.20	10	1.4	100		1.650		0.000	13.167	
LFA Improvements /C4ISR	Var/ WX	VARIOUS		1.737	0.15	11/02	0.0	000	11/03	0.150	11/04	Continuing	Continuing	
Passive Signal Processing/ Sonar	Var/ WX	VARIOUS			0.10	0 11/02	0.1	150	11/03	0.150	11/04	Continuing	Continuing	
Array Improvements	Var/ WX	VARIOUS			0.20	0 11/02	0.2	200	11/03	0.200	11/04	Continuing	Continuing	
													0.000	
													0.000	
													0.000	
Subtotal Management				1.737	0.4	60	0.3	350		0.500		0.000	3.037	
Remarks:														
Total Cost				224.154	17.0	2	10.0)17		13.189		0.000	264.372	
Remarks:														

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:
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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME		PROJECT NUMBER AN	ND NAME
RDT&E, N / BA-7	0204311N-Integrated Surveillance	Systems		X0766: IUSS Detection	n and Classification System
(U) C. PROGRAM CHANGE SUMMARY:					
(U) Funding:	FY 2002	FY 2003	FY 2004	FY 2005	
President's Budget:	14.235	20.405			
Current BES/President's Budget	19.704	17.012	10.017	13.189	
Total Adjustments	5.469	-3.393	0.000	0.000	
Summary of Adjustments					
Web Centric ASW Net (WECAN)	6.000				
Sec. 8123: Management Reform Initiati	ve -0.179				
Sec 313-PL 107-206 Revised Economic As	ssumptions -0.043				
Functional Transfer from SPAWAR to NSM	IA .	-2.944			
Sec. 8100 Business Process Reform		-0.070			
Sec. 8135 Economic Assumptions	-0.056	-0.114			
Sec. 8109 IT Cost Growth		-0.032			
Sec. 8029 FY03 FFRDC Reductions		-0.012			
Miscellaneous Navy Adjustments	-0.253				
Miscellaneous Department Adjustments		-0.221			
Subtotal	5.469	-3.393	0.000	0.000	

(U) Schedule:

The following projects have been delayed due to funding reductions: DT/OT for SURTASS/LFA will be delayed by 1 year. Active Acoustics Program will be put on hold for 1 year. Littoral Low Frequency Active (LLFA) System Development and Demonstration phase will be extended by one year. The incorporation of active processing into the ARCI processing system will be delayed by one year and the developmental and operational testing of the TB-29 twinline system will be expanded by 6 months.

(U) Technical:

Not Applicable

CLASSIFICATION:

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

ROPRIATION/BUDGET ACTIVITY		PROGRAM ELI	EMENT NUME	BER AND NAM	E	PROJECT NUM	IBER AND NA	ME		
T&E, N / BA-7		0204311N-Integ	grated Surveill	ance Systems		X0766: IUSS D	etection and	Classificatio	n System	
(U) D. OTHER PROGRAM FUNDIN	G SUMMARY:									
Line Item No. & Name	<u>FY 2002</u>	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To <u>Complete</u>	Total <u>Cost</u>
OPN 2237 OMN Omitted per instructions Related RDTEN: (U) PE 0604784N Advan	16.338 ced Deployable System	20.206	15.228	21.231	12.134	0.446	17.166	33.777	Continuing	Continuing
(U) E. ACQUISITION STRATEGY: *										
Program Milestones	FY2002		FY:	2003		FY2004			FY200	5
Engineering Milestones	ARCI PBA/RDA VARIANT 7/02		ARCI TB29/T VARIANT						ARCI ACTIVE VARIANT	
T&E Milestones DT-1/05 OT-4/05 SEA TEC Contract Milestones	STS ARCI (I) PROCUREMENT		T-23	SEA TESTS		ARCI TB29/TL VARIANT 8/0	4		TB29 T-23 SEA	

CLASSIFICATION:

EXHIBIT R4, Schedule	Profile																								DATE	:	F	ebrua	ry 20	03		
APPROPRIATION/BUDGE	T ACTIV	TY							PROG	RAM	ELEM	ENT N	JMBE	R AND	NAME						PROJ	ECT N	IUMBE	R ANI	NAM C	E						
RDT&E, N /	BA-	7							02043	11N-Ir	ntegrat	ed Sur	veillan	ce Sys	tems						X0766	: IUS	S Dete	ction	and C	lassifi	cation	Syste	m			
Fiscal Year		20	002			20	03			20	04			20	05			20	006			20	07			20	08			20	09	
	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	1	2	3	4
Acquisition Milestones																																
Test & Evaluation Milestones Development Test Operational Test					DT-IIO	Shake	edown						TRF		I—	CHEVI I DT-IIG	/AL I OPEV	AL														
Production Milestones Complete																																

