EXHIBIT R-2, FY 2003 RDT&E,N BUDGET ITEM JUSTIFICATION DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N
PROGRAM ELEMENT TITLE: Tactical Command System
(U) COST: (Dollars in Thousands)

PROJECT NUMBER TITLE	FY 2001 ACTUAL	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	COST TO COMPLETE	TOTAL PROGRAM
E2213	Mission Planning								
	18,173	20,759	24,644	17,244	11,003	17,148	10,102	CONT.	CONT.
X0486	GCCS-M Tactical/Mobile								
	1,428	1,613	1,470	1,720	1,503	1,535	1,534	CONT.	CONT.
X0709	GCCS-M Maritime Applications								
	6,263	7,194	5,956	9,750	7,462	9,628	8,779	CONT.	CONT.
X2009	Trusted Information Systems (formerly JMCIS OED)								
	5,581	3,904	2,973	3,039	3,068	4,095	3,625	CONT.	CONT.
X0521	GCCS-M Intelligence Applications								
	6,495	6,538	3,610	3,404	3,661	4,018	4,095	CONT.	CONT.
X2305	GCCS-M Common Applications								
	10,402	10,421	12,808	14,151	11,095	15,450	11,886	CONT.	CONT.
X2306	Naval Simulation System								
	4,710	4,989	3,396	2,840	2,213	1,342	473	CONT.	CONT.
X2307	Integrated Shipboard Network System								
	4,547	3,923	1,602	1,359	2,075	1,512	1,408	CONT.	CONT.
X3032	NTCSS Enterprise Database & MLDN								
	0	3,928	5,016	4,308	4,059	2,949	3,513	CONT.	CONT.
X9123	FORCEnet								
	0	0	20,000	20,000	20,000	0	0	0	0
TOTALS	**57,599**	**63,269**	**81,475**	**77,815**	**66,139**	**57,677**	**45,415**	**CONT.**	**CONT.**

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N
PROGRAM ELEMENT TITLE: Tactical Command System

(U) COST (Continued): (Dollars in Thousands)
Defense Emergency Response Fund (DERF)/Cost of War (COW)

PROJECT NUMBER / TITLE	FY 2001 ACTUAL	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	COST TO COMPLETE	TOTAL PROGRAM
E2213	Mission Planning								
	0	0	0	6,500	9,300	0	0	CONT.	CONT.
X0709	GCCS-M Maritime Applications								
	0	0	0	1,000	625	0	0	CONT.	CONT.
X2009	Trusted Information Systems								
	0	0	0	750	0	0	0	CONT.	CONT.
X2305	GCCS-M Common Applications								
	0	6,000	0	150	153	156	159	CONT.	CONT.
Defense Emergency Response Funding (DERF) Total (Non Add):									
	0	**6,000**	**0**	**8,400**	**10,078**	**156**	**159**	**CONT.**	**CONT.**

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Tactical Command System (TCS) upgrades the Navy's Command, Control, Computer and Intelligence (C^3I) systems and processes C^3I information for all warfare mission areas including planning, direction and reconstruction of missions for peacetime, wartime and times of crises. A major component of the TCS is the Global Command and Control System - Maritime (GCCS-M). GCCS-M is the Navy's fielded Command and Control system, a key component of the *Copernicus ... Forward* C4I strategy, and is the Navy's tactical implementation of the Global Command and Control System (GCCS). GCCS-M has aggressively pursued an evolutionary acquisition strategy in rapidly developing and fielding new C4I capabilities for GCCS-M Afloat, GCCS-M Ashore, GCCS-M Tactical/Mobile and OED users. GCCS-M current phase includes continued usage of the Defense Information Infrastructure Common Operating Environment (DII COE), as stipulated by the Joint Technical Architecture, incorporation of Fleet requirements for merging tactical and non-tactical networks, and application of mature Web and Personal Computer (PC) technologies to provide required information/capabilities. This phase will provide, in the short term, deployment of an integrated UNIX/PC/COTS based Naval implementation of GCCS-M

which will provide the warfighter with a cost-effective, user-friendly, comprehensive C4I solution and, in the long-term, a continuous, integrated Command and Control link from sensor to shooter, including full-range real-time or near-real-time information to weapon systems for decision makers. The Naval Simulation System (NSS) provides a capability to simulate the execution of all Naval Warfare including Operations Other Than War to be used for a number of related purposes. Fleet Command Centers use this capability for Course of Action Assessment. NSS supports fleet operations by providing a capability to inject simulated platform, system, or commander level entities into real world Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems, and by providing automated tools for conducting post-exercise analyses. NSS provides a comprehensive ability to simulate and assess Naval and joint CONOPS and system/platform/force level capabilities. NSS explicitly accounts for C4ISR interactions among all Warfare Mission Areas (WMAs)." The Integrated Shipboard Network System (ISNS) program provides every Navy ship, including submarines, with a reliable, high-speed Local Area Network (LAN) that will provide LAN and Wide Area Network (WAN) access to the DISN WAN (Secure and Nonsecure Internet Protocol Router Network -SIPRNet and NIPRNet). It provides real-time information exchange between afloat units, Component Commanders, numbered Fleet Commanders and Fleet CINCs through the migration of existing legacy systems into the IT-21 strategy and is a key factor in the implementation of the Navy's portion of Joint Vision 2010. Additionally, this RDT&E Project funding supports design, development and testing of two components of the Navy Tactical Command Support Systems (NTCSS) web initiative, NTCSS Enterprise Database and Maritime Logistics Data Network (MLDN). The development of a web-enabled enterprise database for NTCSS application will place all NTCSS databases into a similar structure, allowing greater interoperability between applications. MLDN will facilitate the movement of administrative workload from ships to shore.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: These programs are funded under ENGINEERING AND MANUFACTURING DEVELOPMENT because they encompass engineering and manufacturing development of new end-items prior to production approval decision.

B. (U) PROGRAM CHANGE SUMMARY:

FY 01: Transfer to SBIR (-$1,119K); BTR MUOS UHF OFFLOAD DEMO (-$118K); ATR for NTCSS WEB ENABLE (-$325K); JMPS Mission Planning (+$1,755K); Ocean Surveillance Information System (+$2,000K); Section 8086 .7% Pro-Rata Reduction (-$420K); Government-Wide Rescission (-$129K); and Department adjustments (-$1,862K). FY01 Net Change (-$218K).

FY02: EKMS Tier 1 (-$1,000K), Section 8123 Management Reform Initiative (-$563K) FY02 Net Change (-$1,563K).

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N
PROGRAM ELEMENT TITLE: Tactical Command System

Note: Defense Emergency Response Fund (DERF) (FY02): ($6,000K) Naval Fires Network (NFN) is a transformational system that provides real time intelligence correlation, sensor control, target generation, mission planning, engagement and battle damage assessment. This capability is enabled by combining, and ultimately integrating, "best of breed" elements of three existing systems into a converged architecture: Joint Service Imagery Processing System-Navy (JSIPS-N), Tactical Exploitation System-Navy (TES-N) and Global Command and Control System-Maritime (GCCS-M).

FY 2003 RDT&E,N PROJECT JUSTIFICATION DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: E2213
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Mission Planning

(U) COST: (Dollars in Thousands)

Project Number & Title	FY 2001 Budget	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	To Complete	Total Program
E2213 Mission Planning	18,173	20,759	24,644	17,244	11,003	17,148	10,102	CONT.	CONT.

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Joint Mission Planning System (JMPS) is a co-development program with the Navy, Air Force, USSOCOM, and Army to develop a scaleable, extensible, and configurable open architecture to meet a full range of Joint automated mission planning needs. The JMPS mission planning system will provide the information, automated tools, and decision aids needed to rapidly plan for aircraft, weapon, or sensor missions as well as post-mission analysis of recorded data. JMPS will be a Defense Information Infrastructure/Common Operating Environment (DII/COE) compliant mission planning system, which will meet future DOD requirements for interoperability within and across DOD C4I systems while reducing life-cycle cost. JMPS accomplishes these goals by establishing a standardized environment for mission planning systems (the Joint Mission Planning Environment (JMPE)) that provides a DII COE / Joint Technical Architecture (JTA) compliant Windows 2000 core, a mission planning infrastructure of basic databases, management tools, and framework services, and a set of common mission planning components. A JMPS mission planning system is a combination of the JMPE together with platform/Service unique components and the necessary system hardware to meet user mission planning needs and constraints. The Navy and Air Force will co-develop the common software, while individual platforms programs will develop platform specific functionality, similar to what is being done in both Tactical Automated Mission Planning System (TAMPS) and Air Force Mission Support System (AFMSS) programs. JMPS has adopted an evolutionary acquisition approach, which will allow the warfighter to seamlessly perform basic-level flight planning with the JMPS Version 1 system, unit-level mission/combat planning with the JMPS Combat 1 system, and multi-unit/strike planning and force-level decision aids with the JMPS Follow-On Components system. The JMPS Version 1 system will provide basic flight planning, route planning/editing, file calculations, mapping (NIMA), 3-D visualization, CMDL, and Intel interface. The JMPS Combat 1 system is planned to be an enhanced version of JMPS Version 1 and will replace TAMPS in the Fleet. JMPS Combat 1 will provide unit level planning, GCCS-M interface, GPS Crypto Keys, PGM planning, weather interface, GPS Prediction and Server Implementation. The JMPS Follow-On Components system will be an enhanced version of JMPS Combat 1 to provide additional components and capabilities including a multi unit level mission planning capability, TBMCS Interface, route deconfliction, stores planning and weapon effectiveness, and Littoral Mission Planning Tools.

FY 2003 RDT&E,N PROJECT JUSTIFICATION DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: E2213
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Mission Planning

(U) JUSTIFICATION FOR BUDGET ACTIVITY

These programs are funded under Engineering & Manufacturing Development because they encompass engineering and manufacturing development of new end-items prior to production approval decision.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 2001 ACCOMPLISHMENTS:

- (U) ($13,805) Continued JMPS Version 1 development effort.

- (U) ($4,368) Started development of JMPS Post Version 1 (Combat 1) Combat Mission Planning components to support retirement of TAMPS.

2. (U) FY 2002 Plan:

- (U) ($20,131) Continue JMPS Post Version 1 and Combat 1 development effort.

- (U) ($628) Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15USC 638.

3. (U) FY 2003 Plan:

- (U) ($10,917) - JMPS Version 1 and Combat 1 Development Effort – JMPS Version 1 support during Operational Testing. Nomination and assessment of JMPS Version 1 and Combat 1 contract incentive fees. Continue JMPS Combat 1 fix builds for any discrepancies identified during systems testing. Continue systems testing, start UPC testing, System of Systems testing, and UPC validations. Contract incentive fee.

- (U) ($700) - Operational Testing Support to the Air Force - Continue JMPS Version 1 support during Operational Testing by the Air Force. JMPS Combat 1 Pre-Operational Test Readiness Review and begin JMPS Combat 1 Operational Testing late in FY03.

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: E2213
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Mission Planning

- (U) ($4,173) - JMPS Follow-On Components Effort – Start JMPS Follow-On development planning effort. Coordinate and plan the development of additional mission planning components and capabilities including a multi-unit level mission planning capability, TBMCS Interface, route de-confliction, stores planning and weapon effectiveness.
-
- (U) ($800) - PFPS Component Migration to JMPS - Continue component development encompassed functionality, full documentation, User help - online support, component installation, developer and/or user training/CBT, and maintenance.

- (U) ($8,054) - Engineering, Logistics and Management Support for JMPS Version 1, JMPS Combat One, and JMPS Follow-On Components - Continue integrated product logistics support for JMPS Version 1 and JMPS Combat 1 Beta build releases compatibility. Continue systems engineering support and management support from integrated product teams during the development of JMPS Version 1, JMPS Combat 1 and JMPS Follow-On Components Beta and version releases ensuring contractor accuracy and precision of framework components and enhanced operability components. Continue collaboration between JMPS Combat 1 integrated product team and other services, i.e. the Air Force and the Army during JMPS Combat 1 development and JMPS Follow-On Components development. Provide collaboration support between JMPS Version 1, JMPS Combat 1 and Follow-On Components integrated product team and other platform and weapon programs across the Navy, Air Force, Marine Corps and Army.

(U) B. PROGRAM CHANGE SUMMARY

	FY 2001	FY 2002	FY 2003
(U) FY 2002 President's Budget Submit:	17,405	20,944	
(U) Adjustments from President's Budget:	+768	-0.185	
(U) FY 2003 OSD Budget Submit:	18,173	20,759	24.644

CHANGE SUMMARY EXPLANATION:

(U) Funding: The FY 2001 net increase of $.768 million reflects an increase of $1.755 million for JMPS Mission Planning offset by a decrease of $.420 million for a reprioritization of requirements within the Navy and a decrease of $.567 million for a Small Business Innovative Research Assessment. The FY 2002 decrease of $.185 million reflects an undistributed congressional reduction.

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: E2213
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Mission Planning

(U) Schedule: The 1Q/02 JMPS Follow-On Components contract award date has been changed to a 2Q/03 award date, however, JMPS Follow-On Components requirement definition and contract preparation will begin in 1Q/03. JMPS Force Level Planning was renamed to JMPS Follow-On Components but the effort remains the same. JMPS Version IOC has slipped from 2Q/03 to 2Q/04 due to additional Beta Testing required. JMPS Follow-On Components and Responsive Planning IOC has slipped from 2004 and 2005, respectively, to 2006. The 3Q/01 JMPS Post V1 contract award has been renamed as JMPS Combat One (JC-1) but the effort remains the same.

(U) Technical: Not Applicable

(U) C. OTHER PROGRAM FUNDING SUMMARY

Appn	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY2007 Estimate	To Complete
BLI 287600 TAC A/C Mission Planning System (OPN)	11,830	13,223	6,597	8,899	10,317	6,705	12,321	CONT.
PE28006F Air Force Mission Support System (total)	20,565	16,904	17,154	17,499	17,862	17,900	18,051	CONT.
Related RDT&E								
P.E. 0604215N (Standards Development)	10,353	10,213	2,983	2,929	1,658	1,926	1,949	

(U) D. ACQUISITION STRATEGY: The JMPS Acquisition strategy will evolve as the program matures but initially will cover the Engineering and Manufacturing Development (EMD) effort. The strategy entails a two-phased evolutionary approach to acquire the initial JMPS development effort. The combined USAF/USN Phase I of this effort obtained various technical studies, segment architect concept, design to cost estimate, and an architecture development statement of work. Phase I was added to the program to determine reduced cost strategies through software reuse from both USN TAMPS and USAF AFMSS programs. Additionally, this phase provided a risk reduction plan for the most effective migration of existing mission planning systems. Phase I was awarded to two contractors. In Phase II, one contractor was selected to develop the JMPS architecture framework and version 1 mission planning components. Post Version I component development will be broken into two phases. Components required to retire TAMPS and meet F-16 planning requirements will be developed under a modification to the existing architecture framework contract. All other combat and force level components will be acquired through a follow-on full and open competition.

