CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification								DATE:			
•									FEBRU	JARY 2003	
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NOMENCLATURE					
RESEARCH DEVELOPMENT TEST & EVALUAT	ΓΙΟΝ, NAVY /	1	BA-6			0605866N Na	vy Space and I	Electronic War	fare (SEW) Su	pport	
	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	0.000	7.200	3.154	3.187	3.279	3.608	3.683	3.753	3.822	Continuing	Continuing
R0739 Navy C4I Top Level Requirements		5.462	1.500	1.361	1.411	1.698	1.731	1.764	1.795	Continuing	Continuing
X0706 EMI Reduction and Radio Frequency Mgmt.		1.738	1.654	1.826	1.868	1.910	1.952	1.989	2.027	Continuing	Continuing
											0.000
											0.000
											0.000
											0.000
Quantity of RDT&E Articles											0

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

Project R0739, Navy C4I Top Level Requirements - Provides analysis of both Fleet requirements and research and development technology, to develop top level plans for Navy Communications, Command, Control, Communication, Computer Intelligence (C4I), and space systems in the Space and Electronic Warfare mission area.

Project X0706, Electromagnetic Interference (EMI) Reduction and Radio Frequency (RF) Management - Develops advanced technology to identify and reduce EMI sources from Navy systems and platforms.

(U) JUSTIFICATION FOR BUDGET ACTIVITY:

This program is funded under RDT&E MANAGEMENT SUPPORT because it supports the operations and installations required for general research and development use.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
-									FEBRU	JARY 2003	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EL	EMENT NUMI	BER AND NAM	IE .	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-6	0605866N Nav	y Space and E	Electronic Warfa	are (SEW) Sup	port	R0739 Navy C	4I Top Level R	equirements			
	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		5.462	1.500	1.361	1.411	1.698	1.731	1.764	1.795	Continuing	Continuing
RDT&E Articles Qty											0

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

This project provides analysis of both Fleet requirements and research and development technology, to develop top level plans for Navy Communications, Communication, Communication, Computer Intelligence (C4I), and space systems in the Space and Electronic Warfare mission area.

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-6	0605866N SEW Support	R0739 Navy C4I Top Level I	Requirements	

(U) B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	5.462			
RDT&E Articles Quantity				

- Extended previously-developed quantitative analyses of Command, Control, and Communications (C3), and network performance to Battle Group missile defense. Developed scenarios that were applied to the Advanced Command and Control (C2) War Game.
- Carried out analyses of architectural alternatives for distributing Command, Control, Communications, and Computer (C4) services between Naval Computer and Telecommunications Area Master Stations (NCTAMS) and TELEPORTS. Also, developed initial cost estimates for the alternatives examined.
- Developed Operational View and System View architecture products in support of the network backbone for the Expeditionary Command and Control, Communications, Computers, and Combat Systems Grid (EC5G). Carried out systems engineering investigations for the development.
- Developed characterizations of Battle Force C2 (BFC2) requirements for the time-critical targeting function and represented the requirements within the DoD architectural framework. The resulting framework included the high-level operational concept, operational node connectivity diagrams, the operational informational exchange matrix, and the activity model for BFC2.

?Supported the Naval Information Technology, Information Operations and Space efforts.

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.500		
RDT&E Articles Quantity				

[?]Apply previously-developed models and analytic methods to identify areas of highest sensitivity in C3 performance.

[?] Extend previous architectural work on Naval operational functions and networks to detailed analyses of C3 and network requirements.

[?]Extend previous system engineering results to newly emerging implementation issues.

CLASSIFICATION:

XHIBIT R-2a, RDT&E Project Justifica	tion			DATE:	
				FEBRU	ARY 2003
ROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	BER AND NAME	PROJECT NUMBER AND N	IAME	
T&E, N /BA-6	0605866N SEW Support		R0739 Navy C4I Top Level	Requirements	
B. Accomplishments/Planned Program					
	FY 02	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost			1.361		
RDT&E Articles Quantity					
	nto architectural issues in network delions and results to the specification of				
? Apply previously-developed analytic formular ? Conduct additional analytical investigations of	ions and results to the specification of	of network requirements			
?Apply previously-developed analytic formula	ions and results to the specification of emerging problems in Space and E	of network requirements Electronic Warfare.		FY 05	
?Apply previously-developed analytic formula	ions and results to the specification of	of network requirements		FY 05 1.411	
? Apply previously-developed analytic formular ? Conduct additional analytical investigations of	ions and results to the specification of emerging problems in Space and E	of network requirements Electronic Warfare.			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:	EEDDIIADV 2002
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME	P	PROJECT NUME	BER AND NAME	FEBRUARY 2003
RDT&E, N / BA-6	0605866N SEW Support				Top Level Requirements	
	от о				тор ======	
(U) C. PROGRAM CHANGE SUMMARY:						
(U) Funding:	FY 2002	FY 2003	FY 2004	FY 2005		
Previous President's Budget:	1.573	1.549				
Current BES/President's Budget	5.462	1.500	1.361	1.411		
Total Adjustments	3.889	-0.049	1.361	1.411		
Summary of Adjustments						
SBIR/STTR Transfer	-0.030					
FY2002 Miscellaneous Adjustments	3.969					
Section 8123 Management Reform Initia						
PBD-630 FFRDC	-0.018					
Sec. 313 PL 107-206: Revised	-0.003					
Economic Assumptions	-0.015	-0.009				
Business Process Reform		-0.006				
IT Cost Growth		-0.003				
FY03 FFRDC Reduction		-0.013				
Inflation Savings		-0.018				
Subtotal	3.889	-0.049	0.000	0.000		
(U) Schedule:						
Not Applicable						
(U) Technical:						
Not Applicable.						
	R-1 SHOPP	ING LIST - It	em No 1	161		

