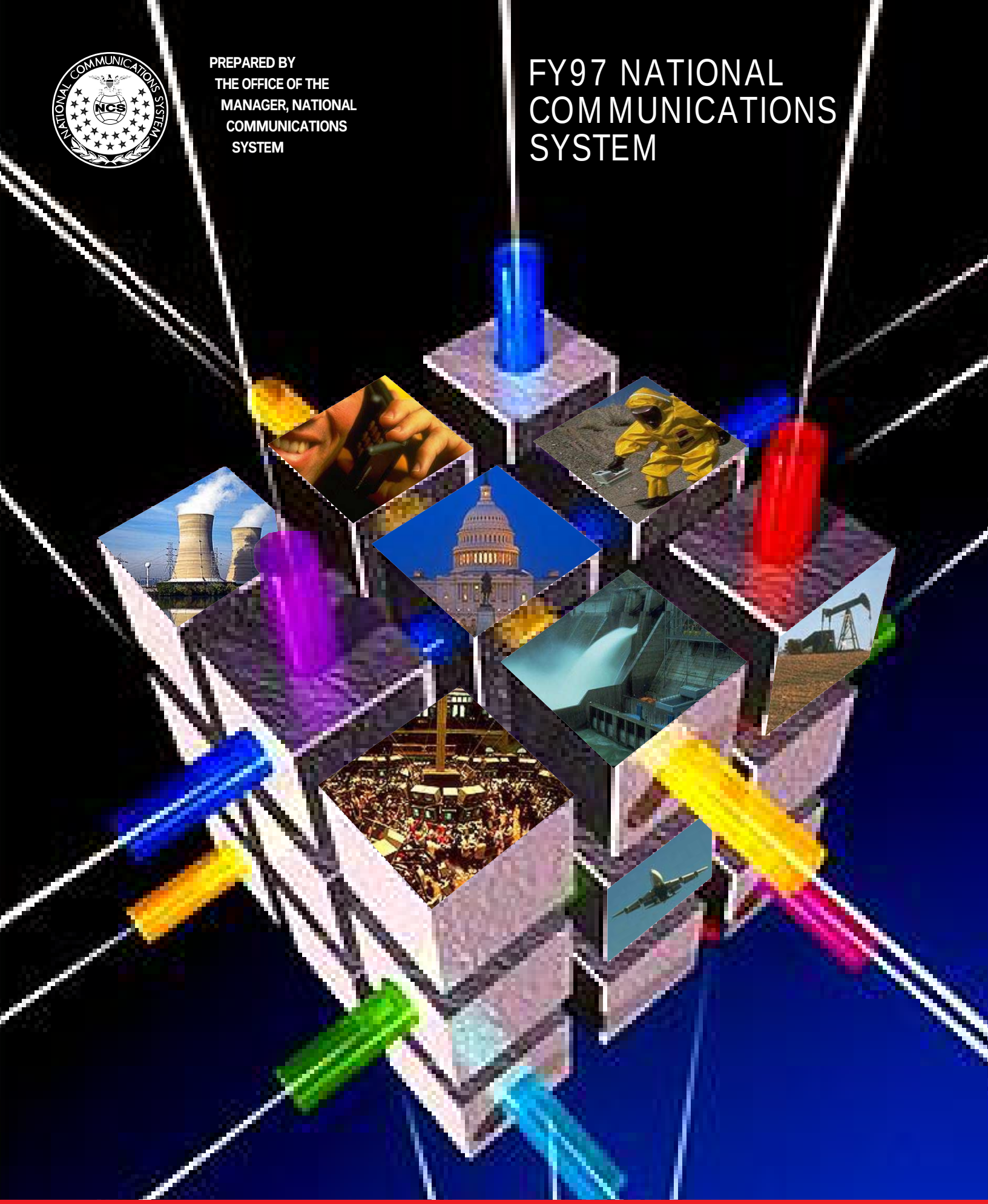
PREPARED BY
THE OFFICE OF THE
MANAGER, NATIONAL
COMMUNICATIONS
SYSTEM

FY97 NATIONAL COMMUNICATIONS SYSTEM



Information Technology:
The Foundation for a Secure America

Cover: This year's cover portrays the multi-dimensional relationship between the Nation's critical infrastructures. It illustrates the complexities of interconnected networks and the Nation's reliance on telecommunications and information technology as the underpinning of national security and emergency preparedness. In an environment of increasingly interdependent critical infrastructures, the National Communications System and its partnerships provide solutions to complex telecommunications and information technology challenges facing the Nation.

FY97
NATIONAL COMMUNICATIONS SYSTEM

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OF THE MANAGER,
NATIONAL COMMUNICATIONS
SYSTEM

Information Technology:
The Foundation for a Secure America

FOREWORD

I am pleased to say that the National Communications System (NCS) partnership of 23 Federal departments and agencies working cooperatively with the President's National Security Telecommunications Advisory Committee (NSTAC) continues to meet the diverse communications challenges facing the national security and emergency preparedness (NS/EP) community. The issues before us are of paramount importance to the Nation's security and preparedness.

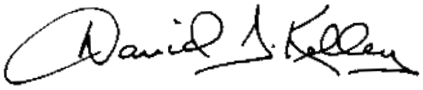
The physical and electronic threats to the Nation's critical infrastructures and the growing recognition of the interdependencies of infrastructures create new NS/EP telecommunications challenges for both industry and Government. The National Coordinating Center for Telecommunications and the work of the NSTAC and the NCS in information assurance have demonstrated how Government and industry can work together effectively on these issues. During the past year, the NCS and NSTAC have also worked closely with the President's Commission on Critical Infrastructure Protection to assure the protection of the Nation's networks and information infrastructure.

The globalization of telecommunications brings new challenges. The NCS continues to work with the Executive Office of the President, the Department of Defense, and the Federal Communications Commission (FCC) on national security concerns of foreign participation in the U.S. telecommunications market.

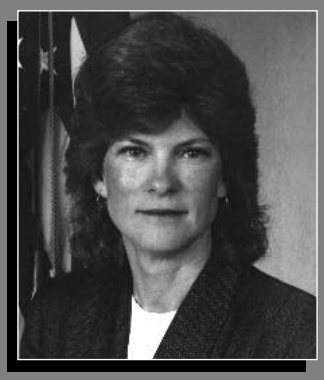
Domestically, the NCS continues to watch and assess the evolving effects of the *Telecommunications Act of 1996*. The Act, in conjunction with rapid technological advances in the telecommunications industry, will increase opportunities for service providers and enhanced user capabilities, but will also increase the need for NS/EP provisions. The NCS is working with the FCC to develop an outreach program to help make new market entrants aware of voluntary and mandatory NS/EP services.

