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Exhibit R-2, FY 2002 RDT&E,N Budget Item Justification

DATE: June 2001

BUDGET ACTIVITY: 7 PROGRAM ELEMENT: 0305927N
PROGRAM ELEMENT TITLE: Navy Space Surveillance

(U) COST: (Dollars in thousands)

PROJECT NUMBER & TITLE	FY 2000 ACTUAL	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	TO COMPLETE	TOTAL PROGRA
R0125 Naval Space Surveillance	712	1,425	-	-	-	-	-	-		2,13'
X0125 Naval Space Surveillance	0	0	4,237							
R2809 RESIC	973	-	-	-	-	-	-	-		973
TOTAL	1,685	1,425	4,237						CONT.	CONT

* Note: Project R0125 becomes X0125 in FY02 and out.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Naval Space Surveillance Fence is an integral component of the U. S. Space Command Space Surveillance Network. This system provides continuous surveillance and unalerted detection of space objects crossing the continental United States. The fence is also the only space surveillance system which provides satellite vulnerability and space control data to the fleet. It is a multistatic continuous wave radar fence consisting of three transmitter sites, six receiver sites, and a computation/communication center. The Alternate Space Control role assigned by U.S. Commander in Chief Space (USCINCSpace), requires that the Naval Space Command Mission System maintain functional equivalence with the USCINCSpace Space Control Center and receive, process, and distribute data from 26 surveillance sites. The increase in funding FY00 and out supports this role and the research and development of high-powered transmitters and other system component parts for the next generation fence system to reduce risk in the implementation phase.

(U) Project R2809 is a Congressional Plus-Up in support of Remote Earth Sensing Information Center (RESIC). The Hyperspectral Integrated Tools and Techniques (HITT) initiative is the single hyperspectral project focused on integrating

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the tools and techniques necessary for accurate geo-locate hyperspectral sensor data and produce timely information to support warfighter situational awareness, mission planning, and execution. The HITT project's Integration of proven commercial off-the-shelf technology will rapidly provide techniques and tools for turning this important 21st century sensor data source into usable warfighting information. The Navy's success with the HITT project should put the Navy in a position to lead all Services and Agencies conducting sensor research and development by ensuring they all have access to the tools and techniques necessary to turn the data they collect into information vital to the warfighter.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrading existing operational systems.

(U) PROGRAM CHANGE SUMMARY FOR TOTAL PE: FY2000: Congressional Plus-Up for RESIC (+\$1,000K). Across-the-Board Reduction (-\$4K), SBIR Assessment (-\$20K), Section 8055 Congressional Proportionate Rescission (-\$7K), FY2000 Adjustment for RESIC (+\$4K). FY2001: Section 8086 0.7% Pro-Rata Reduction (-\$10K), DON Review Adjustment (-\$600K), Government-Wide Rescission (-3K).

(U) CHANGE SUMMARY EXPLANATION:

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

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DATE: June 2001

BUDGET ACTIVITY: 7 PROGRAM ELEMENT: 0305927N PROJECT: R0125
PROGRAM ELEMENT TITLE: Naval Space Surveillance PROJECT TITLE: Naval Space Surveillance

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 2000 ACTUAL	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	TO COMPLET E	TOTAL PROGRAM
R0125 Naval Space Surveillance	712	1,425	4,237							

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project supports the Naval Space Surveillance Fence, an integral component of the U. S. Space Command Space Surveillance Network. This system provides continuous surveillance and unalerted detection of space objects crossing the Continental United States. The fence is also the only space surveillance system which provides satellite vulnerability and space control data to the fleet. It is a multistatic continuous wave radar fence consisting of three transmitter sites, six receiver sites, and a computation/communication center. The Alternate Space Control role assigned by U.S. Commander in Chief Space (USCINCSpace), requires that the Naval Space Command Mission System maintain functional equivalence with the USCINCSpace Space Control Center and receive, process, and distribute data from 26 surveillance sites.

B. (U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 2000 ACCOMPLISHMENTS:

- (U) (\$440) Study system design for S-band operations.
- (U) (\$150) Verify high volume processing algorithms.
- (U) (\$122) Study improved drag processing for low orbits.

2. (U) FY 2001 PLAN:

- (U) (\$ 85) Study integrated communications for remote operations.
- (U) (\$1,340) Studies to reduce technical risks of the S-Band sensor system development and numerically intensive processing.

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

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PROGRAM ELEMENT TITLE: Naval Space Surveillance

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3. (U) FY 2002 PLAN:

- (U) (\$2,573) Develop preliminary architecture and design for RF sensor, communications, and processing.
- (U) (\$1,164) Perform analysis of system-level requirements for RF sensor, communications, and processing.
- (U) (\$ 500) Conduct Environmental, Safety and Hazmat studies in support of frequency selection and allocation

(U) RELATED RDT&E: Not applicable.

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

FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	TO	TOTAL
ACTUAL	ESTIMATE	ESTIMATE	ESTIMATE	ESTIMATE	ESTIMATE	ESTIMATE	ESTIMATE	COMPLETE	PROGRAM

(U) OPN line #2901

7,600	2,710	4,898							
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Exhibit R-2, FY 2002 RDT&E,N BUDGET ITEM JUSTIFICATION

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PROGRAM ELEMENT: 0305927N

PROJECT: R0125

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D. (U) SCHEDULE PROFILE: Not applicable.

	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>To Complete</u>
Program Milestones		MS II Decision		
Engineering Milestones	Phase I - Sensor Alternative Option Studies	Phase II - Sensor Risk Reduction & System Design	Phase III - System Preliminary Design	Phase III - System Detail Design
T&E Milestones				
Contract Milestones		Exercise Phase II Option	Award Phase III Contract	Exercise Phase III Option

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Exhibit R-3, FY 2002 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

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BUDGET ACTIVITY: 7

PROGRAM ELEMENT: 0305927N

PROJECT: R0125

PROGRAM ELEMENT TITLE: Naval Space Surveillance

PROJECT TITLE: Naval Space Surveillance

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

Project Cost Categories	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>
a. Project Management	20	57	164
b. Product Development	692	1,368	4,073
Total	712	1,425	4,237

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PE/Project Cost Breakdown
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