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: E2213
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Mission Planning

(U) D. SCHEDULE PROFILE

	FY 2001	FY 2002	FY 2003	To Complete
(U) Program Milestones				
NPFPS Version 3.2		1Q/02 release		
NPFPS Version 3.3		2Q/02 release		
NPFPS Version 3.4		4Q/02 release		
JMPS Version 1 (JV1)				2Q/04 IOC
JMPS Combat 1 (JC1)				2Q/04 IOC
JMPS Follow-On Components				IOC 2004
JMPS Responsive Planning				IOC 2005
(U) Engineering Milestones				
(U) T&E Milestones		2Q/02 JMPS Version 1 DT Assist	4Q/03 JMPS Combat 1 OT	
(U) Contract Milestones	3Q/01 JMPS Combat 1 Contract Award		2Q/03 JMPS Follow on Components Contract Award	

FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: E2213
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Mission Planning

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total Prior Yrs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Development (JV1)	SS/CPAF	Logicon, CA	16,463	8,677	11/00	4,515	11/01	1,807	11/02		31,462	53,706
Primary Development (JC1)	SS/CPIF	Logicon, CA		3,200	07/01	8,200	11/01	6,700	11/02		18,700	21,150
Primary Development	MP	Eglin AFB, FL	4,665	1,465	11/00	185	11/01	300	11/02		6,615	6,615
Primary Development	MP	Hill AFB, UT		562	11/00	650	11/01	500	11/02		1,712	1,712
Systems Engineering	MP	FEDSIM (GSA)		100	11/00	100	11/01	300	11/02	CONT.	CONT.	
Primary Development (follow on)	TBD	TBD						4,173	11/02			TBD
Award Fees				1,985	11/00	2,410	11/01	2,410	11/02	CONT.	6,805	6,805
Subtotal Product Development			**21,128**	**15,989**		**16,060**		**16,190**		**CONT.**	**CONT.**	

Remarks

The total cost for the JV1 CPAF contract represents the total portion of the Navy funding provided. The additional funding required to meet the Target Value of the JV1 contract is provided by the Air Force. The JMPS Follow-on development contract will be competitively awarded in FY03. The Air Force development effort will complete in FY03 with the deliverables, Mission Planning S/W tools, provided as GFE/GFI to the development contractor. The development effort is critical to meeting the JMPS IOC in FY03. In accordance with the JMPS Award Fee Plan, Logicon was awarded a rating of "Very Good," equating to 82% of the available Award Fee Pool.

Integrated Logistics Support	WX	SPAWAR, PA	345	271	11/00	500	11/01	1,600		CONT.	CONT.	
Integrated Logistics Support	WX	NAWCAD, MD	179	100	11/00	400	11/01	900		CONT.	CONT.	
										CONT.	CONT.	
Subtotal Support			**524**	**371**		**900**		**2,500**		**CONT.**	**CONT**.	

Remarks

FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: E2213
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Mission Planning

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total Prior Yrs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Operational Test & Evaluation	WX	OPTEVFOR, VA	400	0		500	11/01	700	11/02	CONT.	CONT.	
Subtotal Test & Evaluation			**400**	**0**		**500**		**700**		**CONT.**	**CONT.**	
Remarks												
Govt. Engineering Support	WX	NAWCAD, MD	566	50	11/00	330	11/01	985	11/02	CONT.	CONT.	
Program Mgmt Support	RX	Various	338	50	11/00	354	11/01	610	11/02	CONT.	CONT.	
Travel	WX	NAWCAD, MD	225	125	11/00	200	11/01	200	11/02	CONT.	CONT.	
Govt. Engineering Support	WX	NAWCAD, CA		1,588	11/00	1,787	11/01	3,459	11/02	CONT.		
SBIR Assessment						628						
Subtotal Management			**1,129**	**1,813**		**3,299**		**5,254**		**CONT.**	**CONT.**	
Remarks												
Total Cost			**23,181**	**18,173**		**20,759**		**24,644**		**CONT.**	**CONT.**	

FY 2003 RDT&E,N PROJECT JUSTIFICATION DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X0486
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Tac/Mobile

(U) COST: (Dollars in Thousands)

PROJECT NUMBER TITLE	FY 2001 ACTUAL	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	COST TO COMPLETE	TOTAL PROGRAM
GCCS-M Tactical/Mobile (GCCS-M Tac/Mobile)									
X0486	1,428	1,613	1,470	1,720	1,503	1,535	1,534	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Global Command and Control System-Maritime (GCCS-M) Tactical/Mobile program provides evolutionary systems and equipment upgrades to support Maritime Sector Commanders with the capability to plan, direct and Control the tactical operations of Joint and Naval Expeditionary Forces and other assigned units within their respective area of responsibility. These operations include littoral, open ocean, and over land all-sensor surveillance, anti-surface warfare, over-the-horizon targeting, counter-drug operations, power projection, antisubmarine warfare, mining, search and rescue, and special operations.

The missions are supported by the Tactical Support Centers (TSCs) and the Mobile Operations Control Centers (MOCCs). Services provided include analysis and correlation of diverse sensor information; data management support; command decision aids; rapid data communication; mission planning and evaluation and dissemination of surveillance data and threat alerts to operational users ashore and afloat. All Tactical/Mobile systems are based on the GCCS-M architecture, which is Defense Information Infrastructure (DII) Common Operating Environment (COE) compliant.

TSCs provide C4I capability, air-ground, satellite and point-to-point communications systems; sensor analysis capabilities; avionics and weapons system interfaces and facilities equipment. MOCC is a scalable and mobile version of the TSC for operations from airfields that do not have TSC support. This program assures that existing TSCs and MOCCs are modernized to fulfill their operational requirements. TSC/MOCC will continue to support P-3C/S-3B aircraft updates to sensors and weapons systems, such as the Anti-Surface Warfare Improvement Program (AIP), as well as develop emergent, ground support capabilities for the Multi-Mission Aircraft (MMA).

GCCS-M Tac/Mobile R&D efforts are developed in agreement with and in mutual support of OPNAV N62 and N78. These efforts are required to provide support for the N78 platforms as related to the non-C2 aspects of the program.

FY 2003 RDT&E,N PROJECT JUSTIFICATION DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X0486
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Tac/Mobile

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 2001 ACCOMPLISHMENTS:

- (U) ($524) Rehosted additional functions to Windows NT under (DII COE). Improved Aircraft Status segment operability by focusing on ease of use and data sharing from pre-mission planning to post mission wrap up. Developed new functionality for Generic Mission Replay (GMR) to support mission replay of new aircraft capabilities, including CFS, IEER, and 78A/B. Developed new functionality for Tactical Data Insertion (TDI) operational usability. Incorporated new P-3 aircraft capabilities including Global Null Steer and Command Function Select (CFS). Redesigned Human Machine Interface (HMI) of Aircrew Brief segment to improve operator usability by automating data entry and auto-populating other applications.

- (U) ($215) Developed expanded Aircraft Interfaces to improve processing for new aircraft sensors, including the APS-137 Synthetic Aperture Radar (SAR) and high resolution Inverse Synthetic Aperture Radar (ISAR) modes, as well as the Advanced Imaging Multi-spectral System (AIMS).

- (U) ($110) Developed interface for new aircraft data transport devices. Improved Aircraft Tape Operating System (ATOS) user interface and incorporate new P-3 aircraft data transport devices, including Replacement Data Storage Systems (RDSS), Command Function Select (CFS), Improved Extended Echo Ranging (IEER), S-3B 4.4.2 & 4.5a, and Canadian CP-140 aircraft.

- (U) ($181) Continued software development of improved acoustic Fast Time Analysis System (FTAS) into TSC and MOCC GCCS-M systems to enhance interoperability and commonality. Developed requirements set for new function to support new aircraft IEER capability.

- (U) ($139) Developed software for Electronic Support Measures (ESM) Workstation Interfaces for new aircraft Specific Emitter Identification functions.

- (U) ($259) Performed End-to-End Testing designed to simulate real world operational usage of the system to ensure that the system functions as an integrated product. Included system compliance, system integration testing, segment compliance, aircraft interface, tactical feeds and requirements checking.

2. (U) FY 2002 PLAN:

- (U) ($641) Develop new capabilities to support emerging aircraft weapons and non-acoustic sensors on P-3C ASUW Improvement Program (AIP), P-3C Baseline Modification Upgrade Program (BMUP), and other derivative aircraft. Analyze Multi-mission Maritime Aircraft (MMA) aircraft impact on TSC and MOCC systems. Continue to develop interfaces for emerging aircraft data transport devices. Perform testing on new software and hardware components. Continue development of aircraft status to web-enable segment and combine with Aircraft Brief.

- (U) ($178) Analyze TSC/MOCC requirements for advanced data links such as LINK-16, Common Data Link (CDL) and other high bandwidth data transmission paths. Migrate two-way LINK-11 to new platform.

- (U) ($394) Continue improvements to acoustic Fast Time Analysis System (FTAS) to reduce reliability on obsolete proprietary hardware, incorporate Commercial Off The Shelf (COTS) technology, and incorporate new functionality in support of emerging aircraft acoustic capabilities. Analyze and develop detailed set of requirements for follow-on system.

- (U) ($177) Complete the rehosting of all functions to Windows NT including development of new hardware drivers and updates to stay current with the DII COE kernel and Navy initiative for web enablement.

- (U) ($223) Develop interfaces and incorporate joint and coalition SATCOM and line of site radios, cryptographic units and antenna technology. Ensure interoperability in a land, sea, air, and mobile environment. Investigate and initiate development of a Digital Modular Radio (DMR) interface between other TSC/MOCC elements.

3. (U) FY 2003 PLAN:

- (U) ($331) Design new interfaces between UHF SATCOM Digital Modular Radio (DMR) (as replacement for obsolete VICS radio) and legacy system. Continue development activities necessary to stay current with joint and coalition SATCOM and line of site radios, cryptographic units and antenna technology. Ensure interoperability in a land, sea, air and mobile environment.

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X0486
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Tac/Mobile

- (U) ($390) Develop new capabilities to support emerging aircraft weapons and non-acoustic sensors on Maritime Patrol Aircraft (MPA). Develop necessary interfaces to support precision strike targeting to include advanced data links.

- (U) ($278) Develop new ground workstation software for new and upgraded aircraft sensors. Continue to develop interfaces for emerging aircraft data transport devices. Perform testing on new software and hardware components.

- (U) ($471) Complete development of requirements set which will support and investigate potential software and hardware prototype for follow-on Fast Time Analysis System (FTAS) that meets the new functionality required to support new aircraft capabilities and digital buoy technology.

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

Appn	FY 2001 ACTUAL	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	COST TO COMPLETE	TOTAL PROGRAM
OMN (N62)	6,661	8,221	7,796	8,076	8,149	8,294	8,554	CONT.	CONT.
OMN (N78)	3,114	3,283	6,901	3,492	3,587	3,707	3,807	CONT.	CONT.

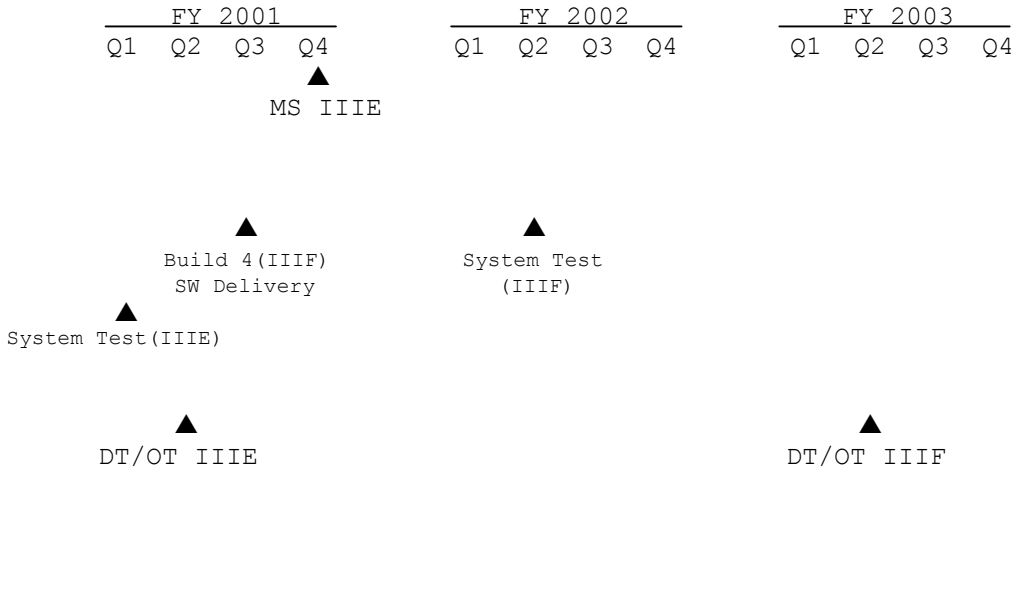
(U) RELATED RDT&E:

- PE 0604231N: (GCCS-M Maritime Apps X0709): GCCS-M Maritime Apps provides portions of GCCS-M functionality common among Afloat, Ashore, and Tactical/Mobile environments.
- PE 0604231N: (GCCS-M Common Apps X2305): GCCS-M Common Apps provides portions of the Defense Information Infrastructure Common Operating Environment (DII COE) functionality required by Afloat, Ashore, and Tactical/Mobile GCCS-M environments.
- PE 0604261N: (Acoustic Search Sensors): TSC maintains interoperability with S-3 weapon systems and future improvements.
- PE 0604221N: (P-3 Modernization): TSC maintains interoperability with, and fully supports P-3 system changes and enhancements.

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X0486
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Tac/Mobile

C. (U) ACQUISITION STRATEGY: N/A

D. (U) SCHEDULE PROFILE:



FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X0486
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Tac/Mobile

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Software/Product Development	Various	Various	31,073	1,085	Var.	1,144	Var.	877	Var.	CONT.	CONT.	
Subtotal Product Development	Various	Various	31,073	1,085	Var.	1,144	Var.	877	Var.	CONT.	CONT.	
Remarks:												
System Engineering	Various	Various	18,469	129	Var.	137	Var.	221	Var.	CONT.	CONT.	
Subtotal Sys Eng Support	Various	Various	18,469	129	Var.	137	Var.	221	Var.	CONT.	CONT.	
Remarks												

FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X0486
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Tac/Mobile

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Evaluation	Various	Various	3,019	0	Var.	68	Var.	70	Var.	CONT.	CONT.	
Subtotal T&E	Various	Various	3,019	0	Var.	68	Var.	70	Var.	CONT.	CONT.	
Remarks												
Project Management	Various	Various	9,713	214	Var.	264	Var.	302	Var.	CONT.	CONT.	
Subtotal Management	Various	Various	9,713	214	Var.	264	Var.	302	Var.	CONT.	CONT.	
Remarks												
Total Cost	Various	Various	62,274	1,428	Var.	1,613	Var.	1,470	Var.	CONT.	CONT.	