The NCS continues to ensure that NS/EP users can have available the latest technology for emergency communications. Development of Cellular Priority Service, deployment of Government Emergency Telecommunications Service local exchange carrier features, continuance of information assurance activities, and partnering with industry in developing standards are some of the NCS programs that will ensure the Government's future ability to respond to a broad range of emergencies.

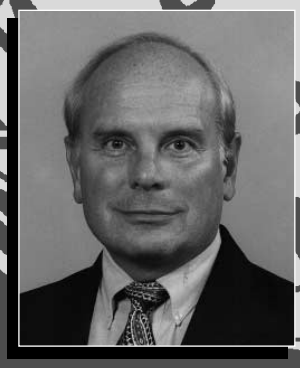
A successful partnership between a diverse communications industry and Government is more critical than ever as the Nation grows increasingly reliant on complex, integrated information and telecommunications systems. We will continue to strengthen these partnerships to meet the challenge of maintaining the national security of our most valuable infrastructure.



DAVID J. KELLEY
Lieutenant General, USA
Manager



Ms. D. Diane Fountaine
Deputy Manager



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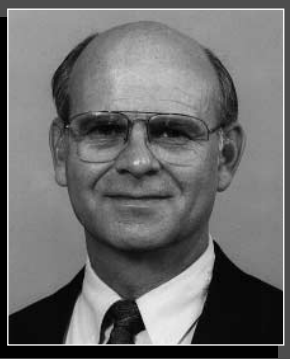
Acting Chief
Programs

Col. Luis C. Linares, USAF
Chief
Operations

Mr. Larry E. Wheeler
Chief
Plans and Resources



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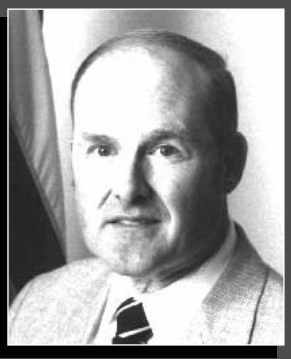
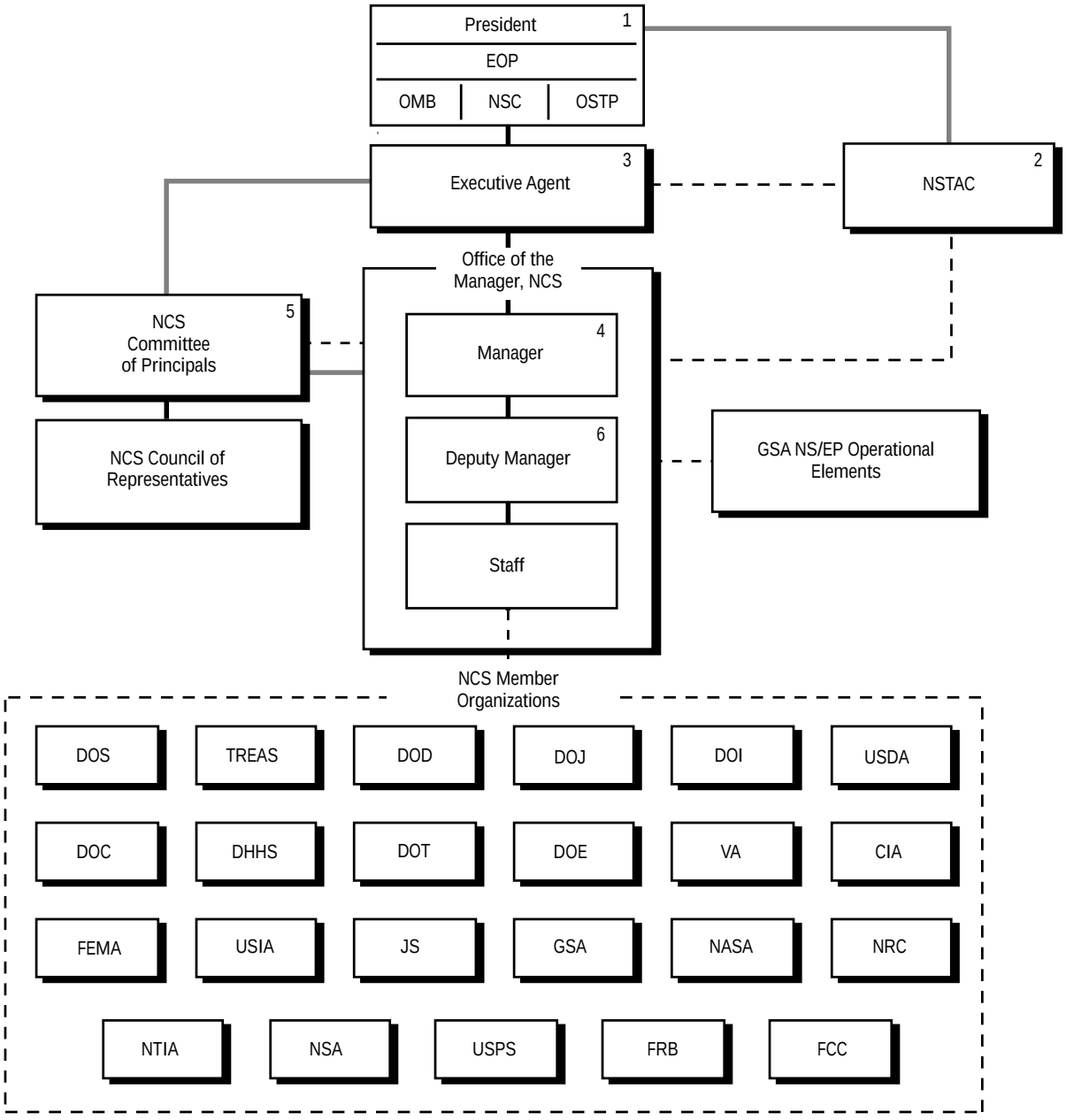
Chief
Customer Service and
Information Assurance



Dr. Dennis Bodson
Chief
Technology and Standards

THE NCS ORGANIZATION



1. Policy Direction and Direct Execution of War Powers Functions
2. National Security Telecommunications Advisory Committee
3. Executive Agent, NCS responsibilities assigned to Secretary of Defense by E.O. 12472, April 3, 1984
4. Director, DISA, serves as Manager, NCS
5. The Key Telecommunications Officers of the NCS Member Organizations
6. First line management position that is exclusively NCS