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Exhibit R-4, Schedule Profile (Exhibit R-4, page 13 of 27]

 $^{^{\}star}$ Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail		03									
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	UMBER AND NAME					
RDT&E, N / BA-7	0204311N-Inte	egrated Surveil	lance Systems		X0766: IUSS	X0766: IUSS Detection and Classification System					
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009			
Test Readiness Review (TRR)				1Q							
Developmental Testing Shakedown (DT-IIO) Developmental Testing (DT-IIP) (TECHEVAL)		4Q									
Developmental Testing (DT-IIP) (TECHEVAL)				2Q							
Operational Evaluation (OT-IIG) (OPEVAL)				3Q							
					1						
	I				+						
		L PPING LIST		174			<u> </u>	<u> </u>			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	uary 2003	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EL	EMENT NUM	BER AND NAM	IE	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-7	0204311N-Inte	grated Surveill	ance Systems			SURTASS- X	758				
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Project Cost	97.810	8.356	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	106.166
RDT&E Articles Qty		·									0

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

A. (U) The SURTASS project comprises the mobile, tactical arm of the Integrated Undersea Surveillance System, providing long range detection and cueing for tactical weapons platforms against both diesel and nuclear powered submarines. SURTASS also provides the undersea surveillance necessary to support regional conflicts and sea-lane protection. SURTASS has experienced recent passive and active success against diesel submarines operating in shallow water. SURTASS is greatly reducing costs by consolidating logistics support, using Non-Developmental Items and commercial hardware, and increasing operator efficiency through computer aided detection and classification processing. SURTASS development efforts include: twin-line array processing, improved detection and classification/passive automation to counter quieter threats; additional signal processing and bi-static active capability; integrated active and passive operations; improved Battle Group support; and improved information processing. Project X0758 budget is being moved to Project X0766 beginning in FY03.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2003
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME
RDT&E, N /BA 7	0204311N-Integrated Surveillance Systems	SURTASS- X0758	

(U) B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
Passive Processing & Automation	2.000	0.000	0.000	0.000
RDT&E Articles Quantity				

FY02 (\$2,000K) - Continued development of improved acoustic signature formation, and target passive ranging. Investigated concepts for monitoring low priority beams as part of overall link management concept. Developed algorithms for improved low frequency performance. Continued participation in the APB process. Surveyed off-board sensor technologies for applicability to SURTASS.

	FY 02	FY 03	FY 04	FY 05
TB-29A/Twin-Line	2.100	0.000	0.000	0.000
RDT&E Articles Quantity				

FY02 (\$2,100K) - Continued processing improvements to support TB-29A operations and expand array interoperability. Continued development of across platform telemetry architecture. Investigated concepts for conversion of TB-29A Twin-line capability into a Long-line capability.

	FY 02	FY 03	FY 04	FY 05
Shore Processing	1.532	0.000	0.000	0.000
RDT&E Articles Quantity				

FY02 (\$1,532K) - Continued incorporation of OMI Commonality Working group guidance. Continued development of Link Management functionality. Continued incorporation of shore improvements to support TL array operations.

CLASSIFICATION:

ENT NUMBER AND NAME ted Surveillance Systems FY 03 0.000 d software development to improve FY 03 0.000	PROJECT NUMBER AND N SURTASS- X0758 FY 04 0.000 e processing in littoral/shallow was FY 04 0.000	February 2003 NAME FY 05 0.000 atter regions. Conducted T-29 Twin Liu FY 05 0.000	ne Array
FY 03 0.000 d software development to improve	FY 04 0.000 e processing in littoral/shallow was	FY 05 0.000 ater regions. Conducted T-29 Twin Lin	ne Array
FY 03 0.000 d software development to improve	FY 04 0.000 e processing in littoral/shallow was	0.000 ater regions. Conducted T-29 Twin Liu	ne Array
d software development to improve	e processing in littoral/shallow was	0.000 ater regions. Conducted T-29 Twin Liu	ne Array
d software development to improve	e processing in littoral/shallow was	0.000 ater regions. Conducted T-29 Twin Liu	ne Array
d software development to improve	e processing in littoral/shallow was	0.000 ater regions. Conducted T-29 Twin Liu	ne Array
d software development to improve	e processing in littoral/shallow wa	ater regions. Conducted T-29 Twin Liu	ne Array
FY 03	FY 04	FY 05	ne Array
FY 03	FY 04	FY 05	ne Array
	0.000	0.000	
		•	
FY 03	FY 04	FY 05	
0.000	0.000	0.000	
		1	
	FY 03 0.000		