FY 2003 RDT&E,N PROJECT JUSTIFICATION DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X0709
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Maritime Apps

(U) COST (Dollars in thousands)

PROJECT NUMBER & TITLE	FY 2001 ACTUAL	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	COST TO COMPLETE	TOTAL PROGRAM
X0709 GCCS-M Maritime Apps	6,263	7,194	5,956	9,750	7,462	9,628	8,779	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The GCCS-M system is the component of GCCS used in the afloat, ashore and tactical/mobile maritime environments. GCCS-M meets the requirements of the tactical commander for a near real-time, fused common tactical picture with integrated intelligence services and databases. GCCS-M supports the Command, Control, Communication, Computers and Intelligence (C4I) mission requirements of the Chief of Naval Operations (CNO), Fleet Commanders in Chief (CINC), Numbered Fleet Commanders (NFC), Officer in Tactical Command/Composite Warfare Commander (OTC/CWC), Type Commanders (TYCOM), Commander Submarine Operations Authority (COMSUBOPAUTH), Commander Task Force (CTF), Commander Amphibious Task Force (CATF), Commander Landing Force (CLF), Ship's Commanding Officer/Tactical Action Officer (CO/TAO), and Joint Task Force (JTF) Commanders, as well as other functional commanders such as the Command and Control Warfare Commander (C2WC). It also integrates both joint and service-unique Command and Control projects in order to support joint task force and Navy afloat requirements. Efforts include design, integration, and test of Tactical Decision Aids (TDAs), Navy Status of Forces (NSOF), and integration of GCCS-M baselines with weapons systems and Combat Direction Systems. These efforts will provide the battle group/force commanders with the information needed to enhance their warfighting capabilities. GCCS-M is also continuing a transition to Commercial Off The Shelf (COTS) hardware and software as part of the current GCCS-M initiative to capitalize on the latest Web/PC industry/commercial technology. GCCS-M is a key system currently being used to support real world operations afloat, ashore, and with tactical/mobile commanders.

FY 2003 RDT&E,N PROJECT JUSTIFICATION DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X0709
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Maritime Apps

1. (U) FY 2001 ACCOMPLISHMENTS:

- (U) ($1,376) Aircraft Mission Planning / TACMOBILE: Developed new functionality and enhanced existing functionality to meet the high priority requirements specified by the Fleet CINCs and validated by CNO at the CRWG, including development of P-3 aircraft interfaces and TBMCS interoperability.

- (U) ($128) Testing: Supported operational test planning and execution to prepare for OPEVAL and MS IIIE.

- (U) ($712) Architecture: Provided thin-client front end to the existing scheduling and readiness tools to enable disadvantaged users at Immediate Superior in Command (ISICs) and Type Commanders (TYCOMs) to exploit the same scenario-based calculation capabilities contained at fleet command centers. Users are able to perform remote updates via internet web technology and database replication features, eliminating the requirement for message based data transfer.

- (U) ($475) Readiness: Developed a web interface to the joint Global Status of Resources and Training (GSORTS) database so that all maritime users can provide inputs to the national status of forces data, as well as the lower echelon readiness systems in either a fleet command center with GCCS software or at Navy specific site fielding GCCS-M.

- (U) ($430) Aircraft Mission Planning / TACMOBILE: Ported all remaining UNIX-based TSC applications to a PC environment, using extensions designed for commercial desktop applications to interface with GCCS-M tactical data sources. Provided components for pre-flight sensor analysis that can be imbedded into other desktop utilities for scheduling and post-mission replay. Utilities were interfaced with the DII COE on NT for mission display, and were incorporated into the FLTCAST effort for web-based subscription capabilities.

- (U) ($190) Threat OOB and C&P: Migrated TSC applications to the current version of the Modernized Intelligence Database (MIDB). Migration to the Defense Intelligence Agency (DIA) database enabled TSCs to integrate with the Joint community for ATO generation, order of battle maintenance and targeting support.

- (U) ($437) Useability: Provided Integrated Products (IP) that support both legacy AUTODIN or text-based data transfer, as well as moved modern IP-based data transmission messages for data transfer and automated message handling. Leveraged DMS effort into a Maritime implementation for organizational email and data transfer for population of tactical databases.

- (U) ($932) Testing: Continued acceptance, development, and operational test phases in labs and operational sites. Acceptance and development testing included joint certifications, compliancy with the DII COE and security policies, and functional testing for each segment. Funding was also be used to support the ongoing Test IPTs and TPWG processes.

- (U) ($266) Useability: Continued integration of GCCS (Joint) software in shore and shipboard environments, including incorporation of Navy-specific applications into the Joint software and network environment. Ensured that all applications were also built to the common segmentation guideline, so that they can also be loaded on the same physical machine.

- (U) ($433) Combat Systems Interface: Continued interface development between GCCS-M and Aegis/non-Aegis combat systems. Initiated a DII COE Level 7 integration between ATWCS, TTWCS, AADC, and GCCS-M to enable combat systems to be installed on a common platform.

- (U) ($694) Architecture: Designed a hybrid UNIX and PC server architecture to consolidate multiple low-end servers into a high availability enterprise server to increase reliability, maintainability and availability and to lower maintenance costs. Refined on the three-tier architecture to enable smaller-scale database and application servers to be swapped into architecture without disturbing client application code.

- (U) ($190) Employment Scheduling / WSM: Continued enhancements to Water Space Management (WSM), identified through CRWG requirements processes.

2. (U) FY 2002 PLAN:

Per the attached schedule, FY02 is a critical year leading up to DT/OT of GCCS-M Increment IIIF. Failure to complete capability planned for Increment IIIF will result in a breach of negotiated interfaces with several other programs, including P-3 aircraft upgrades and Virginia class submarines.

- (U) ($1,130) Aircraft Mission Planning / TACMOBILE: Provide C4I research and product improvement for P-3 mission and other avionics platforms. Provide enhanced capability in support of P-3 aircraft P3I and follow-on initiatives, including interface changes. Provide developmental support to P-3 Tactical Support Center operations by satisfying emerging technology requirements initiated by Fleet operators, developing interfaces to aircraft systems, and increasing the interoperability between P-3 support applications, including Aircraft Status, Aircrew Brief, Generic Message Replay & Reconstruction, Pre/Post-Flight ESM, P-3 Tactical Data Insertion, and Inverse Synthetic Aperture Radar (ISAR) video analysis. Provide access to applications through web-based interfaces. Provide interfaces to other aircraft mission planning systems, such as TAMPS or JMPS.

- (U)($576) Architecture: Develop and implement modernized architectures, including web-centric and N-Tier. Continue to develop Conops/procedures and interfaces to support joint amphibious warfare for embarked/disembarked Marine Corps elements. Test and integrate GCCS-M GOTS products into PC COTS installation and runtime environment. Perform testing and integration with latest commercial products to ensure complete interoperability and data level integration. Perform engineering to provide fleet recommendations on compatible hardware and software configurations/modifications to current baselines.

- (U)($2,205) Employment Scheduling / WSM: Develop and update employment scheduling capabilities in support of Fleet requirements. Develop employment scheduling capability on DII/COE compliant PC platforms. Integrate WebSked (formerly known as VIPER) with latest versions of COTS/MS Office products. Incorporate emerging requirements validated and prioritized by WebSked operational community, which may include fuel management, notional templates, multiple proposals and deployment transit planning. Provide capability for employment scheduling data to be linked to readiness, logistics, intelligence, and track databases in such a way that operators can obtain a comprehensive understanding of all relevant data to be used in planning and command & control scenarios. Incorporate WSM requirements identified by CRWG process.

- (U)($1,821) Readiness: Research Fleet requirements for viewing and archiving readiness data. Link readiness data with track, intelligence, and imagery data to provide a comprehensive understanding of a unit’s operational status. Continue to integrate GCCS (Joint) segments into GCCS-M. Provide web-based, graphical entry of Readiness data, and develop web-based solutions for viewing archived readiness data in Fleet-specified formats. Incorporate emerging requirements identified and prioritized during CRWG requirements process.

- (U)($595) Spectral and Environmental Analysis: Develop capability for automatic interface and update with SPEDS/ICAP Integrated Product (SIIP) and Meteorological and Oceanography (METOC). Continued development of Tactical Decision Aids (TDAs) and COTS tactical analysis tools for incorporation into General Service (GENSER) and Sensitive Compartmented Information (SCI) Software for analyst workstations, Electronic Warfare Command Stations (EWCS), and supporting the Command and Control Warfare Center (C2WC). Incorporate new functional capability prioritized by Fleet users, including web-based applications as appropriate.

- (U)($867) Testing: Continue to perform systems testing on the integrated components of the Naval C4I architecture. Modernize test facilities to maintain capability to test newly developed software and architectures, including web-based products. Support the proof of concept testing in exercise environments of emerging technology in the C4I arena.

3. (U) FY 2003 PLAN:

- (U)($1,284) Aircraft Mission Planning / TACMOBILE: Continue to develop interfaces to aircraft systems, and increase the interoperability between P-3 support applications, including Aircraft Status, Aircrew Brief, Generic Message Replay & Reconstruction, Pre/Post-Flight ESM, P-3 Tactical Data Insertion, and Inverse Synthetic Aperture Radar (ISAR) video analysis. Continue to provide web-based applications. Continue to develop interfaces to support evolving aircraft mission planning systems, including TAMPS and JMPS. Continue to migrate functionality to maintain currency with DII COE and maximize use of COE-provided capabilities. Continue to integrate TBMCS with GCCS-M.

- (U)($2,108) Employment Scheduling / WSM: Continue to develop and integrate web-enabled employment scheduling capabilities in support of Fleet requirements. Continue to integrate WebSked (formerly known as VIPER) with latest versions of COTS/MS Office products. Continue to incorporate emerging requirements validated and prioritized by WebSked operational community. Continue to develop and integrate linkages between employment scheduling data and readiness, logistics, intelligence, and track data in such a way that operators can obtain a comprehensive understanding of all relevant data to be used in planning and command & control scenarios. Incorporate WSM requirements identified by CRWG process. Continue to migrate functionality to maintain currency with DII COE and maximize use of COE-provided capabilities.

- (U)($699) Readiness: Continue to develop and integrate Fleet requirements for viewing and archiving readiness data. Continue to develop and integrate linkages between readiness data and track, intelligence, and imagery data to provide a comprehensive understanding of a unit's operational status. Continue to integrate current versions of GCCS (Joint) segments into GCCS-M. Continue to provide web-based, graphical entry of readiness data, and enhance web-based solutions for viewing archived readiness data in Fleet-specified formats. Continue to develop and integrate capabilities to archive historical readiness data using the Consolidated History File (CHF) application. Continue to incorporate emerging requirements identified and prioritized during CRWG requirements process. Continue to maximize usage of COE-provided capabilities.

- (U)($746) JPN / TADILS / BROADCASTS: Develop and integrate capabilities to distribute and associate readiness, employment scheduling, and nodal analysis data with track data using mechanisms provided by the DII COE and the Maritime extensions.

- (U)($420) Spectral and Environmental Analysis: Continue to develop capability for automatic interface and update with SIIP and METOC as these products evolve. Continue development and integration of Tactical Decision Aids (TDAs) and review COTS tactical analysis tools for incorporation into GENSER and SCI Software for analyst workstations, Electronic Warfare Command Stations (EWCS), and supporting the Command and Control Warfare Center (C2WC). Continue to enhance existing and incorporate new functional capability prioritized by Fleet users. Continue to migrate functionality to maintain currency with DII COE and maximize use of COE-provided capabilities.

- (U)($699) Testing: Continue to perform systems testing on the integrated components of the Naval C4I architecture. Continue to modernize test facilities to maintain currency with emerging technological standards to support testing newly developed software and architectures. Continue to support the proof of concept testing in exercise environments of emerging technology in the C4I arena. Continue to conduct reviews of existing and additional system functionality to prevent duplication and maximize DII COE compliancy.

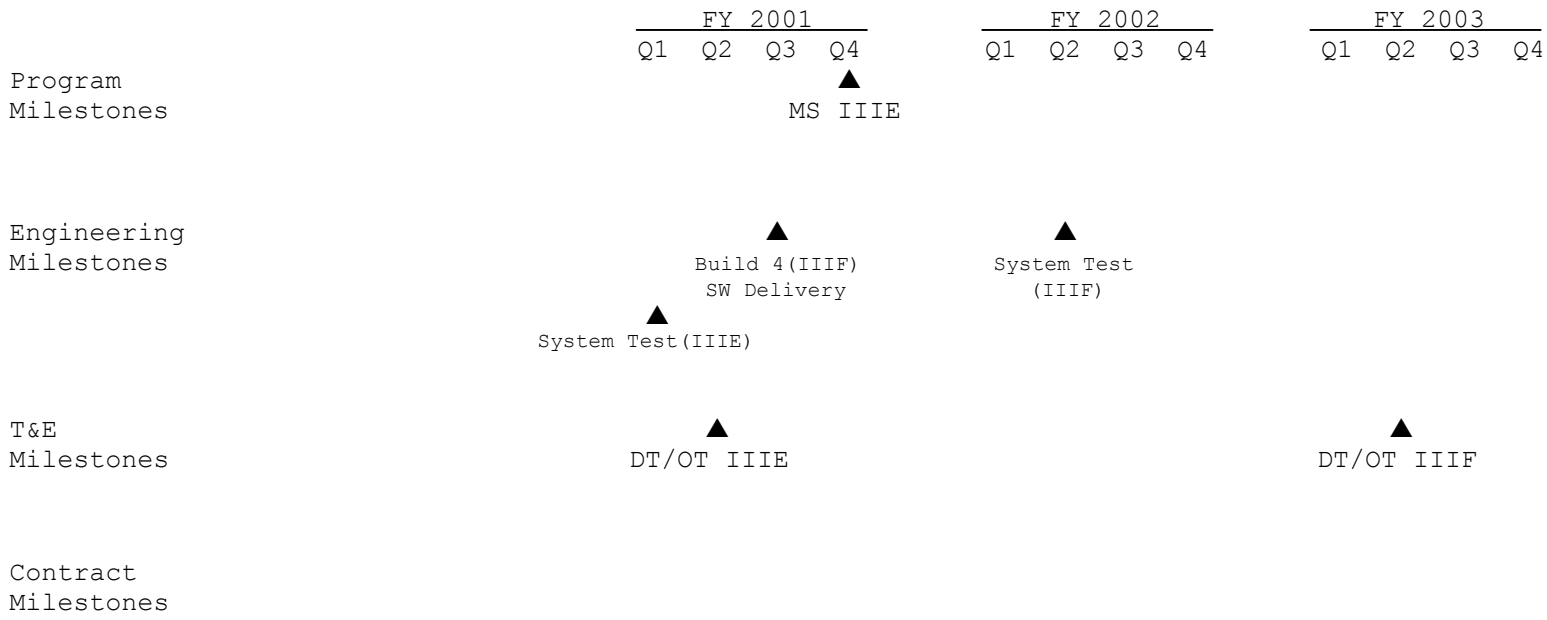
BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X0709
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Maritime Apps

B. (U) OTHER PROGRAM FUNDING SUMMARY: Not Applicable

(U) RELATED RDT&E:PE 0604231N (Tactical Command Systems) GCCS-M Intelligence Applications.