LEGEND

Direction

Coordination

Advice

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Mr. John W. O'Neill

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Mr. Frank J. Congel

National Telecommunications and Information Administration (NTIA)
Mr. Richard D. Parlow

National Security Agency (NSA)
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United States Postal Service (USPS)
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National Telecommunications and Information Administration (NTIA)
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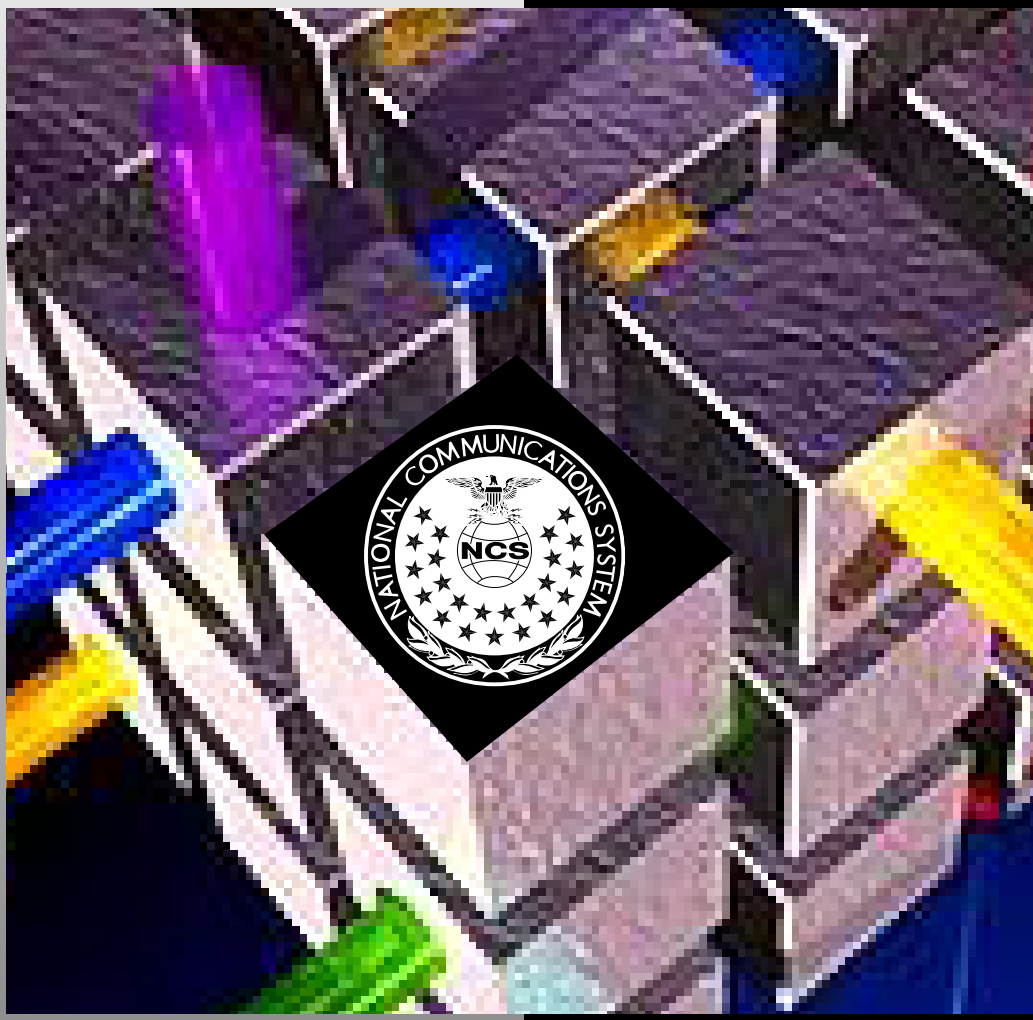
United States Postal Service (USPS)
Mr. Timothy J. Patterson

Federal Reserve Board (FRB)
Mr. Michael P. Wallas

Federal Communications Commission (FCC)
Mr. Roy E. Kolly

I. INTRODUCTION



I. INTRODUCTION

The *FY97 National Communications System*, developed by the Office of the Manager, National Communications System (OMNCS) in coordination with the National Communications System (NCS) Committee of Principals (COP), highlights significant telecommunications events, activities, and accomplishments during fiscal year 1997 (FY97). This report also reviews the national security and emergency preparedness (NS/EP) telecommunications posture of the Nation; significant internal and external factors affecting the NCS; and major NCS interagency plans, programs, and initiatives.

BACKGROUND

The NCS, consisting of 23 Federal member departments and agencies, is responsible for ensuring the availability of a viable NS/EP telecommunications infrastructure. On August 21, 1963, President John F. Kennedy signed a Presidential Memorandum establishing the NCS and defining its mission. The memorandum describes a single, unified NCS formed by "linking together, improving, and extending, on an evolutionary basis, the communications facilities and components of the various Federal agencies . . . to provide necessary communications for the Federal Government under all conditions ranging from a normal situation to national emergencies and international crises, including nuclear attack."

In April 1984, Executive Order (E.O.) 12472, *Assignment of National Security and Emergency Preparedness Telecommunications Functions*, formally changed the NCS mission. The order changed the focus from planning and coordinating a single, unified Government communications system to assisting the Executive Office of the President in exercising wartime and nonwartime emergency telecommunications responsibilities, and in coordinating the planning and provisioning of NS/EP communications for the Federal Government under all circumstances.

To successfully fulfill its mission, the NCS fosters interagency cooperation through the COP and serves as a focal point for joint industry and Government NS/EP telecommunications coordination and planning. In partnership with the NCS, the President's National Security Telecommunications Advisory Committee (NSTAC) provides industry advice and expertise to the President on matters related to NS/EP telecommunications.

ENVIRONMENT FACING THE NCS

Many of the Nation's critical infrastructures rely on telecommunications systems to rapidly and efficiently exchange vital information. Technological advances provide integrated and compatible information and communications systems that benefit the Nation's economy and security. However, those seeking to exploit vulnerabilities in the telecommunications infrastructure pose significant threats to an increasingly interconnected world. In addition, the *Telecommunications Act of 1996* opened the marketplace to new telecommunications service providers who may be unfamiliar with

these threats. Thus, the interdependence of the Nation's critical infrastructures, coupled with ever-present physical and electronic threats, creates new telecommunications challenges for both industry and Government. In FY97, the NCS and NSTAC worked as an integrated team to successfully meet such challenges.

