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FY 2001 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 2000

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

(U) COST: (Dollars in thousands)

PROJECT NUMBER & TITLE	FY 1999 ACTUAL	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R0125	Naval Space Surveillance								
	378	708	2,038	2,081	1,570	752	769	CONT.	CONT.
R2809	RESIC								
	-	1,000	-	-	-	-	-	1,000	1,000
	TOTAL								
	378	1,708	2,038	2,081	1,570	752	769	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Naval Space Surveillance Fence is an integral component of the J. 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 J.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 highpowered 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. The Hyperspectral Integrated Tools and Techniques (HITT) initiative is the single hyperspectral project focused on integrating the tools and techniques necessary for accurate geo-locate hyperspectral sensor data and produce timely information to support warfighter

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Budget Item Justification
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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:

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
(U) FY 2000 President's Budget:	398	712	724
(U) Appropriated Value:		712	
(U) Adjustments from PRESBUDG:			
(U) SBIR/STTR Adjustment	-10		
(U) Various Rate Adjustments	-2		-12
(U) Execution Adjustments	-8	-4	
(U) Program Adjustments			1326
(U) Congressional Plus-Up (R2809)		1,000	
(U) FY 2001 PRESBUDG Submission	378	1,708	2,038

(U) CHANGE SUMMARY EXPLANATION:

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PROGRAM ELEMENT TITLE: Navy Space Surveillance

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

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

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1999 ACTUAL	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R0125 Naval Space Surveillance	378	708	2,038	2,081	1,570	752	769	CONT.	CONT.

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.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

- (U) FY 1999 ACCOMPLISHMENTS:
 - (U) (\$179) Evaluated tradeoffs in prototype S band feed assembly as part of a large antenna array.
 - (U) (\$100) Evaluated impacts to current system of S band implementation.
 - (U) (\$ 99) Demonstrate impact of high volume (10-100X) processing on multiple site integration.
- (U) FY 2000 PLAN:

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- (U) (\$436) Study system designing trade-offs for S-band operations.
- (U) (\$150) Verify high volume processing algorithms.
- (U) (\$122) Study improved drag processing for low orbits.

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PROJECT: R0125

PROGRAM ELEMENT TITLE: Naval Space Surveillance

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3. (U) FY 2001 PLAN:

- (U) (\$ 150) Demonstrate S-band transmitter antenna.
- (U) (\$ 500) Develop prototype RF system for S-Band fence.
- (U) (\$ 85) Study integrated communications for remote operations.
- (U) (\$1,303) Studies to reduce technical risks of the S-Band sensor system development and numerically intensive processing.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

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FY 2001 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 2000

BUDGET ACTIVITY: 7

PROGRAM ELEMENT: 0305927N

PROJECT: R0125

PROGRAM ELEMENT TITLE: Naval Space Surveillance

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

Project Cost Categories	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY2001</u>
a. Project Management	15	20	82
b. Product Development	363	688	1,956
Total	378	708	2,038

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PE/Project Cost Breakdown
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