C. (U) ACQUISITION STRATEGY: N/A

D. (U) SCHEDULE PROFILE:



FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X0709
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Maritime Apps

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Software/Product Development	Various	Various	29,700	4,911	Var.	2,518	Var.	1,914	11/02	CONT.	CONT.	
Software/Product Development	WX	SSC San Diego				2,478	10/01	1,959	11/02	CONT.	CONT.	
Software/Product Development	WX	SSC Charleston				991	10/01	1,126	11/02	CONT.	CONT.	
Subtotal Product Development	Various	Various	29,700	4,911	Var.	5,987	Var.	4,999	11/02	CONT.	CONT.	
Remarks:												
System Engineering	Various	Various	10,070	877	Var.	711	Var.	466	11/02	CONT.	CONT.	
Subtotal Support	Various	Various	10,070	877	Var.	711	Var.	466	11/02	CONT.	CONT.	
Remarks												

FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X0709
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Maritime Apps

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01Cost	FY01 Award Date	FY02Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Evaluation	PD	OPTEVFOR	1,090	0		0		0		CONT.	CONT.	
Subtotal T&E	PD	OPTEVFOR	1,090	0		0		0		CONT.	CONT.	
Remarks												
Program Management	Various	Various	7,288	475	Var.	496	Var.	491	11/02	CONT.	CONT.	
Subtotal Management	Various	Various	7,288	475	Var.	496	Var.	491	11/02	CONT.	CONT.	
Remarks												
Total Cost	Various	Various	48,148	6,263	Var.	7,194	Var.	5,956	11/02	CONT.	CONT.	

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X2009
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Trusted Information Systems

(U) COST (Dollars in thousands)

PROJECT NUMBER & TITLE	FY 2001 ACTUAL	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	COST TO COMPLETE	TOTAL PROGRAM
X2009	Trusted Information Systems (TIS)								
	5,581	3,904	2,973	3,039	3,068	4,095	3,625	CONT.	CONT.

A. (U) Trusted Information Systems (TIS) is a combination of the Ocean Surveillance Information System (OSIS) Evolutionary Development (OED) system and the Radiant Mercury (RM) system incorporating multi-level security (MLS) web technologies. TIS provides the core on-line, automated, near-real time, multi-level secure, information analysis, dissemination, and receipt capabilities that enable Unified Commanders-in-Chief and Joint Task Force Commanders afloat and ashore to disseminate and receive critical operational and intelligence information with own forces and Coalition/Allied forces via tactical and record communications circuits. OED is a designated migration system providing for the analysis of intelligence information from multiple sources to produce a comprehensive report of foreign forces and potential hostile activity. The system is required to be able to generate multiple, automated near-real-time event-by-event (NRT EBE) data streams at various classification/releasability levels, tailorable to unique customer requirements and capable of being transmitted over multiple communications paths (including DSNET) simultaneously. In addition, it is required to provide near-real-time (NRT) all-source fusion, correlation and analysis tools (including robust graphics presentation and geospatial analysis capabilities), directly feeding automated reporting capabilities. OED provides positional data and operational intelligence to commanders at all levels. The data derived from this process is disseminated as an Operation Intelligence (OPINTEL) product to the operating forces for tactical threat warnings, decision making support, and support of Over-the-Horizon-Targeting. Radiant Mercury is a tool for the automated sanitizing, downgrading, and transliteration of formatted message traffic. A linchpin of network-centric warfare aboard afloat platforms, Radiant Mercury helps ensure critical Indications and Warning intelligence is provided quickly to operational decision-makers. This capability to move all-source intelligence-derived track information into the realm of the operational community significantly improves the situational awareness of tactical operators and planners. Additionally, it assists in providing operational information to intelligence and cryptologic analysts.

(U) TIS builds upon the foundation set by JMCIS OED project which uses the Joint Logistics Commander's Guidance of March 1987 on Evolutionary Acquisition (EA) as the strategy for future software development which includes a plan for incremental achievement of desired capability building on the core system provided by OBU Phases I and II. TIS is built on the foundation of JMCIS OED Phase III EA strategy, which provides a mechanism for adding future capabilities including the incorporation of proven fleet initiated prototypes.

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X2009
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Trusted Information Systems

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 2001 ACCOMPLISHMENTS:

- (U) ($279) Continued to implement, accredit and deploy MLS changes needed to support email-based and DMS record message traffic.
- (U) ($497) Implemented, accredited and deployed MLS changes needed to support MLS email and Network Guard technology.
- (U) ($436) Updated message encoders, decoders and correlation algorithms as required to meet formatted MSG standards and changes in sensor data feeds.
- (U) ($721) Continued to automate real time Indications and Warning/Situation Assessment capability to detect and auto alert users concerning movement patterns, complex threat conditions and other pre-defined spatial and data detection events.
- (U) ($523) Began porting MLS Capability to DII COE based standards.
- (U) ($311) Developed system interface capabilities as required for current releases for record communications systems with in an accreditable MLS baseline.
- (U) ($457) Began developing untrusted client architecture using single level clients to evolve into a Multi-Level Security design.
- (U) ($334) Developed and implemented improved tactical decision aids, and system alerting capabilities.
- (U) ($2,023) Continued to develop the Concept, Technical Feasibility and Prototype for the Integration of the Contiguous Connection Model (CCM) Information Analysis, Storage and Retrieval System into the TIS MLS System. Continued to perform the Integration, Provide Test and Certification of the enhanced TIS MLS Knowledge Capable (TIS MLS/KD) System.

2. (U) FY 2002 PLAN:

- (U) ($1,000) Continue to implement, accredit and deploy MLS changes needed to support MLS email and Network Guard technology.
- (U) ($367) Continue to update message encoders, decoders and correlation algorithms as required to meet formatted message standards and changes in sensor data feeds.
- (U) ($639) Continue to automate real time Indications and Warning/Situation Assessment capability to detect and auto alert users concerning movement patterns, complex threat conditions and other pre-defined spatial and data detection events.
- (U) ($496) Continue to port MLS Capability to DII COE based standards.
- (U) ($310) Continue to develop system interface capabilities as required for current releases for record communications systems with in an accreditable MLS baseline.
- (U) ($545) Continue to develop and implement improved tactical decision aids, and system alerting capabilities.
- (U) ($547) Continue to develop untrusted client architecture using single level clients to evolve a Multi-Level Security design.

3. (U) FY 2003 PLAN:

- (U) ($526) Continue to implement, accredit and deploy MLS changes needed to support MLS email and network connectivity to the existing MLS architecture.
- (U) ($221) Continue to update message encoders, decoders and correlation algorithms as required to meet formatted MSG standards and changes in sensor data feeds.

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X2009
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Trusted Information Systems

- (U) ($816) Continue to improve tactical decision aids and to automate real time Indications and Warning/Situation Assessment capability to detect and auto alert users concerning movement patterns, complex threat conditions and other pre-defined spatial and data detection events.

- (U) ($517) Continue to port MLS Capability to DII COE based standards.

- (U) ($296) Continue to develop system interface capabilities as required for current releases for record communications systems with in an accreditable MLS baseline.

- (U) ($597) Continue to develop untrusted client architecture using single level clients to evolve a Multi-Security Level design in conjunction with Network Guard and MLS email development.

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

	FY 2001 ACTUAL	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	COST TO COMPLETE	TOTAL PROGRAM
OMN 1C1C	1,026	1,263	5,066	4,967	5,269	5,483	5,795	CONT.	CONT.

(U) RELATED RDT&E: Not applicable.

FY 2003 RDT&E,N PROJECT JUSTIFICATION DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X2009
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Trusted Information Systems

C. (U) ACQUISITION STRATEGY: N/A

D.(U) SCHEDULE PROFILE:

	FY 2001				FY 2002				FY 2003				To Complete
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Program Milestones													
Engineering Milestones													
T&E Milestones					▲ DT								▲ OT
Contract Milestones													

FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X2009
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Trusted Information Systems

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Software/Product Development	Radius	NAVSUP	32,354	4,771	Var.	3,206	Var.	2,418	Var.	CONT.	CONT.	
Software/Product Development	Various	Various	4,501	313	Var.	228		240	Var.	CONT.	CONT.	
Subtotal Product Development	Various	Various	36,855	5,084	Var.	3,434	Var.	2,658	Var.	CONT.	CONT.	
Remarks:												
System Engineering	WX	Various	8,268	422	Var.	396	Var.	259	Var.	CONT.	CONT.	
Subtotal Support	Various	Various	8,268	422	Var.	396	Var.	259	Var.	CONT.	CONT.	
Remarks												

FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X2009
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Trusted Information Systems

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Evaluation	PD	OPTEVFOR	630	0	Var.	0		0		CONT.	CONT.	
Subtotal T&E	PD	OPTEVFOR	630	0	Var.	0		0		CONT.	CONT.	
Remarks												
Project Management	Various	Various	1,935	75	Var.	74	Var.	56	Var.	CONT.	CONT.	
Subtotal Management	Various	Various	1,935	75	Var.	74	Var.	56	Var.	CONT.	CONT.	
Remarks												
Total Cost	Various	Various	47,688	5,581	Var.	3,904	Var.	2,973		CONT.	CONT.	

EXHIBIT R-2A, FY 2003 RDT&E,N PROJECT JUSTIFICATION DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X0521
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Intel Apps

(U) COST (Dollars in thousands)

PROJECT NUMBER & TITLE	FY 2001 ACTUAL	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	COST TO COMPLETE	TOTAL PROGRAM
X0521 GCCS-M Intelligence Apps	6,495	6,538	3,610	3,404	3,661	4,018	4,095	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: GCCS-M Intelligence Applications are an integrated set of Defense Information Infrastructure Common Operating Environment (DII COE) compliant segments designed to support tactical intelligence processing and reside on the Intelligence Shared Data Server (ISDS). The ISDS is the central database server for GCCS-M Afloat, the Command and Control Warfare Commander (C2WC) and tactical mission planning systems. Development of GCCS-M Intelligence applications for this data distribution includes dynamic updates of Naval Intelligence Database (NID) and military integration with digital map and imagery systems. The current GCCS-M Intel Apps effort includes providing intelligence data distribution to multiple shipboard warfighters via an analog video distribution system. Furthermore, the GCCS-M Intel Apps effort will enable the GCCS-M Afloat architecture to meet downgrading and releasability requirements. GCCS-M imagery applications provide for archiving, viewing and mensuration of still and video images. This effort is also continuing the transition to Commercial Off The Shelf (COTS) hardware and software as part of the current GCCS-M initiative to capitalize on the latest Web/PC industry/commercial technology. The GCCS-M Intel Apps effort is part of the Tactical Intelligence and Related Activities (TIARA) program, managed by the Secretary of Defense through the Assistant Secretary of Defense for C4I.

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X0521
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Intel Apps

1. (U) FY 2001 ACCOMPLISHMENTS:

- (U) ($490) JPN / TADILS / Broadcasts: Continued integration of Radiant Mercury (RM) capability into GCCS-M to meet the high priority Fleet requirement of C4 data downgrading and releasability for coalition interoperability. RM is a certified, accreditable, automated method to downgrade highly sensitive data over security levels.

- (U) ($640) Threat OOB / C&P: Continued evolving Navy-USMC Team unique intelligence and intelligence-related database support for GCCS-M and MAGTFC4I/Expeditionary Warfare applications as required outside MIDB capability.

- (U) ($1,000) Imagery / Video Processing: Continued developing, integrating and testing advanced digital imagery server and Navy-Marine Team unique client applications to keep pace with evolving NIMA, DARO and NRO imagery architectures.

- (U) ($1,130) Threat OOB / C&P: Continued developing, integrating and testing MIDB (v 2.0, 3.0, 4.0 etc.) based ISDS (GENSER and SCI) and associated intelligence applications in accordance with GCCS-M Intel Apps and GCCS-I3 evolutionary directions and in conjunction with Cryptologic/C2W and other Warfare Commander developments.

- (U) ($500) Threat OOB / C&P: Completed development of the Modernized Integrated Database (MIDB) replication in GCCS-M to satisfy validated Fleet requirements to generate and maintain a consistent intelligence picture among general purpose C2 systems, mission planning systems, and combat direction systems while reducing numbers of databases to be maintained.

- (U) ($325) Useability: Continued migration development of Intelligence and Imagery segments to meet fleet IT21 requirements (PC/NT) and DII COE.

- (U) ($654) Useability: Continued development of fleet validated GCCS-I3 Configuration Control Board (CCB), Intelligence Functional Working Group (IFWG) and Copernicus Requirements Working Group (CRWG) requirements. Developed an automated mechanism to register and catalog software submissions for all GCCS-I3 development, integration and test software builds.

- (U) ($500) Imagery / Video Processing: Continued development of the Navy portion for imagery access and manipulation components of the Joint Targeting Toolbox, a uniform set of targeting applications validated by all Services.

- (U) ($600) Threat OOB / C&P: Continued development and test enhancements to unit level GCCS-M Afloat intelligence capabilities including access to imagery, associated support data and Electronic Intelligence (ELINT) correlation factors.

- (U) ($200) Testing: Continued testing of OBU/OED intelligence capability with GCCS-M development; provide OED-unique intelligence tools afloat.

- (U) ($206) Imagery / Video Processing: Continued to develop and test GCCS-M Intel database applications (MIDB interfaces) with Joint Targeting Toolbox.

- (U) ($250) Testing: Developed and tested the GCCS-M integration of Common Operating Picture (COP) and MIDB.

2. (U) FY 2002 PLAN:

Per the attached schedule, FY02 is a critical year leading up to DT/OT of GCCS-M Increment IIIF. Failure to complete capability planned in the Intel project for Increment IIIF will result in a breach of negotiated interfaces with several other programs, including Area Air Defense Commander (AADC), AEGIS Combat System, Mine Warfare and Environmental Decision Aids Library (MEDAL) and Joint Service Imagery Processing System-Navy (JSIPS-N).

- (U)($183) Tactical Combat and Weapons Systems Support: Provide increased functionality and expand the performance envelope in the Intelligence and Imagery applications to support realtime combat systems interfaces and multiple weapons systems planning and execution.