TECHNOLOGICAL ADVANCES

Advances in high-speed telecommunications networks, computer systems, and software are allowing communications and information systems to evolve into a robust network which will greatly benefit the public and private sectors. These technological advances also help the Government reengineer the way it does business. As envisioned in the President's National Performance Review, electronic Government uses all forms of telecommunications, including voice, data, and imagery, thus enabling Americans to receive Government services quickly and efficiently, empowering public and private sector workers to perform their jobs more effectively.

The NCS continues to implement major telecommunications NS/EP functionality while investigating and testing new and complementary technologies and enhancements. These efforts include the Government Emergency Telecommunications Service (GETS), Advanced Intelligent Network (AIN) capabilities, wireless services such as satellite and cellular, and information systems such as the Emergency Response Link (ERLink).

The GETS Program is working with industry to develop and deploy priority treatment and alternate routing features in the major switch types of the local exchange carriers (LEC). The NCS is teaming with switch manufacturers and the LECs to develop a feature service description for enhanced GETS LEC capabilities. As a result of this effort, the three major switch manufacturers are implementing ubiquitous GETS features for future deployment in the LEC networks.

The Cellular Priority Service (CPS) Program is investigating the technology necessary to implement a priority access method for wireless communications in support of NS/EP user requirements. Two years ago, the CPS Program studied the costs and market associated with the priority access and channel assignment (PACA) feature to assess industry motivation in developing and deploying it. PACA is of interest because it would provide a standard for the development and implementation of a cellular priority access service (CPAS).

In October 1995, the NCS petitioned the Federal Communications Commission (FCC) to adopt rules for establishing and authorizing CPAS. The petition proposes that authorized NS/EP users obtain access to cellular radio channels ahead of non-NS/EP users during cellular network congestion. On June 16, 1997, the Assistant to the President for National Security Affairs sent a letter encouraging the FCC to expeditiously issue a ruling on CPAS. On September 9, 1997, the FCC Chair responded by saying that the FCC planned to include the cellular priority access issue in a Notice of Proposed Rulemaking that would be voted on by the FCC in October 1997.

The NCS Technology and Standards Division, in partnership with industry standards bodies, monitors and influences technical standards. These standards apply to priority treatment services, local number portability, video teleconferencing, and high-speed networking. The Technology and Standards Division keeps abreast of emerging technologies and assesses their potential use in the NS/EP communications infrastructure.

The NCS, as chair of the Federal Telecommunications Standards Committee (FTSC), continually seeks to ensure interoperability between Government communications systems. The FTSC process develops Federal Telecommunications Recommendations that the Government uses to specify interoperable systems and services in its procurement packages.

OPERATIONS, TRAINING, AND EXERCISES

The NCS plans for response to emergency situations resulting from manmade and natural disasters. In support of the Office of Science and Technology Policy (OSTP), the NCS leads Emergency Support Function-2, Communications, of the *Federal Response Plan*. During FY97, NCS emergency planning and response activities included coordination and support in response to floods in the Pacific Northwest in January, in Kentucky in March, and in the Upper Midwest in April.

For the second consecutive year, the National Coordinating Center for Telecommunications (NCC) coordinated with its Canadian counterpart, Emergency Preparedness Canada, for cross-border support to the U.S. telecommunications industry during Pacific Northwest flooding. This support led to the development of a coordinated NCC U.S./Canadian operating procedure to cover cross-border responses. The NCC also took the lead in developing and conducting training and a tabletop exercise for the North Atlantic Treaty Organization (NATO) Civil Communications Planning Committee. The training and exercise explored the response of NATO and its member nations to a civil crisis. The session allowed participants to discuss international telecommunications response coordination issues and gain a better understanding of NATO and national roles and responsibilities during a crisis.

The NCS held six additional Telecommunications Emergency Response Training seminars and technology demonstrations across the country with participation from Federal, State, local, and industry emergency responders. For the OSTP, the NCS conducted a tabletop exercise to examine legal and technical telecommunications management considerations during high congestion. To assist the emergency response community in sharing disaster information, the OMNCS exercised the ERLink controlled access Web site with NCS member organizations. The NCS also emphasized the importance of communications in the Federal Emergency Management Agency-sponsored Catastrophic-97 seminar that examined the response capabilities of a devastating earthquake along the New Madrid fault. The NCS will continue to support Federal emergency response efforts by focusing on NS/EP telecommunications in an all-hazards environment.

VULNERABILITIES AND THREATS

The U.S. faces numerous complex and diffuse dangers as the 21st century approaches. In a May 1997 report, *A National Security Strategy for a New Century*, President Clinton recognized the importance of the information infrastructure and NS/EP to the Nation's well-being. The strategy cited major threats, such as terrorism, use of weapons of mass destruction, sabotage of information systems, and natural disasters, and emphasized the importance of implementing concepts and technologies to protect and defend against those threats. Additionally, in July 1997, the National Intelligence Council published a new *National Intelligence Estimate* (NIE) as a composite of the intelligence community views on the information warfare threat that foreign adversaries pose to the National Information Infrastructure. OMNCS staff participated in the preparation of the NIE and they continue to work closely with industry to conduct other threat assessments.

The NCS continually strives to share information that heightens awareness of technological and physical threats to and vulnerabilities of the Nation's telecommunications infrastructure. In April 1997, Dr. John Gibbons, Director, OSTP, wrote a letter to the NSTAC Chair, Mr. Charles Lee, seeking NSTAC's views on the possibilities and consequences of a widespread telecommunications service outage. As a result, the NSTAC established the Widespread Outage Subgroup (WOS) in July 1997. The WOS plans

to submit its findings at NSTAC XX in December 1997. Additionally, as a key participant in the NSTAC and Government Network Security Information Exchanges, the NCS facilitates the sharing of information on intrusions, hacker methods, system vulnerabilities, and intrusion mitigation techniques.

CRITICAL INFRASTRUCTURES

In July 1996, the President established the President's Commission on Critical Infrastructure Protection (PCCIP) to recommend national-level actions for protecting critical infrastructures and ensuring their continued operation. The NSTAC has worked aggressively to successfully coordinate its activities with those of the PCCIP. In January and March 1997, the NCS and several NSTAC companies participated in the Prosperity Games—jointly sponsored by the NCS, the PCCIP, the Department of Energy, and Sandia National Laboratory—which investigated information and infrastructure protection issues. The NSTAC participated in commission-sponsored public meetings, focus groups, and tabletop exercises, including a strategic simulation in July 1997 that brought industry and executive and legislative branch representatives together to further investigate information assurance issues. The PCCIP is scheduled to complete its mission in October 1997.