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE:	February 2003
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEME	NT NUMBER	AND NAME		PROJECT NUMBER A	ND NAME	
RDT&E, N / BA-7	0204311N-Integrate	ed Surveillance	Systems		SURTASS- X0758		
(U) C. PROGRAM CHANGE SUMMARY:							
(U) Funding:		FY 2002	FY 2003	FY 2004	FY 2005		
Previous President's Budget:		5.806	0.000	0.000	0.000		
Current BES/President's Budget		8.356	0.000	0.000	0.000		
Total Adjustments		2.550	0.000	0.000	0.000		
Summary of Adjustments							
SURTASS LFA		2.800					
Section 8123: Management Reform		-0.076					
Section 313 PL 107-206 Revised E		-0.024					
Section 8135: Economic Assumpti	ons	-0.024					
Miscellaneous Navy Adjustments		-0.126					
Subtotal		2.550	0.000	0.000	0.000		
(U) Schedule:							
Not Applicable							
(U) Technical:							
Not applicable							

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Proj	ect Justification						DA	ATE:		
									Februar	y 2003
APPROPRIATION/BUDGET ACT		PROGRAM ELE				PROJECT NUME	BER AND NAM	E		
RDT&E, N /	BA-7	0204311N-Integ	rated Surveilla	nce Systems		SURTASS- X075	58			
(U) D. OTHER PROGRAM	I FUNDING SUMMARY:								To	Total
Line Item No. & Name	FY 200	2 FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost
OPN 2237	16.338	3								
Related RDTEN: (U) PE 0604784N	Advanced Deployable System									
(U) E. ACQUISITION STRAT Program Milestones Engineering Milestones T&E Milestones Contract Milestones		FY2002 ARCI PBA/RDA VARIANT 7/02 SEA TEST ARCI PBA VARIANT 7/02 TB-29A/TL PROCUREMENT								
* Not required for Budge	et Activities 1,2,3, and 6									

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:					
•									Febru	uary 2003			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EI	EMENT NUM	BER AND NAM	1E	PROJECT NU	MBER AND N	ND NAME					
RDT&E, N / BA 7	0204311N-Inte	grated Surveill	ance Systems			X9102: IUSS	Mission Plani	ning					
	Prior										Total		
COST (\$ in Millions)	Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program		
Project Cost	0.000	6.686	2.927	0.000	0.000	0.000	0.000	0.000	0.000	0.000	9.613		
RDT&E Articles Qty											0		

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

A. (U) IUSS provides the Navy with its primary means of submarine detection both nuclear and diesel. The program has undergone a major transition from emphasis on maintaining a large dispersed surveillance force keyed to detection and tracking of submarines to a much smaller force that is effective against modern diesel and nuclear submarines in regional/littoral or broad ocean areas of interest. This transition preserves the ability to continue open ocean surveillance. PD18 is involved with the development and upgrade of various IUSS systems. These systems include FDS, FDS-C, SDS, SURTASS, and ADS.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justifica				DATE: February 2003	
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	BER AND NAME	PROJECT NUMBER AND N		
T&E, N /BA 7	0204311N-Integrated Surveil	lance Systems	X9102: IUSS Mission Plan	ning	
B. Accomplishments/Planned Program					
	FY 02	FY 03	FY 04	FY 05	
IUSS Mission Planning	6.686	2.927	0.000	0.000	
RDT&E Articles Quantity					
and cable routing plans and allows the mission fleet input. Software was developed as GCCS area of high fleet tactical interest for mission p FY03 (\$2,927K) - Phase II: User Automation	S-M segments that are at least level 6 clanner demonstration.				
	FY 02	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	0.000	0.000	0.000	0.000	
	FY 02	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	0.000	0.000	0.000	0.000	
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Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 21 of 27)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE:	
							February 2003
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEME	NT NUMBER	AND NAME		PROJECT NUMBER	AND NAME	
RDT&E, N / BA-7	0204311N-Integrate	ed Surveillance	Systems		X9102: IUSS Missio	on Planning	
(U) C. PROGRAM CHANGE SUMMARY:							
(U) Funding:		FY 2002	FY 2003	FY 2004	FY 2005		
Previous President's Budget:		0.000	0.000	0.000	0.000		
Current BES/President's Budget		6.686	2.927	0.000	0.000		
Total Adjustments		6.686	2.927	0.000	0.000		
Summary of Adjustments							
IUSS		6.800					
Section 8123: Management Reform In	itiative	-0.060					
Section 313, PL 107-206 Revised Eco		-0.014					
Section 8100 Business Process Refor			-0.012				
Section 8135 Economic Assumptions		-0.019	-0.017				
Section 8109 IT Cost Growth			-0.006				
IUSS Mission Planning			3.000				
Miscellaneous Navy Adjustments		-0.021					
Miscellaneous Department Adjustmen	ts		-0.038				
Total		6.686	2.927				
(U) Schedule:							
Not applicable							
40 Todaya							
(U) Technical:							
Not applicable							

CLASSIFICATION:

PROPRIATION/BUDGET ACT	1) // T.V	IDDOCDANA EL		DED AND NAM	·-	IDDO IECT NIII	MDED AND NO	\ N.4E	reprua	ry 2003
		PROGRAM EL				PROJECT NU				
DT&E, N /	BA-7	0204311N-Inte	egrated Surveil	lance Systems		X9102: IUSS	Mission Plann	ing		
(U) D. OTHER PROGRAM	FUNDING SUMMARY:								То	Total
Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost
NONE										
Related RDTEN: (U) PE 0204311N (U) PE 060478N	Integrated Surveillance System Advanced Deployable System									
(U) E. ACQUISITION STRAT	EGY: *									
Program Milestones		FY2002								
Engineering		PDR 6/02								
Milestones T&E		DDR 9/02								
Milestones										
Contract										
Milestones										
* Not required for Budget	t Activities 1,2,3, and 6									

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:					
•									Febru	uary 2003			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EI	EMENT NUM	BER AND NAM	1E	PROJECT NUMBER AND NAME							
RDT&E, N / BA-7	0204311N-Inte	204311N-Integrated Surveillance Systems X9103 Fixed Distribution						System					
	Prior										Total		
COST (\$ in Millions)	Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program		
Project Cost	0.000	2.965	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.965		
1.10]001.0001	0.000	2.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.000		
RDT&E Articles Qty											0		

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

A. (U) IUSS provides the Navy with it's primary means of submarine detection both nuclear and diesel. The program has undergone a major transition from an emphasis on maintaining a large dispersed surveillance force keyed to detection and tracking of submarines to a much smaller force that is effective against modern diesel and nuclear submarines in regional/littoral or broad ocean areas of interext. This transition preserves the ability to continue open ocean surveillance. SPAWAR is involved with the development and upgrade of various IUSS systems. These systems include: FDS, FDS-Commercial, SDS, SURTASS, and ADS.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE:				
				February 2003	
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	BER AND NAME	PROJECT NUMBER AND N	AME	
T&E, N /BA7	0204311N-Integrated Surveil	llance Systems	X9103: Fixed Distribution	System	
3. Accomplishments/Planned Program					
3. Accomplishments/Flanned Frogram					
	FY 02	FY 03	FY 04	FY 05	
FSS	2.965	0.000	0.000	0.000	
RDT&E Articles Quantity					
FY02 (\$2,965k) - Developed FSS system impro	vements to optimize performance.	Development efforts inc	luded calibrated data collection, in	ncreased frequency capability and th	ne impact on
ignal processing and array designs and increa	sed bandwidth for signal processin	a Continued developme	ent of an All-Ontical underwater su	rveillance system	•
ignal processing and array designs and increa-	sed ballawidth for signal processing	g. Continuca acvelopina	on an All Optical underwater st	arvellarioe system.	
	-				
		= 1/22			
	FY 02	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	
RDT&E Articles Quantity					
•					
	FY 02	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	FY 02 0.000	FY 03 0.000	FY 04 0.000	FY 05 0.000	
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity					
<u> </u>					
<u> </u>					

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE:	
							February 2003
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEME	NT NUMBER	AND NAME		PROJECT NUM	BER AND NAME	
RDT&E, N / BA-7	0204311N-Integrate	ed Surveillance	Systems		X9103: Fixed D	istribution System	
(U) C. PROGRAM CHANGE SUMMARY:							
(U) Funding:		FY 2002	FY 2003	FY 2004	FY 2005		
Previous President's Budget:		0.000	0.000	0.000	0.000		
Current BES/President's Budget		2.965	0.000	0.000	0.000		
Total Adjustments		2.965	0.000	0.000	0.000		
Summary of Adjustments							
Fixed Distributed System		3.000					
Section 8123: Management Reform I	nitiative	-0.027					
Section 313, PL 107-206 Revised Ec		-0.006					
Section 8135 Economic Assumptions	S	-0.008					
Miscellaneous Navy Adjustments		0.006					
Total	_	2.965	0.000	0.000	0.000		
(U) Schedule:							
Not Applicable							
(U) Technical:							
Not Applicable							
Trock applicable							
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CLASSIFICATION:

PROPRIATION/BUDGET ACT	IV/ITV	PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND					ARED AND NA	February 2003			
					E .						
T&E, N /	BA-7	0204311N-Inte	grated Surveill	ance Systems		X9103: Fixed	Distribution S	ystem			
(U) D. OTHER PROGRAM	I FUNDING SUMMARY:								То	Total	
Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost	
OPN 2225	33.925	0	0	0	0	0	0	0	0	33.925	
Related RDTEN: (U) PE 0204311N (U) PE 0604784N	Integrated Surveillance System Advanced Deployable System										
(U) E. ACQUISITION STRAT	EGY: *										
Not Applicable											