- (U)($1,105) Imagery / Video Processing: Continue migration of the imagery applications that support the Integrated Imagery and Intelligence (I3) product line to the NT platform. Meet fleet requirements for integrating order of battle maintenance, imagery analysis, and intelligence support to the Common Operational Picture into commercial COTS environments to facilitate easy integration with IT-21 platforms and products. Integrate capability into GCCS-M to support UAV data visualization and analysis. Continue to research and integrate Geospatial Information Services (GI&S) into GCCS-M, ensuring compatibility with NIMA developed systems

with links to the applicable Imagery and Geospatial libraries. Develop interfaces to other imagery archives. Incorporate emerging requirements validated by Fleet operators through the CRWG requirements process.

- (U)($2,572) Threat OOB and C&P: Meet fleet requirements identified and prioritized at the CRWG for integrating order of battle maintenance, and intelligence support to the Common Operational Picture into commercial COTS environments to facilitate easy integration with IT-21 platforms and products. Provide Intel application research and support for IT-21 workstations. Provide data fills for the Intel database. Implement and enhance a fully functional MIDB interface mechanism that enables GCCS-M intelligence applications, combat systems, and mission planning systems to access data within MIDB without having to change their software architecture with each MIDB release from the Defense Intelligence Agency (DIA). Provide increased functionality in the Intelligence and Imagery applications to support capabilities in the DII COE, including real-time, updates to mapping, communication, and track management tools. Integrate Intel data into the SCI enclave.

- (U)($278) Spectral and Environmental Analysis: Develop and enhance Intel data sources for C2WC, nodal analysis, and other GCCS-M applications.

- (U)($611) JPN / TADIL / BROADCASTS: Enhance capability to attach tactically relevant intelligence data to near real-time tracks that are distributed via the Common Operational Picture pre requirements generated through the CRWG process. Enhance Intelligence and Imagery subscription methodologies to support disadvantaged users. Incorporate COTS Internet tools to enable users to use IT-21 infrastructure to obtain a subset of finished intelligence data and services via the web. Provide the capability to distribute intelligence data cross-referenced to imagery that will enable users to view and edit OOB data, characteristics and performance data, and imagery over the WAN and distribute those changes through the COP to joint intelligence centers. Integrate the Special Intelligence (SI) correlation functions into the core of DII COE, enabling closer integration with the other correlation functions that currently exist in the Joint baseline.

- (U)($768) Targeting / Land Track: Continue integration of the Joint Targeting Toolbox products into GCCS-M, providing seamless capability to edit and view the targeting tables in combination with the Order of Battle (OOB) maintenance function performed in GCCS-M and provide a single set of interfaces within JTT for creation of target lists, selection of imagery, creation of task collection, plans, etc. Integrate SCI SIGINT support to GENSER Command and Control capabilities in support of time critical targeting.

- (U)($1,021) Testing and Documentation/Curriculum Development: Perform systems testing on the integrated components of the GCCS-M Intel architecture. Develop a capability for generating GENSER and SCI national and

tactical data for GCCS-M testing, training and exercise support. Develop a documentation infrastructure that enables required segment documentation to be utilized throughout GCCS-M (segment and system-level) in user's manuals, delivery documentation, and curriculum development.

3. (U) FY 2003 PLAN:

- (U) ($1,005) Imagery / Video Processing: Continue development and integration of imagery applications that support the Integrated Imagery and Intelligence (I3) product line to the NT platform. Continue to develop software to implement fleet requirements for integrating order of battle maintenance, imagery analysis, and intelligence support to the Common Operational Picture into commercial COTS environments to facilitate easy integration with IT-21 platforms and products. Continue to integrate capability into GCCS-M to support Unmanned Aerial Vehicle (UAV) data visualization and analysis. Research and integrate Geospatial Information Services (GI&S) into GCCS-M, ensuring compatibility with NIMA developed systems with links to the applicable Imagery and Geospatial libraries. Continue to develop interfaces to other imagery archives. Continue to incorporate emerging requirements validated by Fleet operators through the CRWG requirements process.

- (U) ($2,227) Threat OOB and C&P: Continue to develop and integrate capabilities to meet fleet requirements identified and prioritized at the CRWG for integrating order of battle maintenance, and intelligence support to the Common Operational Picture into commercial COTS. Continue to provide Intel application support for IT-21 workstations. Continue to develop data fills for the Intel database. Continue to implement and enhance a fully functional MIDB interface mechanism that enables GCCS-M intelligence applications, combat systems, and mission planning systems to access data within MIDB without having to change their software architecture with each MIDB release from DIA. Continue to provide increased functionality in the Intelligence and Imagery applications to support capabilities in the DII COE, including real-time, updates to mapping, communication, and track management tools. Continue to integrate Intel data into the SCI enclave. Continue to develop enhanced functional capability as identified in CRWG requirements.

- (U) ($189) Spectral and Environmental Analysis: Continue to develop and enhance Intel data sources for C2WC, nodal analysis, and other GCCS-M applications.

- (U) ($189) Targeting / Land Track: Continue to develop and improve capability of Intel and Imagery targeting systems. Continue integration of the Joint Targeting Toolbox products into GCCS-M. Continue to integrate SCI SIGINT support to GENSER Command and Control capabilities in support of time critical targeting.

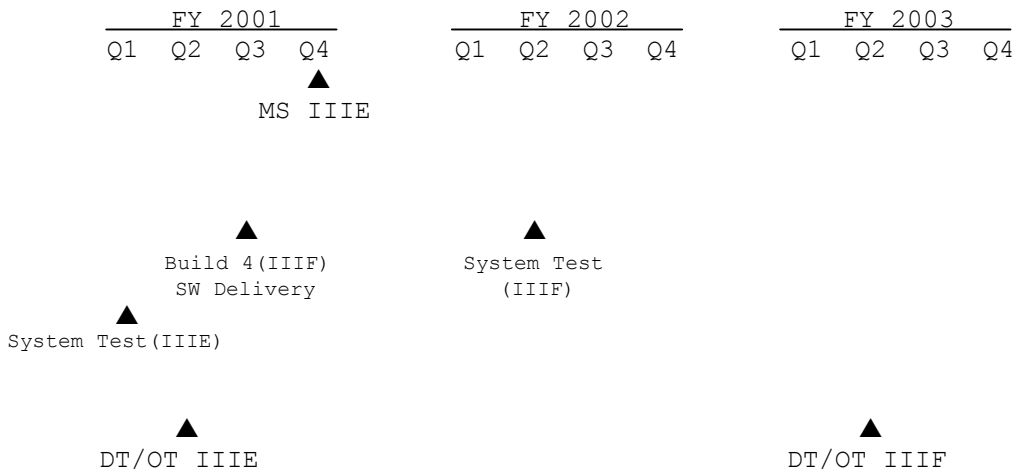
BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X0521
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Intel Apps

B. (U) OTHER PROGRAM FUNDING SUMMARY: (Dollars in thousands) N/A

(U) RELATED RDT&E:PE 0604231N (Tactical Command Systems) GCCS-M Maritime Applications

C. (U) ACQUISITION STRATEGY: N/A

D. (U) SCHEDULE PROFILE:



FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X0521
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Intel Apps

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Software/Product Development	Various	Various	12,503	3,704	12/00	597	12/01	660	11/02	CONT.	CONT.	
Software/Product Development	CPFF	PRC				2,973	10/01	1,333	11/02	CONT.	CONT.	
Software/Product Development	WX	SSC San Diego				793	10/01	377	11/02	CONT.	CONT.	
Software/Product Development	WX	SSC Charleston				1,487	10/01	754	11/02	CONT.	CONT.	
Subtotal Product Development	Various	Various	12,503	3,704	12/00	5,850	12/01	3,124	11/02	CONT.	CONT.	
Remarks:												
System Engineering	Various	Various	14,862	2,771	12/00	648	12/01	439	11/02	CONT.	CONT.	
Subtotal Support	Various	Various	14,862	2,771	12/00	648	12/01	439	11/02	CONT.	CONT.	
Remarks:												

FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X0521
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Intel Apps

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Evaluation	PD	OPTEVFOR	2,056	0		0		0		CONT.	CONT.	
Subtotal T&E	PD	OPTEVFOR	2,056	0		0		0		CONT.	CONT.	
Remarks												
Project Management	CPFF	Various	603	20	Var.	40	Var.	47	Var.	CONT.	CONT.	
Travel	Various	HQ	1,411	0	Var.	0	Var.			CONT.	CONT.	
Subtotal Management	Various	Various	2,014	20	Var.	40	Var.	47	Var.	CONT.	CONT.	
Remarks												
Total Cost	Various	Various	31,435	6,495	Var.	6,538	Var.	3,610		CONT.	CONT.	
Remarks												

(U) COST (Dollars in thousands)

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X2305
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Common Apps

PROJECT NUMBER & TITLE	FY 2001 ACTUAL	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	COST TO COMPLETE	TOTAL PROGRAM
X2305 GCCS-M Common Apps	10,402	10,421	12,808	14,151	11,095	15,450	11,886	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The GCCS-M Common Apps program contains the fundamental building blocks and common applications for all fielded Global Command and Control System (Maritime) C4I systems in the Navy, Marine Corps, and Coast Guard. It is the Navy's tactical implementation of the Global Command and Control System (GCCS) which provides the warfighter: (1) timely access to battlefield information, and (2) state-of-the-art information processing capability to support the Command and Control of maritime forces through a combination of communications, intelligence and combat system interfaces.

The Navy Common Operating Environment program is a core function of the GCCS-M Common Apps in that it serves as the system integration point for Command and Control systems in the Naval services. The program has the responsibility of working with developers throughout the Navy to incorporate the requirements of their users so that they might quickly and efficiently integrate and transform present stovepipe capabilities into an interoperable C4I architecture. As the number of legacy systems migrating to the Defense Information Infrastructure Common Operating Environment (DII COE) continues to grow, resources for rapidly folding them into the service extensions must keep pace as the complexity and size of the COE grows. As a product of evolutionary acquisition, the Navy COE will continue to evolve with the DII COE, new technology, and COMMERCIAL-OFF-THE-SHELF (COTS) products.

GCCS-M Common Apps includes all C4I applications required to fully support Navy joint interoperability in the littoral environment, and includes all common functions such as track database management, message processing, display implementation, correlation and system architecture migration in order to ensure a coherent and consistent implementation of C4I architectures in the Fleet.

NOTE: Defense Emergency Response Fund: ($6M) Naval Fires Network (NFN) is a transformational system that provides real time intelligence correlation, sensor control, target generation, mission planning, engagement and battle damage assessment. This capability is enabled by combining, and ultimately integrating, "best of breed" elements of three existing systems into a converged architecture: Joint Service Imagery Processing System-Navy (JSIPS-N), Tactical Exploitation System-Navy (TES-N) and Global Command and Control System-Maritime (GCCS-M).

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 2001 ACCOMPLISHMENTS:

- (U) ($256) Architecture: Implemented real-time capabilities into DII COE in order to support migration of high performance systems to GCCS-M architecture, specifically addressing correlation algorithms based on kinematics.
- (U) ($158) Architecture: Continued to evolve the USN C4I messaging architecture to incorporate emerging DII-COE based messaging components (e.g. CMP, DMS, etc.).
- (U) ($605) Useability: Redefined and evolved the PC/NT Common Operating Environment. Continued the migration of Unix based segments and applications to the NT COE to support IT-21.
- (U) ($810) Architecture: Refined and continued to develop the system architecture and products to evolve USN C4I systems from a FOTC/OTCIXS/BGBDM based network towards one that takes advantage of TCP/IP, LANs, and WANs (JMCOMS/ADNS, and SIPRNET).
- (U) ($177) Useability: Implemented INFOSEC products into the C4I software architecture.
- (U) ($382) JPN / TADILS / Broadcasts: Implemented DII COE compliant multi-source and multi-sensor correlation and fusion software segment to support Navy, Joint, and coalition requirements.
- (U) ($112) Imagery / Video Processing: Developed and implemented integrated shipboard architectures, which utilize a common set of NIMA product services/servers, including geo-spatially distributed off-ship libraries.
- (U) ($205) JPN / TADILS / Broadcasts: Developed and implemented core capabilities associated with strategic and tactical C4I management of Theater Battle Management (TBM) data and tools for decision-making and COP fusion of TBM data.
- (U) ($84) JPN / TADILS / Broadcasts: Developed and implemented Mil-std-2525A and supplemental symbology to support COP fusion and display, focusing on completion of 3D symbol sets.
- (U) ($363) Useability: Continued to develop and integrate GCCS (Joint) segments into GCCS-M.

- (U) ($279) Targeting / Land Track: Developed and implemented interoperable architectures for integration of Position Location Information (PLI) data in the COP, developing correlation algorithms required to correlate/de-correlate land based tracks in a joint battle environment.

- (U) ($2,149) Architecture: Continued implementation of DISA provided DII COE for Navy Customers, for each DII COE build, including rollup of operating system/kernel, application of patches/fixes, development and application of maritime extensions of software fixes and implementation of Navy-unique requirements.

- (U) ($298) Architecture: Continued to develop the 3-tier architecture (3TA)(Data Servers, application servers, display & presentation) to support the transition of the USN C4I from the current client/server model. This will streamline the data maintenance function to data centers, and reduce overall system administration tasks/costs. The 3TA will enable the thin client capability required by the warfighter. Effort to support the evolution of the DII COE architecture to 3TA.

- (U) ($177) Targeting / Land Track: Enabled JSTARS/GCCS-M connectivity, addressing high bandwidth communication pipes such as Common High-Bandwidth Data Link (CHBDL).

- (U) ($558) JPN / TADILS / Broadcasts: Continued TADIL interoperability development as determined by CRWG and joint requirement efforts.

- (U) ($121) JPN / TADILS / Broadcasts: Continued to incorporate TBMCS aboard USN Flagships (LCC, AGF, CV/CVN) and developed the required interfaces, procedures to interoperate with GCCS-M.

- (U) ($181) Aircraft Mission Planning / TACMOBILE: Continued to develop/enhance Interface support for Mission Planning.

- (U) ($149) Useability: Incorporated USMC MAGTF C4I based systems aboard USN amphibious and command ships (LCC, AGF, etc.). Developed conops/procedures and interfaces to support joint amphibious warfare for embarked/disembarked Marine Corp Units.

- (U) ($130) Useability: Continued to develop/enhance/incorporate tools and functionality that support joint and coalition C4I warfare. Developed conops/procedures/tests/exercises that implement coalition interoperability.

- (U) ($149) Testing: Developed interfaces/conops/procedures to take advantage of the LAN/WAN communications provided by JMCOMS/ADNS. Performed land and sea based testing of the integrated C4I architecture.

- (U) ($74) Spectral and Environmental Analysis: Continued to develop capability for automatic interface and update with SIIP and METOC.

- (U) ($238) Testing: Developed, integrated, tested, and prototyped a COTS based digital video system to accomplish full motion video transmission inter-ship, intra-ship, and ship-to-shore.

- (U) ($293) Architecture: Continued to design/develop Security Architecture for Naval C4I systems.