During FY97, the NSTAC completed its electric power and financial services risk assessments and delivered its electric power recommendations to the President. *The Electric Power Information Assurance Risk Assessment Report*, widely distributed to industry and Government stakeholders, assists the electric power industry in recognizing emerging security issues associated with a deregulated marketplace. The results of the financial services assessment will be presented at NSTAC XX in December 1997. In September 1997, the NSTAC conducted a workshop with transportation industry representatives from the Southeast United States. The results of this workshop and the transportation risk assessment interim report will also be presented at NSTAC XX.

In coordination with the NCS, the NSTAC is assessing the future role of the NCC. This evaluation includes developing a revised NCC concept of operations to add an electronic intrusion incident information processing function. The NSTAC also is developing a national coordinating mechanism concept related to electronic intrusion information sharing among critical infrastructures and the intelligence and law enforcement communities.

DYNAMIC MARKETPLACE

The *Telecommunications Act of 1996* is creating an increasingly competitive environment in which multiple providers will enhance current networks or resell services on the existing infrastructure to serve end-users. The FCC and State public utility commissions have established rules for the three major provisions of the act—universal service, access charge reform, and interconnection. However, Federal court litigation and State arbitrations have slowed implementation of major act provisions.

The NSTAC Legislative and Regulatory Group (LRG) analyzed the potential implications of the act on NS/EP telecommunications services, and the Industry Executive Subcommittee reported the LRG's findings at NSTAC XIX. The LRG found that the act did not alter carrier responsibilities for the provision of NS/EP services. However, the LRG concluded that continued change in regulations and industry structure increases the need for outreach efforts to educate new entrants and existing carriers on their mandatory and voluntary NS/EP obligations.

The OMNCS again participated in the FCC-chartered Network Reliability and Interoperability Council (NRIC), which completed its report in July 1997. Council membership included senior technical experts from all parts of the telecommunications

service provider and service user communities. The objective of this effort was to provide recommendations to the commission on how to accomplish the requirements and purposes of Section 256 of the *Telecommunications Act of 1996*. Specifically, the Council addressed achieving "nondiscriminatory accessibility by the broadest number of users and vendors." In addition to the Manager's position on the NRIC, representatives from the Programs Division and the Technology and Standards Division contributed the user perspective to major sections of the report.

In addition, the NCS continues to monitor NS/EP-related concerns of foreign participation in the U.S. telecommunications market resulting from proposed mergers and the World Trade Organization Basic Telecommunications Agreement. The Secretary of Defense, who serves as the NCS Executive Agent, submitted comments to the FCC on the British Telecommunications Public Limited Company (BT)/MCI Communications Corporation merger (GN Docket 96-245) and on foreign ownership (IB Docket 97-142) suggesting that national security concerns be resolved before the FCC grants applications to transfer licenses and other FCC authorizations to foreign-owned carriers. In both dockets, the Department of Defense (DOD) and the NCS asserted that the FCC should continue to defer to the expertise of the executive branch regarding foreign ownership national security concerns. DOD and the Federal Bureau of Investigation negotiated an agreement with MCI and BT to resolve the Federal Government's national security and law enforcement concerns. The FCC conditioned its grant of approval for the merger on the merged entity's compliance with the terms of the agreement. From the perspective of national security concerns, the DOD and NCS will continue to monitor future telecommunications mergers involving foreign companies and advise the FCC when deference to the executive branch is recommended.

SUMMARY

A continuing and active national-level effort is necessary to provide interoperable, secure, and timely NS/EP telecommunications in an all-hazards environment. The Nation's reliance on information technology as the underpinning of its critical infrastructures necessitates public and private sector cooperation to protect these infrastructures in an environment marked by increasing technological complexity and attendant potential vulnerabilities. The NCS is addressing these challenges through partnerships with the NS/EP community, dedicating itself to its mission of exercising emergency telecommunications responsibilities, and coordinating the planning for and provisioning of critical NS/EP communications for the Nation under all circumstances.

II.

EMERGENCY RESPONSE ACTIVITIES

II. EMERGENCY RESPONSE ACTIVITIES

FLOOD RESPONSE OPERATIONS

The National Communications System's (NCS) National Coordinating Center for Telecommunications (NCC) ensures that Federal, State, and local responders receive national security and emergency preparedness (NS/EP) telecommunications support during Presidentially declared disasters.

The NCC provided communications support to three flood disasters in fiscal year 1997 (FY97). In January, the NCC and its Canadian counterpart, Emergency Preparedness Canada, coordinated deployment of over 300 Canadian telecommunications repair personnel into northern California in response to heavy flooding. The NCS deployed Individual Mobilization Augmentees (IMA) to Idaho to assist telecommunications response activities.

IMAs also deployed to Kentucky in March to augment NS/EP telecommunications support when severe storms and tornadoes resulted in heavy flooding. In April, the Red River in the upper Midwest flooded due to heavy spring rain, rapid snow melt, and ice jams. The NCC successfully coordinated the restoration and provisioning of NS/EP telecommunications services for this disaster, providing 42 priority provisionings under the Telecommunications Service Priority (TSP) System.

EMERGENCY READINESS AND TRAINING PROGRAMS

During FY97, the NCC also focused its efforts on programs and exercises that would improve future NS/EP telecommunications support.

CATASTROPHIC-97

In February, the Office of the Manager, National Communications System (OMNCS), with support from the General Services Administration (GSA) and the telecommunications industry, represented the *Federal Response Plan* Emergency Support Function (ESF)-2, Communications, at the Federal Emergency Management Agency's (FEMA) Catastrophic-97 (CAT-97). Government agencies, universities, and private organizations met at CAT-97 to increase New Madrid seismic zone earthquake threat awareness. The exercise also helped identify and address the difficult issues and concerns that the Nation's emergency management community will face following a catastrophic earthquake. The ESF-2 delegation participated in the seminar's disaster teams, sharing information on the need for and importance of telecommunications as a critical resource in all phases of the response and recovery effort. CAT-97 results and findings can serve as the basic building blocks for a national strategy or plan to address a catastrophic New

Madrid seismic zone earthquake. CAT-97 will also serve as a catalyst for a Catastrophic Earthquake Summit.