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Pro	ject Justification								DATE:			
							T=== .===	37653		FEBRUA	ARY 2003	
APPROPRIATION/BUDGET AC					BER AND NAM	E	PROJECT NUI					
RDT&E, N /	BA-6		0605866N SE	W Support			R0739 Navy C	4I Top Level R	equirements			
(U) D. OTHER PROGRA	M 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	
Not Applicable.												
(U) E. ACQUISITION STRA	TEGY:											
Not Applicable.												

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									FEBRU	JARY 2003	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EL	EMENT NUM	BER AND NAM	IE	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-6	0605866N Nav	y Space and E	lectronic Warf	are (SEW) Sup	port	X0706 EMI Re	duction and Ra	adio Frequency	Management		
	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	1.738	1.654	1.826	1.868	1.910	1.952	1.989	2.027	Continuing	Continuing
RDT&E Articles Qty											0

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

Electromagnetic Interference (EMI) Reduction and Radio Frequency (RF) Management. This project develops tools to identify and reduce EMI sources from Navy systems and platforms. There are several tools under development to identify and reduce EMI through proper use of the electromagnetic spectrum. Automated capabilities will be developed that reflect research into new operational fleet battle group frequency management processes that reflect current fleet needs for a communication and frequency management tool used to plan communication links and analyze, allocate, and assign communication and radar frequencies for fleet operations. Research also includes EMI models for phased arrays, development of new analysis techniques and technologies to avoid EMI, and development of guidance to harmonize commercial EMI practices.

CLASSIFICATION:

PRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER A						
I I TOO I WAN ELEMENT I TOOME	BER AND NAME	PROJECT NUMBER AND N	MBER AND NAME			
0605866N SEW Support		X0706 EMI Reduction and Radio Frequency Management				
		·				
				-		
	FY 03	FY 04	FY 05			
0.960						
FY 02	FY 03	FY 04	FY 05]		
FY 02	FY 03 0.913	FY 04 1.009	FY 05 1.032			
	, ,	0.960 ly Navy C4ISR systems but into commercial communication	0.960 ly Navy C4ISR systems but into commercial communication systems being used by the Nav			

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-6	0605866N SEW Support	X0706 EMI Reduction and R	Radio Frequency Management

(U) B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
C4I EMC	0.473	0.451	0.497	0.509
RDT&E Articles Quantity				

· (U) C4I EMC: Due to congested topside environment, develop enhancements to antennas to reduce incidences of interference. In FY02, developed models to analyze antenna enhancements to be repeatable on other platforms. Beginning in FY03, develop models to analyze antenna enhancements, and research the interference for below decks emitters such as wireless LANs to the topside and below decks environments. Beginning in FY05, research new technology efforts related to implementation of advanced capabilities that foster the implementation of cutting edge C4ISR transport capabilities.

	FY 02	FY 03	FY 04	FY 05
C4I EMC Criteria	0.305	0.290	0.320	0.327
RDT&E Articles Quantity				

· (U) C4I EMC Criteria: Incorporate commercial systems practices and standards into EMC C4I criteria and incorporate into Navy practices. In FY02, incorporated new communications and radar planning techniques including phased array antennas. In FY03, assist battle group staffs in developing frequency management process improvements. Beginning in FY 04, institutionalize frequency management process for operational fleet by developing procedures that can be utilized by all Navy Battle groups.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE:	FEBRUARY 2003		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEI	MENT NUMBER	AND NAME	F	PROJECT NUMBI	I ER AND NAME	FEBRUAR I 2003		
RDT&E, N / BA-6	0605866N SEW				X0706 EMI Reduction and Radio Frequency Management				
(U) C. PROGRAM CHANGE SUMMARY:	·			1					
(U) Funding: President's Budget: Current BES/President's Budget Total Adjustments		FY 2002 1.860 1.738 -0.122	FY 2003 1.693 1.654 -0.039	FY 2004 1.826 1.826	FY 2005 1.868 1.868				
Summary of Adjustments Section 8123-Management F FY02 SBIR JMPS JCI Program Sec. 313, PL 107-206: Rev E Economic Assumptions (SEC Miscellaneous Navy Adjustm Business Process Reform (S IT Cost Growth (SEC. 8109) Miscellaneous Departmental	Economic Assumptions C. 8135) ents EC. 8100)	-0.016 -0.023 -0.036 -0.004 -0.005 -0.038	-0.009 -0.007 -0.003 -0.020						
Subtotal		-0.122	-0.039	0.000	0.000				
(U) Schedule:									
Not Applicable									
(U) Technical:									
Not Applicable.									

CLASSIFICATION:

EXHIBIT R-2a, RDT&E P	roject Justification								DATE:		DDUADY 2000
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			BRUARY 2003	
RDT&E, N /	BA-6		0605866N SEW Support			-	X0706 EMI Reduction and Radio Frequency Management				
	AM FUNDING SUMMARY:									То	Total
Line Item No. & Name	<u>9</u>	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	Cost
Not Applicable.											
(U) E. ACQUISITION STR	ATEGY: *										
Not Applicable.											