- (U) ($102) Useability: Developed a miniaturized prototype GCCS-M hardware suite for use on submarines. Investigated latest COTS display and large screen projector technology for use in GCCS-M C3I system.

- (U) ($1,216) Testing: Semi-annual testing of each DII COE build received from DISA, documentation and Configuration Management (CM) of required Software Test Report (STR) processes, and distribution to Navy DII COE customers.

- (U) ($242) Testing: Supported the proof of concept testing in exercise environments of emerging technology in the C4I arena.

- (U) ($605) Testing: Performed systems testing on the integrated components of the Naval C4I architecture.

- (U) ($289) Testing: Designed and developed systems documentation to support test, evaluation, and fielding of C4I systems.

2. (U) FY 2002 PLAN:

Per the attached schedule, FY02 is a critical year leading up to DT/OT of GCCS-M Increment IIIF. Failure to complete capability planned in the Common project for Increment IIIF will result in a breach of negotiated interfaces with several other programs, including Area Air Defense Coordinator (AADC), Navy Fires Control System (NFCS), Advanced Tomahawk Weapons Control System (ATWCS) and Tactical Tomahawk Weapons Control System (TTWCS).

- (U)($302) Aircraft Mission Planning / TACMOBILE: Continue to develop/enhance/interface aircraft mission planning systems. Enable mission planning or mission routes and plans to be displayed on GCCS-M along with other threat and blue force data. Continue to incorporate web-enabled TBMCS and develop the required interfaces and procedures that interoperate with GCCS-M.

- (U)($1,784) Web-Enabling/IT-21: Continue to develop the N-tier architecture to support the transition of the USN C4I from the current client/server model to a web-enabled architecture per commercial e-commerce and e-business standards. Provide security infrastructure that will support SI and Collateral levels. Research and implement a public key exchange capability that enables internet-based applications such as web, e-mail, newsgroups to access a wide range of data over the DoD enterprise and maintain consistency with the DoD Public Key Infrastructure (PKI) policy. Incorporate development efforts to leverage emerging COTS products in support of IT-21 as adopted by commercial industry.

- (U)($352) Readiness: Provide readiness capabilities, which integrate with Joint and coalition forces, including web-based integration with GCCS-Joint, JOPES, and similar theater-level C4I systems.

- (U)($534) Combat Systems Interface: Provide C4I support of combat systems interfaces. Continue development of track management/correlation/merge processing as specified in WS-19702/1 to enable full exchange of tracks between GCCS-M, Aegis, Common Cover & Deception (C&D), Advanced Combat Direction System (ACDS), Ship Self Defense System (SSDS), Naval Fire Control System (NFCS) and other emerging combat systems. Modify track exchange architecture to promote orderly merging of OTH data between ATWCS/TTWCS/GCCS-M, including support for backwards compatibility of track databases. As required, provide support for Ground Order of Battle data to the combat system. Provide support for combat systems to utilize GCCS-M subscription and other web-based methodologies to obtain tailored intelligence and imagery products for analysis and display. Ensure full tactical data link message sets can be transmitted and received across the interface.

- (U)($4,778) JPN / TADILS / BROADCASTS: Support Joint/coalition warfare by developing an interoperable & scalable C4I system. Implement emerging TIBS requirements identified by the CRWG. Modernize TIBS to support the data feeds provided by advanced receiving systems, including IBS. Integrate and support interfaces to the Joint Tactical Terminal Control Client. Utilize data compression and improved multicast techniques to reduce the amount of bandwidth required to disseminate the COP, including support for new Fleet requirements emerging from the CRWG. Enhance and improve COP Sync Tools per CRWG direction, including implementation of a capability for CST to operate in a Quality of Service mode so that multicast IP transmissions can be managed over the IT-21 infrastructure. Provide an automated mechanism for replicating web and newsgroup data from ship’s servers to

the Network Operations Centers (NOCs). Web-based replication mechanisms will enable tactically relevant data to be assessed in near real-time by shore commands without using ship bandwidth, compromising firewall security, or placing additional burdens on the NOC or ship. Continue to implement DISA provided DII COE for Navy Customers, for each DII COE build, including rollup of operating system/kernel, application of patches/fixes, development and application of maritime extensions of SW fixes, and implementation of Navy-unique requirements. Develop track and communication management capabilities that utilize emerging capabilities of the DII/COE and COTS products. Support promulgation of the COP via industry standard COTS infrastructures.

- (U)($743) Targeting / Land Track: Provide enhanced capability for the Naval JSTARS Interface segment per Fleet direction at the CRWG, with full utilization of the Joint Mapping Toolkit. Incorporate the ability to provide radar services requests to the JSTARS aircraft. Integrate fire control call for fire capability into the JTT/GCCS-M/JSIPS-N targeting architecture. Expand ELINT data processing in GCCS-M to process specific emitter id data provided by enhanced sensor packages aboard P-3 AIP, U-2 and other national assets. COMEXT/MAREXT: Continue to integrate the Moving Target Exploitation (MTE) capability into JSTARS Interface, providing the ability to automatically initiate and maintain tracks on potential targets. Integrate Joint Collaborative products into GCCS-M to enable analysts to exchange application and text data over IP communications. Integrate and web-enable the Joint Targeting Toolbox.

- (U)($1,214) Testing: Support the proof of concept testing in exercise environments of emerging technology in the C4I arena. Perform systems testing on the integrated components of the Naval C4I architecture. Conduct operational test.

- (U)($714) Useability: (COMEXT/MAREXT) Develop and enhance an Enterprise Management capability within GCCS-M to enable remote monitoring and inventory of network and computing assets associated with the system. Enable fleet engineering activities and administrators to use enterprise management tools to remotely update software packages on PCs over the LAN, decreasing administrative burden and staffing requirements. Provide ability to translate between the two environments, as well as the ability for tactical systems to exchange data updates over both mechanisms.

3. (U) FY 2003 PLAN:

- (U)($876) Aircraft Mission Planning / TACMOBILE: Continue to develop/enhance interface support for mission planning systems. Continue to enable mission planning data and mission routes and plans to be displayed on GCCS-M along with other threat and blue force data. Continue to incorporate web-based TBMCS and develop the required interfaces, procedures to interoperate with GCCS-M.

- (U)($2,045) Web-Enabling/IT-21: Continue to develop the N-tier architecture to support the transition of the USN C4I from the current client/server model to a web-centric, scaleable system architecture. Continue to web-enable applications using commercial e-business standards. Continue to develop and implement security infrastructure that will support SI and Collateral levels. Research and implement a public key exchange capability that enables Internet-based applications such as web, e-mail, newsgroups to access a wide range of data over the DoD enterprise and maintain consistency with the DoD Public Key Infrastructure (PKI) policy. Continue to develop and integrate new releases of COTS products such as MS Office with GCCS-M in support of IT-21.

- (U)($389) Readiness: Continue to develop and integrate readiness capabilities to satisfy interoperability requirements of Joint and coalition forces, including integration with GCCS-Joint, JOPES, and similar theater-level C4I systems.

- (U)($691) Combat Systems Interface: Continue to provide C4I research and developmental support to combat systems interfaces. Evolve combat system interfaces to web-enabled standards such as XML. Continue development of track management, correlation, and merge processing as specified in WS-19702/1 to enable full exchange of tracks between GCCS-M, and combat systems such as Aegis, Common C&D, ACDS, SSDS, and NFCS. Continue to provide support for combat systems to utilize GCCS-M subscription and other web-enabled methodologies to obtain tailored intelligence and imagery products for analysis and display.

- (U)($4,728) JPN / TADILS / BROADCASTS: Continue to support Joint/coalition warfare by developing an interoperable & scalable C4I system for managing tracks, data links, communications, and sensors. Incorporate requirements that have been validated and prioritized by the Fleet through the CRWG process. Continue to integrate with and develop interfaces to TIBS, IBS, and the Joint Tactical Terminal Control Client. Continue to develop and integrate COP Sync Tools per CRWG direction, and incorporate other quality of service enhancements to leverage the IT-21 investment. Continue to implement DISA provided DII COE for Navy Customers, for each DII COE build, including rollup of operating system/kernel, application of patches/fixes, development

and application of maritime extensions of SW fixes, and implementation of Maritime-unique requirements. Continue to develop and integrate track management capabilities that utilize emerging capabilities of the DII/COE and COTS products. Continue to research and develop industry-standard COTS solutions to distribute the COP.

- (U)($1,363) Targeting / Land Track: Continue to provide support for integration of Command and Control systems with targeting systems at the Naval and Joint levels. Incorporate requirements identified and validated by the CRWG into GCCS-M. Continue to provide enhanced capability for the Naval JSTARS Interface segment per Fleet direction at the CRWG, with full utilization of the Joint Mapping Toolkit. Continue to integrate the Moving Target Exploitation (MTE) capability into JSTARS Interface, providing the ability to automatically initiate and maintain tracks on potential targets. Continue to develop and integrate Joint Collaborative products into GCCS-M to enable analysts to exchange application and text data over IP communications. Continue to integrate Joint Targeting Toolbox and enhance per CRWG direction.

- (U)($1,811) Testing: Continue to conduct proof of concept testing in exercise environments of emerging technology in the C4I arena. Continue to perform systems testing on the integrated components of the Naval C4I architecture developed as part of GCCS-M. Conduct operational test.

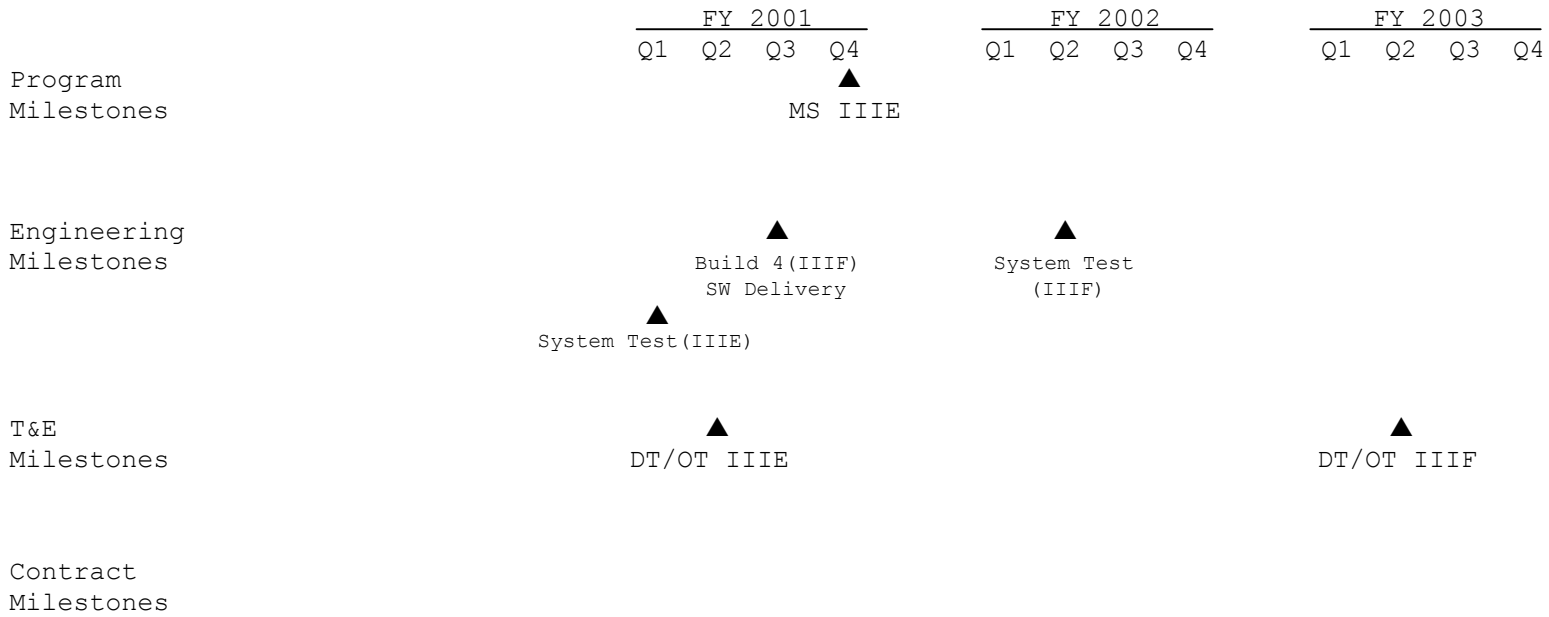
- (U)($905) Useability: Continue to develop and enhance an Enterprise Management capability within GCCS-M to enable remote monitoring and inventory of network and computing assets associated with the system. Implement requirements identified at the CRWG, which facilitate system administration tasks. Continue to enable fleet engineering activities and administrators to use enterprise management tools to remotely update software packages on PCs over the LAN, decreasing administrative burden and staffing requirements.

B. (U) OTHER PROGRAM FUNDING SUMMARY: (Dollars in Thousands)

NUMBER TITLE	FY 2001 ACTUAL	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
DERF R&D	0	6,000	0	0	0	0	0	0	6,000

C. (U) ACQUISITION STRATEGY: N/A

D. (U) SCHEDULE PROFILE:



FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X2305
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Common Apps

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01 Cost	FY01 Award Date	FY02Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Software/Product Development	CPFF	INRI, Reston, VA	7,275	3,515	10/00	3,172	10/01	3,870	11/02	CONT.	CONT.	
Software/Product Development	WX	SSC-San Diego	1,116	912	10/00	2,478	10/01	2,997	11/02	CONT.	CONT.	
Software/Product Development	CPFF	Delfin	1,400	946	10/00	0	10/01	0		CONT.	CONT.	
Software/Product Development	Various	Various	9,297	1,622	10/00	1,847	10/01	2,886	11/02	CONT.	CONT.	
Subtotal Product Development	Various	Various	19,088	6,995	10/00	7,497	10/01	9,753	11/02	CONT.	CONT.	
Remarks:												
System Engineering	WX	SSC-San Diego	800	257	10/00	416	10/01	428	11/02	CONT.	CONT.	
System Engineering	CPFF	INRI, Reston, VA	718	225	10/00	248	10/01	268	11/02	CONT.	CONT.	
System Engineering	Various	Various	2,274	337	10/00	398	10/01	479	11/02	CONT.	CONT.	
Subtotal Support	Various	Various	3,792	819	10/00	1,062	10/01	1,175	11/02	CONT.	CONT.	
Remarks												

FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X2305
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Common Apps

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Evaluation	PD	OPTEVFOR	150	209	10/00	223	10/01	219	11/02	CONT.	CONT.	
Operational Test & Evaluation	Various	NTCSI	60	0	10/00	0	10/01			CONT.	CONT.	
Developmental Test & Eval.	WX	SSC-SD	1,700	1,471	10/00	724	10/01	716	11/02	CONT.	CONT.	
Developmental Test & Eval.	Various	Various	100	289	10/00	246	10/01	240	11/02	CONT.	CONT.	
Subtotal T&E			2,010	1,969	10/00	1,193	10/01	1,175	11/02	CONT.	CONT.	
Remarks												
Project Management	Various	Various	560	489	Var.	520	Var.	535	Var.	CONT.	CONT.	
Travel	Various	Various	200	130	Var.	149	Var.	170	Var.	CONT.	CONT.	
Subtotal Management			760	619	Var.	669	Var.	705	Var.	CONT.	CONT.	
Remarks												
Total Cost	Various	Various	25,650	10,402	Var.	10,421	Var.	12,808	11/02	CONT.	CONT.	

FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X2305
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Common Apps

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01 Cost	FY01 Award Date	FY02Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Software/Product Development												
Software/Product Development												
Software/Product Development												
Software/Product Development												
Subtotal Product Development												
Remarks:												
System Engineering	DERF	Various				6,000	12/01					
System Engineering												
System Engineering												
Subtotal Support						6,000	12/01					
Remarks												

FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X2305
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: GCCS-M Common Apps

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Evaluation												
Operational Test & Evaluation												
Developmental Test & Eval.												
Developmental Test & Eval.												
Subtotal T&E												
Remarks												
Project Management												
Travel												
Subtotal Management												
Remarks												
Total Cost						6,000						

EXHIBIT R-2A, FY 2003 RDT&E,N PROJECT JUSTIFICATION DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X2306
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Naval Simulation Systems

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
X2306 Naval Simulation System	4,710	4,989	3,396	2,840	2,213	1,342	473	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Naval Simulation System (NSS) provides a capability to simulate the execution of all Naval Warfare including Operations Other Than War to be used for a number of related purposes. Fleet Command Centers, both ashore and afloat will use this capability for Course of Action Assessment; that is, to assess the effectiveness of operational plans with respect to measures defined by the fleet planner. NSS also supports fleet operations by providing a capability to inject simulated platform, system, or commander level entities into real world Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems, and by providing automated tools for conducting post-exercise analyses. Acquisition Planners in OPNAV will use this capability to conduct requirements analysis and cost effectiveness analysis for new Naval systems. NSS provides a comprehensive ability to simulate and assess Naval and joint CONOPS and system/platform/force level capabilities. NSS explicitly accounts for C4ISR interactions among all Warfare Mission Areas (WMAs). In each of these applications, NSS provides detailed analyses of performance including traceability of the warfighting outcome to specific components of the "sensor to decision-maker to shooter" architecture.

The Naval Simulation System will also support Command Level training for operational forces at the Task Force or Battlegroup level. In addition, the Naval Simulation System will support distributed computing on multiple High Performance Computers connected together on a network such as the Defense Information Infrastructure and Fleet Operational Communication Links at multiple classification levels. The same networks that are used to provide access to distributed computing will also be used for Distributed Collaborative Planning by means of which planners at different sites with responsibility for different aspects of the plan can work together collaboratively to produce a single coherent plan. This collaborative planning capability will be used to support Joint Planning between different service components. The Naval Simulation System will undergo Verification and Validation during its design and implementations phases, and will be Accredited for each intended major application. This effort funds the development and maintenance of the Naval Simulation System and the infrastructure of subject matter experts needed for ongoing Verification, Validation, and Accreditation (VV&A) and Configuration Control Management.

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X2306
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Naval Simulation Systems

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 2001 Accomplishments:

- (U) ($580) Updated NSS Segmentation on GCCS-M. Conducted independent testing and integration of the NSS model engine, Object Oriented Database, Object Oriented Database Management System, and Campaign Analysis Tool (CAT) GUI for integration into GCCS-M. Conducted independent testing of the generic NSS model engine Application Programmer Interface (API), the JMV (GCCS-M map server) interface to GCCS-M and TMS. Updated all documentation including user's manual. Supported all IT-21 Block 1 meetings.

- (U) ($114) Continued development of C4ISR functionality in support of Strike Warfare (STK).

- (U) ($150) Continued development of STK functionality modules. Improved NSS Joint Forces Air Component Commander (JFACC) planning tool.

- (U) ($124) Initiated Mine Warfare (MIW) model. Initiated development of AntiSubmarine Warfare (ASW) functionality module and ASW COA planning tool. Continued development of Logistics (LOG) functionality module.

- (U) ($125) Initiated development of Surface Warfare (SuW) functionality module and SuW COA planning tool.

- (U) ($75) Initiated VV&A Subject Matter Expert (SME) activities. Included SME review of torpedo model and code development.

- (U) ($959) Continued development of Decision Design Brief (DDB) for Graphical User Interface (GUI) improvement. Implemented GUI improvement technology as specified by DDB.

- (U) ($190) Initiated Integration of GCCS-M Operational Databases to gain access of Common Operational Picture (COP).

- (U) ($75) Initiated integration of GCCS-M Environmental Databases including Atmospheric, Terrain databases, Electromagnetic and Littoral databases into NSS.

- (U) ($335) Established testing facilities at Naval Post Graduate School (NPGS) and conducted Independent Testing.

- (U) ($108) Supported NPGS Fires Analysis project and FBEs 01 planning, wargaming, and experimentation.

- (U) ($230) Added/improved the interfaces between NSS and similar simulation systems from other services to improve interoperability with other services for an improved Joint Simulation capability to support Joint Assessments and Joint Command Level Training.

- (U) ($225) Identified and imported the standard/validated data and information needed to characterize the additional/improved warfare area representations directed by the NSS Configuration Control Board.

- (U) ($215) Supported Integrated Product Teams (IPTs) addressing GCCS-M implementation issues and Integrated Development Teams (IDTs) addressing user based requirements. Assessed implementation of Earned Value management system.

- (U) ($900) Supported NSS Configuration Control Board. Developed DDBs for NSS builds v3.0, v3.1, v3.1.1, v3.1.1p1, and v.3.2. Implemented and conducted factory testing of the NSS builds v3.0, v3.1, v3.1.1, v3.1.1p1, and v.3.2 for deployment certification. Performed factory testing on all outstanding SCRs. Conducted independent testing of all newly developed software code.

- (U) ($305) Implemented Lockheed Martin SCRs and provided monthly patches to CPF.

2. (U) FY 2002 PLAN:

- (U) ($556) Interface NSS with the JMV (Map Server) and COP. Perform assessment to determine which Tactical Decision Aids (TDAs) are supportive of meeting NSS ORD requirements. Conduct independent testing on all newly developed software. Continue development of TMD.

- (U) ($275) Continue development of C4ISR functionality in support of ASW, SuW, AW, MIW/MCM including physical environmental modeling, upgrade of MOE, GUI enhancements and industry versions of NSS.

- (U) ($289) Continue development of Surface Warfare (SuW) functionality module and planning tool. Initiate development of Amphibious Warfare (AMW) functionality module and planning tool.

- (U) ($152) Continue Mine Warfare (MIW) and Mine Counter Mine (MCM), WMA and DA.

- (U) ($224) Continue development of LOG functionality module. Initiate development of Naval Coastal Warfare (NCW) functionality module and planning tool. Continue development of Strike WMA and DA.
- (U) ($288) Support VV&A Subject Matter Expert (SME) activities. Include review of all conceptual models and code development.
- (U) ($250) Continue implementation of run-time improvement technology as specified by DDB.
- (U) ($190) Implement Operational Databases including current tactical picture and targeting databases. Continue Integration of Operational Databases including Common Operational Picture (COP), and JMTK terrain data.
- (U) ($75) Continue support to NPGS Fires Analysis project and FBEs 02 planning, wargaming, and experimentation.
- (U) ($185) Continue support to testing facilities at Naval Post Graduate School (NPGS) and Independent Testing.
- (U) ($130) Add/improve the interfaces between NSS and similar simulation systems from other services to improve interoperability with other services for an improved Joint Simulation capability to support Joint Assessments and Joint Command Level Training.
- (U) ($205) Identify and import the standard/validated data and information needed to characterize the additional/improved warfare area representations directed by the NSS Configuration Control Board.
- (U) ($1350) Implement, test, and document improvements to the NSS GUI CAT COA Tool. Provide for Training and Maintenance.
- (U) ($115) Support Integrated Product Teams (IPTs) addressing Task Force Web (TFW) implementation issues and Integrated Development Teams (IDTs) addressing user based requirements. Continue assessment of Earned Value management system.
- (U) ($500) Support NSS Configuration Control Board. Develop DDB for NSS build v3.3. Conduct factory testing of NSS build v3.3 for deployment certification. Conduct independent testing of all newly developed software code.
- (U) ($205) Implement Lockheed Martin SCRs and provide monthly patches to CPF.

3. (U) FY 2003 PLAN:

- (U) ($218) Test and integrate SuW functionality module and planning tool. Interface NSS with the current tactical picture and targeting databases. Conduct testing and integration for DII COE compliance. Continue integration of NSS with all relevant TDAs providing NSS with important functionality. Conduct independent testing on all newly developed software.

- (U) ($275) Initiate development of C4ISR functionality in support of IW, AMW, and NCW.

- (U) ($325) Initiate development of IW, NCW, and AMW functionality modules and planning tools. Continue development of LOG functionality modules.

- (U) ($283) Initiate development of Military Operations Other Than War (MOOTW) and Ground Warfare functionality modules.

- (U) ($250) Support VV&A Subject Matter Expert (SME) activities. Include review of all conceptual models and code development.

- (U) ($175) Update DDB for Run time improvement. Continue to implement Run-time improvement technology as specified by DDB.

- (U) ($125) Implement Operational Databases including Characteristics and Performance, and Readiness/Status databases.

- (U) ($410) Continue implementation of Environmental Databases including Atmospheric, Terrain, Electromagnetic and Littoral. Develop DDB for 3-D display capability.

- (U) ($75) Continue support to FBEs 03 planning, wargaming, and experimentation.

- (U) ($130) Add/improve the interfaces between NSS and similar simulation systems from other services to improve interoperability with other services for an improved Joint Simulation capability to support Joint Assessments and Joint Command Level Training.

- (U) ($125) Identify and import the standard/validated data and information needed to characterize the additional/improved warfare area representations directed by the NSS Configuration Control Board.

- (U) ($270) Continue to Implement, test, and document improvements to the NSS GUI CAT COA Tool. Provide for Training and Maintenance.
- (U) ($115) Support Integrated Product Teams (IPTs) addressing TFW implementation issues and Integrated Development Teams (IDTs) addressing user based requirements. Continue assessment of Earned Value management system.
- (U) ($500) Support NSS Configuration Control Board. Develop DDB for NSS build v3.4. Conduct factory testing of NSS build v3.4, for deployment certification. Conduct independent testing of all newly developed software code.
- (U) ($120) Continued documentation of Analyst Guide to the detail required for conceptual model.

B. (U) OTHER PROGRAM SUMMARY: Not Applicable.

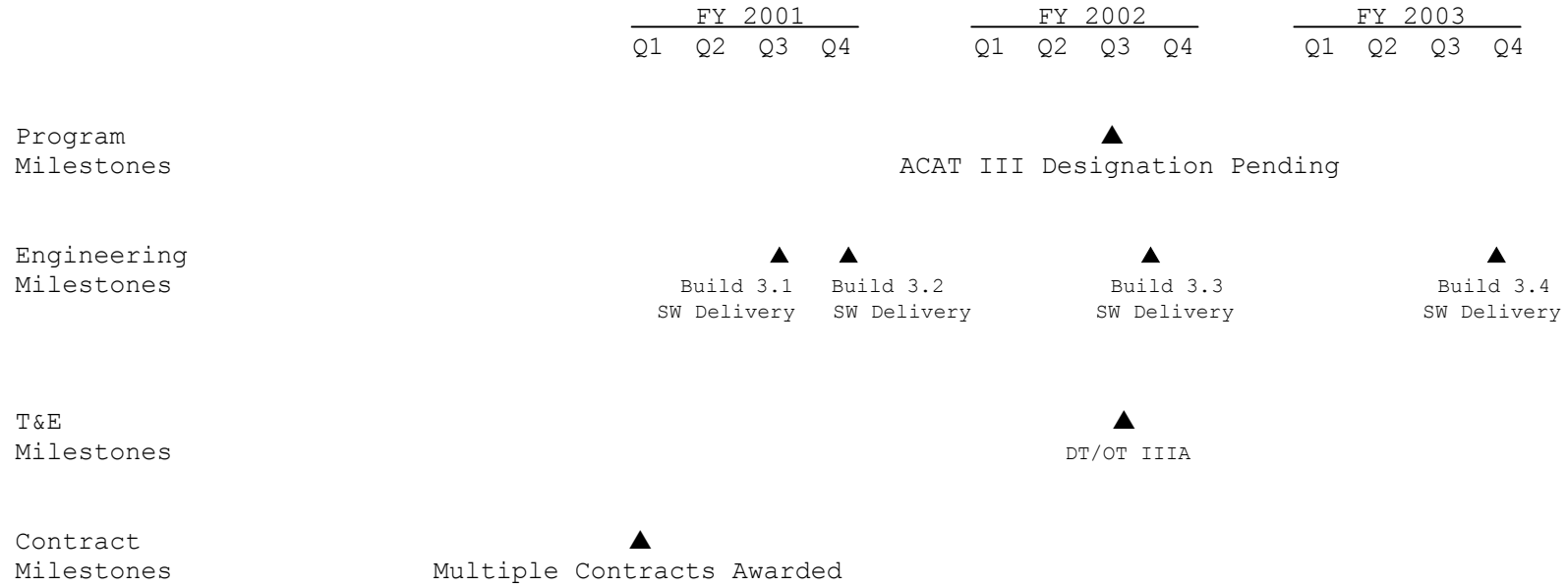
	FY 2001 ACTUAL	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	COST TO COMPLETE	TOTAL PROGRAM
OMN PE0204662N/1C1C	0	197	213	248	266	302	322	CONT.	CONT.