At CAT-97, the OMNCS also demonstrated the Government Emergency Telecommunications Service (GETS), the Shared Resources High Frequency Radio Program, the Emergency Response Link (ERLink), and the Emergency Response Fly-Away Kit, and shared a "Telecommunications Damage Assessment" of the CAT-97 earthquake zone. NCC industry representatives participated and provided realism to the overall communications assessment.

TELECOMMUNICATIONS EMERGENCY RESPONSE TRAINING

OMNCS' Training and Exercise Branch conducts Emergency Response Training (ERT) seminars for emergency responders at the Federal, regional, State, local, and industry levels in the 10 Federal Regions within the United States and its territories. The seminars are designed to provide personnel with the information required to successfully respond to a catastrophic disaster or other extraordinary situations. ERT presentations include ESF-2, Regional ESF-2, Cellular Priority Access Service, ERLink, Emerging Satellite Systems Technologies, GETS, TSP System, numerous State briefings, and the Cellular Telecommunications Industry Association.

During the seminars, the OMNCS conducts a panel discussion to identify telecommunications requirements and to address the integration of services among national, State, and regional organizations and industry. The OMNCS can then identify if additional training seminars are needed for each individual region. Evaluations are completed at each conference, and the suggestions are incorporated into future regional seminars.

EMERGENCY RESPONSE LINK

In February 1997, the OMNCS conducted its first ERLink exercise with the NCC Blue Emergency Operations Team (EOT). ERLink is a controlled-access Web site that enables electronic information sharing for emergency responders. This exercise focused on ERLink as an information resource for supporting EOT operations. The review following the exercise provided insight for improving ERLink functionality, training material, and the conduct for future exercises.

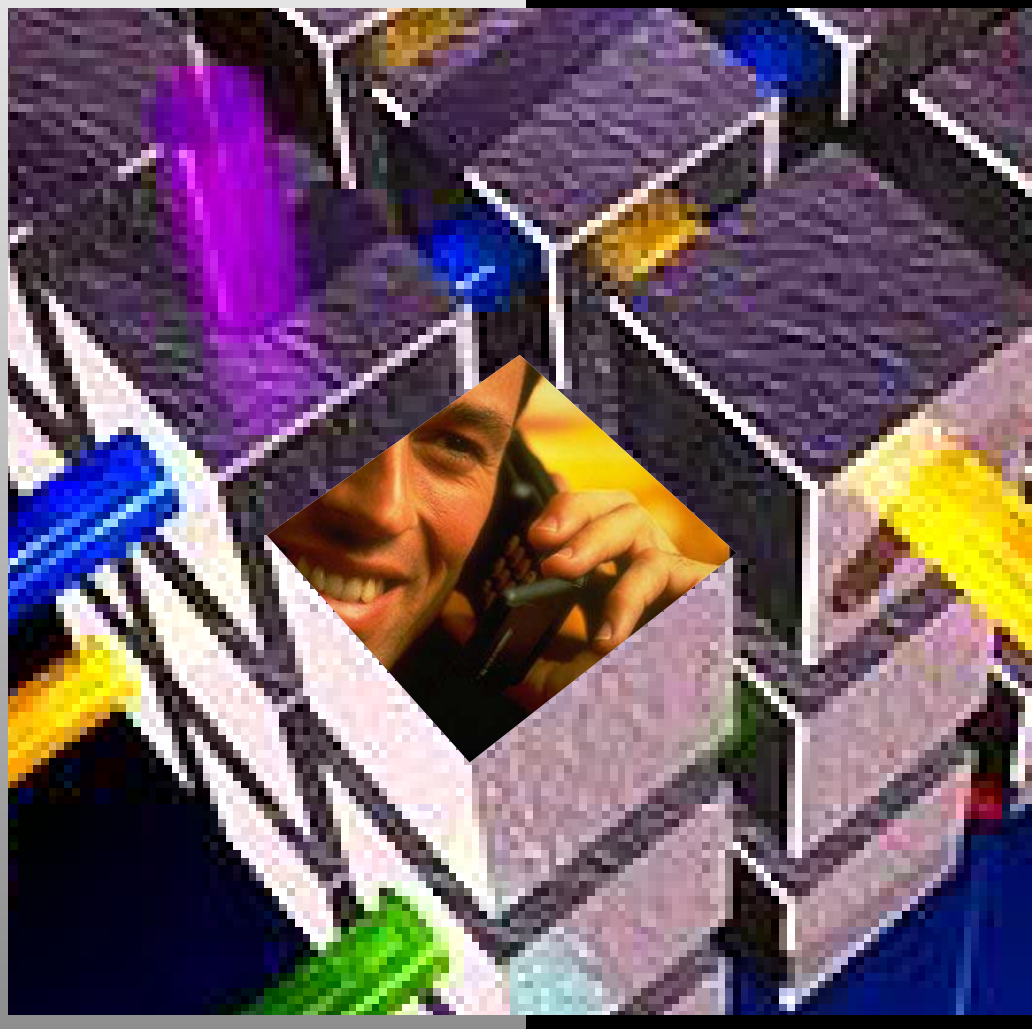
In May 1997, the OMNCS conducted an ERLink exercise with the white EOT. As recommended, an improved ERLink self-study guide was developed and subsequently utilized during the exercise. This guide proved successful in introducing ERLink functionality and developing ERLink user fluency.

A multi-agency exercise was conducted in May 1997 with U.S. Army Corps of Engineers and NCS participants, including FEMA, GSA, the Nuclear Regulatory Commission (NRC), the Department of Transportation, and the Department of Commerce. This exercise was the first use of ERLink to connect multiple operational units and generated significant comments and feedback. This user input will be the basis for design improvements.

NRC incorporated ERLink into two internal exercises, Exercise Farley and Exercise Turkey Point. Participants in both exercises used ERLink to transmit status reports and imagery between the field and headquarters operations elements.

III.