C. (U) ACQUISITION STRATEGY: N/A

EXHIBIT R-2A, FY 2003 RDT&E,N PROJECT JUSTIFICATION DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X2306
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Naval Simulation Systems

D. (U) SCHEDULE PROFILE:



(Two competitive contracts awarded for the following tasks: S/W Development, Analysis, Training, Installation, Independent Testing and VV&A SME (Verification, Validation and Accreditation Subject Matter Expert))

EXHIBIT R-3, FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X2306
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Naval Simulation System

Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development												
Ancillary Hardware Development												
Systems Engineering	WR	VARIOUS	450	210	10/00	144	10/01	150	10/02	CONT.	CONT.	N/A
Licenses			120									
Tooling												
GFE												
Award Fees												
Subtotal Product Development			570	210		144		150		CONT.	CONT.	N/A
Remarks:												
Development Support Equipment												
Software Development	RX/WX	VARIOUS	3,100	3,138	10/00	3,483	10/01	2,124	10/02	CONT.	CONT.	N/A
Training Development			255	150	10/00	150	10/01	100	10/02	CONT.	CONT.	N/A
Integrated Logistics Support												
Configuration Management			415	250	10/00	250	10/01	178	10/02	CONT.	CONT.	N/A
Technical Data												
GFE												
Subtotal Support			3,770	3,538		3,883		2,402		CONT.	CONT.	N/A

Remarks:

EXHIBIT R-3, RDT&E,N FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X2306
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Naval Simulation System

Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	RX/WX	VARIOUS	828	427	10/00	427	10/01	319	10/02	CONT.	CONT.	N/A
Operational Test & Evaluation												
Tooling												
GFE												
Subtotal T&E			828	427		427		319		CONT.	CONT.	N/A
Remarks:												
Contractor Engineering Support												
Government Engineering Support	WR	SSC SD	1270	451	10/00	450	10/01	450	10/02	CONT.	CONT.	N/A
Program Management Support												
Program Management Personnel												
Travel	Various	HQ	103	84	10/00	85	10/01	75	10/02	CONT.	CONT.	N/A
Labor (Research Personnel)												
Overhead												
Subtotal Management			1,373	535		535		525		CONT.	CONT.	N/A
Remarks:												
TOTAL COST			6,541	4,710		4,989		3,396		CONT.	CONT.	N/A
Remarks:												

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROGRAM ELEMENT TITLE: Tactical Command System PROJECT NUMBER: X2307 PROJECT TITLE: Integrated Shipboard Networking System

(U) COST (Dollars in thousands)

PROJECT NUMBER TITLE	FY 2001 ACTUAL	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	COST TO PROGRAM	TOTAL PROGRAM
X2307 Integrated Shipboard Network System (ISNS)	4,547	3,923	1,602	1,359	2,075	1,512	1,408	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Integrated Shipboard Network System (ISNS) program provides every Navy ship, including submarines, with a reliable, high-speed Local Area Network (LAN) that will provide LAN and Wide Area Network (WAN) access to the DISN WAN (Secure and Nonsecure Internet Protocol Router Network - SIPRNet and NIPRNet). It provides real-time information exchange between afloat units, Component Commanders, numbered Fleet Commanders and Fleet CINCs through the migration of existing legacy systems into the IT-21 strategy and is a key factor in the implementation of the Navy's portion of Joint Vision 2010. Under the Navy's information modernization strategy, full synchronization of shipboard networks, mission and information applications and Radio/Satellite communications and shore data dissemination infrastructure, installations are necessary to ensure end-to-end mission capability. The ISNS program maximizes the use of both COTS software and hardware resulting in dependence on commercially supported hardware and software. Engineering and technical support is provided so that existing systems will keep pace with hardware and software that is supported commercially.

The Integrated Shipboard Networking System (ISNS) project uses a combination of high speed switches, routers, servers and workstations, commercial networking, security and operating system software technologies to provide network access to classified and unclassified applications for use by ship's force, embarked units, embarked commanders and their staffs. The Integrated Shipboard Networking System is integrated with the Automated Digital Networking System (ADNS) and existing RF systems.

Under the Navy's information modernization strategy, full synchronization of shipboard networks, mission and information applications, Radio/Satellite communications and shore data dissemination infrastructure, installations are necessary to ensure end-to-end mission capability. The Integrated Shipboard Networking System program is closely synchronized on a ship by ship basis with the following dependent programs: Global Command and Control System Maritime (GCCS-M) and Navy Tactical Command Support System (NTCSS); and with these other related programs: Navy Standard Integrated Personnel System (NSIPS), Theatre Medical Information Program – Maritime (TMIP-M), Defense Messaging System (DMS), Extremely High Frequency Satellite Communication (EHF SATCOM), Super High Frequency Satellite Communication (SHF SATCOM),

Commercial SATCOM, Ultra High Frequency Satellite Communication (UHF SATCOM), Digital Wideband Transmission System (DWTS), ADNS, Digital Modular Radio (DMR), Global Broadcasting System (GBS), Video Information Exchange System (VIXS) and Information Security (INFOSEC) programs. The ISNS program provides infrastructure to support implementation/fielding of programs listed above. If the ISNS infrastructure is not in place, a large segment of the Fleet will not be able to utilize the available capabilities to improve productivity and increase efficiency. The ISNS program maximizes the use of Commercial off the shelf (COTS) software and hardware resulting in dependence on these items being commercially supported. The LAN modernization rate must keep pace with hardware and software that is supported commercially.

- (U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 2001 ACCOMPLISHMENTS:

- (U) ($1,831) Investigated, developed, and tested Enterprise-Wide LAN Management and Administration and prepared a strategy to merge that with other existing Integrated Network Management development solutions. A seamless management and administration capability has great potential for reducing complexity of network operation for sailors.

- (U) ($1,824) Investigated emerging networking technologies such as, Next Generation LAN Protocols, Wireless LAN, Secure/Nonsecure Voice Integration and Internet Protocol Video for potential incorporation into the Shipboard LAN architecture. Eighteen month technology change cycles drove equipment availability and the Shipboard LAN's insertion of replacement technology.

- (U) ($892) Investigated, developed and tested NT software scripting to provide more easily maintainable and flexible NT network services.

2. (U) FY 2002 PLAN:

- (U) ($1,008) Investigate, develop and test server and workstation technology upgrades to incorporate into existing architecture. The ISNS program must prepare for efficient insertion of replacement technology being driven by an eighteen month technology change cycle.

- (U) ($1,565) Investigate, develop and test Enterprise-Wide Network Management and Administration to merge with existing Integrated Network Management development solutions.

- (U) ($600) Research and develop more complex e-mail security and general security systems as they relate to the Shipboard LAN infrastructure.

- (U) ($750) Investigate, develop and test NT software scripting.

3. (U) FY 2003 PLAN:

- (U) ($700) Investigate, develop and test switch technology upgrades to the Shipboard LAN architecture.
- (U) ($902) Investigate, develop and test Next Generation LAN Protocols to incorporate into existing Shipboard LAN architecture to ensure that technology replacement continues to advance with the changing technology.

B. (U) OTHER PROGRAM SUMMARY: (Dollars in thousands)

		FY 2001 ACTUAL	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY2007 ESTIMATE	COST TO COMPLETE	TOTAL PROGRAM
(U)	OPN	92,137	46,493	73,017	132,735	77,187	211,158	45,276	CONT.	CONT.
(U)	O&MN	3,569	7,040	6,669	6,520	6,270	6,151	6,272	CONT.	CONT.

C. (U) ACQUISITION STRATEGY: Not applicable. This is not an acquisition program with milestones.

D. (U) SCHEDULE PROFILE: Not applicable.

EXHIBIT R-3, FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X2307
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: Integrated Shipboard Networking System

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Costs	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Software/Product Development												
1.1.1 Prime Mission Product	MIPR	FEDSIM/SAIC	0	697	12/00	650	12/01	253	12/02	CONT.	CONT.	
1.1.1 Prime Mission Product	WX	SSC CH	0	900	12/00	963	12/01	252	12/02	CONT.	CONT.	
1.1.1 Prime Mission Product	WX	SSC SD	314	400	12/00	350	12/01	200	12/02	CONT.	CONT.	
1.1.1 Prime Mission Product	TMM	EDS	191									
Subtotal Product Development			505	1,997		1,963		705		CONT.	CONT.	
Remarks:												
System Engineering			0									
1.1.1 System Engineering	MIPR	MITRE	0	204	10/00	210	10/01	145	12/02	CONT.	CONT.	
1.1.1 System Engineering	MIPR	FEDSIM/SAIC	0	580	12/00	600	12/01	222	12/02	CONT.	CONT.	
1.1.1 Systems Engineering	Various	Various	436	252	12/00	100	12/01			CONT.	CONT.	
			0									
Subtotal Support			436	1036		910		367		CONT.	CONT.	
Remarks												

EXHIBIT R-3, FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5
PROGRAM ELEMENT: 0604231N
PROGRAM ELEMENT TITLE: Tactical Command System
PROJECT NUMBER: X2307
PROJECT TITLE: Integrated Shipboard Networking System

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Evaluation	WX	SSC Charl		305	12/00	250	12/01	100	12/02	CONT.	CONT	
	WX	SSC SD	0	669	12/00	350	12/01	200	12/02	CONT.	CONT	
	WX	SSC Ches	0	290	12/00	250	12/01	150	12/02	CONT.	CONT	
	WR	OPTEVFOR	0	100	12/00	100	12/01	80	12/02	CONT.	CONT	
Subtotal Operational T & E			0	1364		950		530				
Remarks												
Project Management	WX	SSC Charl	0	150	12/00	100	12/01	0				
Subtotal Management			0	150		100		0				
Remarks												
Total Cost			941	4,547		3,923		1,602		CONT.	CONT	

FY 2003 RDT&E,N PROJECT JUSTIFICATION DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X3032
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: NTCSS Enterprise Database & MLDN

(U) COST: (Dollars in Thousands)

Project Number & Title	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	To Complete	Total Program
X3032 NTCSS Enterprise Database & MLDN	0	3,928	5,016	4,308	4,059	2,949	3,513	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: PROJECT X3032 Navy Tactical Command Support Systems (NTCSS) Enterprise & Maritime Logistics Data Network (MLDN) - This RDT&E Project funding supports design, development and testing of two components of the NTCSS web initiative, NTCSS Enterprise Database and MLDN. The development of a web-enabled enterprise database for NTCSS application will place all NTCSS databases into a similar structure, allowing greater interoperability between applications. MLDN will facilitate the movement of administrative workload from ships to shore.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 2001 ACCOMPLISHMENTS: Not Applicable

2. (U) FY 2002 PLAN:

- (U) ($3,928) Enterprise database design, development and testing. MLDN initiative starts with Business Process Improvement to identify which shipboard business can be put ashore.

3. (U) FY 2003 PLAN:

- (U) ($5,016) Enterprise database application changes to the database structure, testing & support and documentation. MLDN tasks are focused on developing the communications and security architecture needed to implement the MLDN capability throughout the fleet, and life cycle support for existing platforms.

FY 2003 RDT&E,N PROJECT JUSTIFICATION DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X3032
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: NTCSS Enterprise Database & MLDN

B. (U) OTHER PROGRAM FUNDING SUMMARY (Dollars in thousands)

Appn	FY 2001 ACTUAL	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	COST TO COMPLETE	TOTAL PROGRAM
OPN	55,083	38,599	46,818	57,657	37,378	71,351	17,143	CONT.	CONT
OMN (BA-1)	15,409	19,948	28,414	34,395	31,776	39,018	22,233	CONT.	CONT.
OMN (BA-4)	19,035	20,846	22,271	22,085	20,990	21,544	22,109	CONT.	CONT.
OMN,R	617	553	558	557	553	552	567	CONT.	CONT.

C. (U) ACQUISITION STRATEGY: N/A

D. (U) SCHEDULE PROFILE: UNDER DEVELOPMENT

FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X3032
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: NTCSS Enterprise Database & MLDN

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various	0	0		600	10/01	34	10/02	CONT.	CONT.	
Systems Engineering	Various	Various	0	0		700	10/01		10/02	CONT.	CONT.	
Licenses	Various	Various	0	0		400	10/01	200	10/02	CONT.	CONT.	
Subtotal Product Development			0	0		1,700	10/01	234		CONT.	CONT.	
Remarks:												
Software Development	Various	Various	0	0		800	10/01	3,697	10/02	CONT.	CONT.	
Configuration Management	Various	Various	0	0		100	10/01	180	10/02	CONT.	CONT.	
Technical Data	Various	Various	0	0				100	10/02	CONT.	CONT.	
Subtotal Support			0	0		900	10/01	3,977		CONT.	CONT.	
Remarks:												

FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X3032
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: NTCSS Enterprise Database & MLDN

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	0	0		35	10/01	275	10/02	CONT.	CONT.	
Subtotal T&E			0	0		35	10/01	275		CONT.	CONT.	
Remarks												
Contractor Engineering Support	Various	Various	0	0		1,263	Various	406	10/02	CONT.	CONT.	
Government Engineering Support	Various	Various	0	0		30	Various	124	10/02	CONT.	CONT.	
Subtotal Management			0	0		1,293	Various	530		CONT.	CONT.	
Remarks												
Total Cost	Various	Various	0	0	N/A	3,928	Various	5,016		CONT.	CONT.	
Remarks												

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X9213
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: FORCEnet

(U) COST: (Dollars in Thousands)

Project Number & Title	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	To Complete	Total Program
X9123 FORCEnet	0	0	20,000	20,000	20,000	0	0	0	0

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: PROJECT X9123 FORCEnet – FORCEnet is the architecture and building blocks of sensors, networks, decision aids, weapons, warriors, and supporting system integrated into a highly adaptive, human-centric, comprehensive system that operates from seabed to space, from sea to land. By exploiting existing and emerging technologies, FORCEnet enables dispersed human decision-makers to leverage military capabilities to achieve dominance across the entire mission landscape with joint, allied, and coalition partners.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 2001 ACCOMPLISHMENTS: Not Applicable

2. (U) FY 2002 PLAN:

- (U) ($0) Not Applicable

3. (U) FY 2003 PLAN:

- (U) ($20,000) Build/maintain Network Centric Architecture backbone, establish a common database and facilitate applications access and sharing.

B. (U) OTHER PROGRAM FUNDING SUMMARY: N/A

C. (U) ACQUISITION STRATEGY: N/A

D. (U) SCHEDULE PROFILE: UNDER DEVELOPMENT

FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X9213
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: FORCEnet

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various	0	0		0		1,000	10/02	CONT.	CONT.	
Systems Engineering	Various	Various	0	0		0		4,000	10/02	CONT.	CONT.	
Licenses	Various	Various	0	0		0		1,000	10/02	CONT.	CONT.	
Subtotal Product Development			0	0		0		6,000		CONT.	CONT.	
Remarks:												
Software Development	Various	Various	0	0		0		8,000	10/02	CONT.	CONT.	
Configuration Management	Various	Various	0	0		0		1,000	10/02	CONT.	CONT.	
Technical Data	Various	Various	0	0		0		1,000	10/02	CONT.	CONT.	
Subtotal Support			0	0		0		10,000		CONT.	CONT.	
Remarks:												

FY 2003 RDT&E,N PROJECT COST ANALYSIS DATE: FEBRUARY 2002

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604231N PROJECT NUMBER: X9213
PROGRAM ELEMENT TITLE: Tactical Command System PROJECT TITLE: FORCEnet

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	0	0		0		2,000	10/02	CONT.	CONT.	
Subtotal T&E			0	0		0		2,000		CONT.	CONT.	
Remarks												
Contractor Engineering Support	Various	Various	0	0		0		2,000	10/02	CONT.	CONT.	
Government Engineering Support	Various	Various	0	0		0		0		CONT.	CONT.	
Subtotal Management			0	0		0		2,000		CONT.	CONT.	
Remarks												
Total Cost	Various	Various	0	0	N/A	0		20,000		CONT.	CONT.	
Remarks												