NCS NS/EP Telecommunications Support, Activities, and Programs



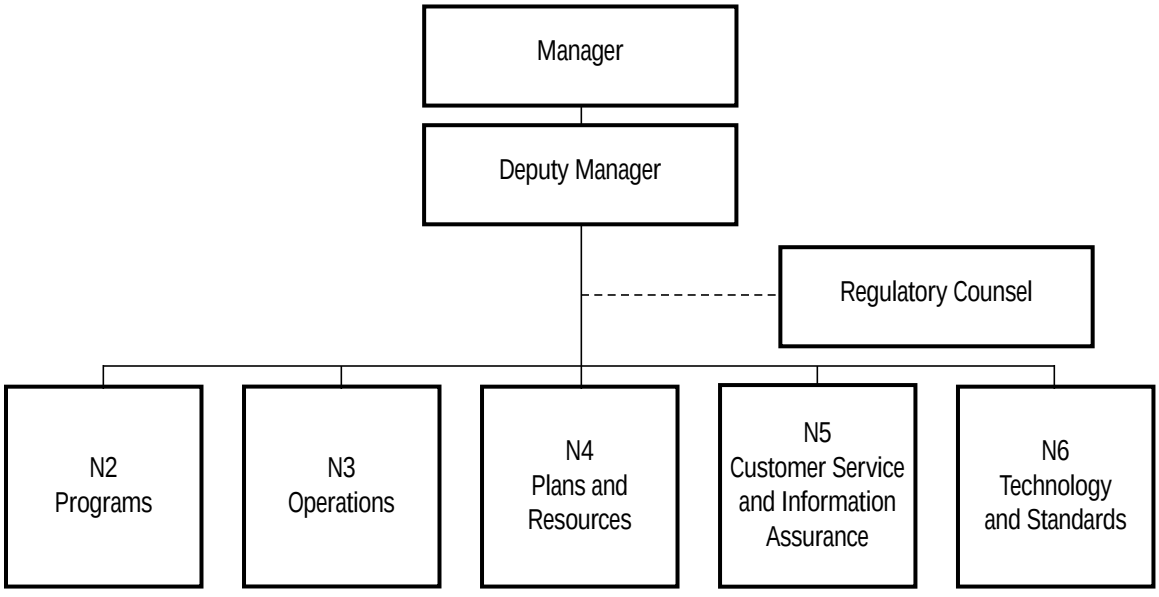
III. NCS NS/EP TELECOMMUNICATIONS SUPPORT, ACTIVITIES, AND PROGRAMS

This section highlights the activities and accomplishments of the Office of the Manager, National Communications System (OMNCS), the National Communications System (NCS), and the national security and emergency preparedness (NS/EP) telecommunications community during fiscal year 1997 (FY97).

OFFICE OF THE MANAGER, NCS, ACTIVITIES

In February 1997, the Deputy Manager, NCS, realigned several functions within the OMNCS in an effort to optimize organizational resources. Exhibit 3-1 depicts the current organizational structure of the OMNCS. The

EXHIBIT 3-1
OFFICE OF THE MANAGER, NATIONAL COMMUNICATIONS SYSTEM



Plans and Policy Branch of the Plans, Customer Service, and Information Assurance Division dissolved and its functions (requirements identification, planning, and strategic architecture development) transferred to other portions of the organization. All planning activities transferred to the Plans and Resources Division to better align this function with the budget planning and preparation process. In an attempt to maximize the knowledge and expertise of the OMNCS' engineering staff, all strategic architecture development activities shifted to the Technology and Standards Division. The Customer Service and Information Assurance Division established a small requirements staff to work with the NS/EP customer community in identifying and validating NS/EP telecommunications requirements. In addition to these realignments, the OMNCS eliminated the Assistant Deputy Manager position.

PARTNERSHIP

Throughout FY97, the NCS and the President's National Security Telecommunications Advisory Committee (NSTAC) worked closely with the President's Commission on Critical Infrastructure Protection (PCCIP), established by Executive Order (E.O.) 13010 on July 15, 1996, to examine physical and cyber threats to the Nation's most critical infrastructures. The NCS and the NSTAC shared information with the PCCIP about the vulnerabilities of the public network (PN), including a PN risk assessment.

The NCS and the NSTAC are also sharing information gathered in risk assessments of the electric power, financial services, and transportation infrastructures. On many occasions, the PCCIP Commissioners attended NSTAC Industry Executive Subcommittee (IES) meetings to discuss issues of mutual concern, and the IES shared its ideas and concepts with the PCCIP as the commission prepared its recommendations for protecting the Nation's critical infrastructures.

The NCS directly supported the Infrastructure Protection Task Force (IPTF), also created by E.O. 13010, by having a full-time representative from the OMNCS Information Assurance Branch detailed to the task force.

PROGRAMS

The Programs Division develops and implements evolutionary telecommunications NS/EP capabilities for an enduring and effective telecommunications infrastructure. The following paragraphs describe the Programs Division's activities during FY97.

GOVERNMENT EMERGENCY TELECOMMUNICATIONS SERVICE

Government Emergency Telecommunications Service (GETS) supports NS/EP telecommunications users with priority switched voice and voice band data service in the public switched network (PSN). Developed in response to White House tasking, GETS provides authenticated access, enhanced routing, and priority treatment in local and long-distance telephone networks. Users access GETS through a simple dialing plan and personal identification number (PIN).

GETS is designed for, and maintained in, a constant state of readiness to make maximum use of all available commercial and Government telephone resources if outages occur from congestion or damage during an emergency, crisis, or war.

The three largest interexchange carriers (IEC)—AT&T, MCI, and Sprint—provide special GETS features, including priority treatment, enhanced routing within their networks, exemption from network management controls, and the ability to place and receive international calls. GETS also provides NS/EP telecommunications users with the ability to interoperate with other Government networks such as the Federal Telecommunications System-2000 (FTS2000), the Defense Switched Network (DSN), and the

Diplomatic Telecommunications Service (DTS). The local exchange carriers (LEC) are implementing GETS features, including priority treatment, enhanced routing, and exemption from network management controls. The OMNCS is also exploring potential enhancements in wireless carrier networks.

Users access GETS by dialing a universal access number (1-710-NCS-GETS) using such common telephone equipment as a standard desk set, secure telephone unit, facsimile, modem, or cellular phone. A tone prompts the user to enter a PIN, and a voice prompt requests the destination telephone number. Once the system authenticates the caller as a valid user, the call becomes an NS/EP call and receives enhanced routing and priority treatment throughout the PSN. The NCS designed GETS to ensure that only authorized users have access to the service through strict distribution, use, and control of PINs. In addition, the IECs provide fraud detection and control service for GETS. As of October 1997, about 12,000 GETS PIN cards were in use by Federal, State, local, and private sector NS/EP individuals and activities. The NCS expects the number to grow to an estimated NS/EP telecommunications community of 25,000 users.

GETS traffic priority is possible through PSN implementation of the High Probability of Completion (HPC) Standard (American National Standards Institute [ANSI] T1.631-1993). This standard, which specifies procedures for identifying GETS calls, provides higher priority in the signaling networks than that provided for all other user traffic. The unique marking of the GETS calls makes it possible to program special features in the IEC and LEC switches. These features include call queuing, exemption from restrictive network management controls, alternate carrier routing, and various types of enhanced network routing schemes.

Entirely software based, the GETS feature software is embedded in the PSN software. Significant software developments by various telephone switch manufacturers, including Lucent, Northern Telecom, and AG Communications Systems, make the LEC features possible. The IECs likewise provide extensive and robust software modifications in their networks. The LEC and IEC GETS features ensure completion of NS/EP calls in congested or damaged networks. Although GETS calls receive priority handling, they do not preempt public traffic.

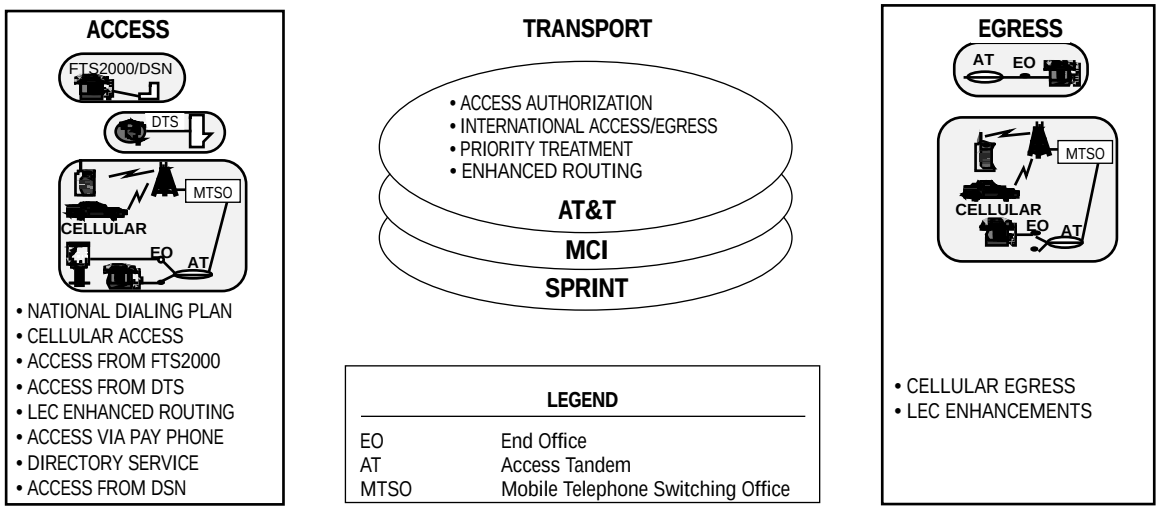
An integration contractor provides overall operation and support for the GETS user community. This support includes coordinating all subcontracting to acquire and maintain features in the LECs. The OMNCS contracts directly with the IECs for the long distance portion of the GETS. No Government hardware is involved in providing the GETS features.

GETS achieved initial operational capability (IOC) in October 1995, with full operational capability scheduled for 2001. Thereafter, GETS will continue to evolve as new technology deploys in the PSN that can enhance NS/EP telecommunications. Since achieving IOC, the NCS has seen extensive use of GETS during emergencies, including hurricanes, floods, wildfires, earthquakes, airplane disasters, and the 1995 bombing of the Alfred P. Murrah Federal Building in Oklahoma City. Reports from emergency responders throughout the United States (U.S.) document the indispensable contributions made by GETS under emergency conditions.

WIRELESS TELECOMMUNICATIONS CAPABILITIES

E.O. 12472 assigns the OMNCS the responsibility of conducting technical studies or analyses, and examining research and development (R&D) programs to identify improved approaches that may assist Federal entities in fulfilling NS/EP telecommunications objectives. Through this direction, the OMNCS formed several wireless program initiatives to ensure that industry understands NS/EP user

EXHIBIT 3-2
GOVERNMENT EMERGENCY TELECOMMUNICATIONS SERVICE



requirements and supports these enhanced capabilities in their networks. The current wireless initiatives within the OMNCS include the Cellular Priority Access Service (CPAS) Program, the Enhanced Satellite Capability (ESC) Program, and the Personal Communications Services (PCS) and PCS Wireless Data Services (PWDS) initiatives. The following paragraphs describe each of these efforts.

CELLULAR PRIORITY ACCESS SERVICE

CPAS is being accomplished in response to White House direction resulting from NSTAC recommendations. Several recent natural disasters illustrate the importance of cellular technology in providing timely emergency telecommunications for Federal, State, and local users at a disaster site or mobile responders under a stressed environment. However, increased personal use of cellular communications often creates network congestion and high levels of call blocking to critical disaster relief officials when they need communications. As a result, the OMNCS, working with industry leaders, industry associations, State representatives, and standards bodies, developed the CPAS specification. CPAS aims to facilitate and coordinate the development of a cost-effective, uniform, nationwide CPAS capability that enhances NS/EP user access to the PSN.

The Cellular Priority Service (CPS) Program is working on the following four consecutive activities leading toward the implementation of a cellular priority capability that enhances NS/EP access to the PSN.

Standards. In October 1996, officials approved Telecommunications Industry Association (TIA)/Electronics Industry Association (EIA) Interim Standard (IS)-136—the air interface standard that includes Priority Access and Channel Assignment (PACA) in Time Division Multiple Access systems. TIA/EIA IS-95-B, the air interface that includes PACA in Code Division Multiple Access systems, is an IS. Work continues toward the approval of this IS. (Technology and Standards Division)

Administration. The OMNCS modeled the planned CPAS administration process after the Telecommunications Service Priority (TSP)

System. The OMNCS will continue to work on this effort as CPAS approaches implementation. (Operations Division)

Regulatory. The OMNCS continues to work with the Federal Communications Commission (FCC) to seek a ruling on the CPAS Public Notice. The OMNCS and the FCC have held several meetings to discuss technical details of CPAS and address any questions regarding the initiative to help expedite the FCC process. On June 16, 1997, the Assistant to the President for National Security Affairs sent a letter requesting that the FCC expeditiously issue a ruling on CPAS. FCC Chairman Reed E. Hundt, in a letter dated September 9, 1997, said the Commission would consider prompt action to the CPAS issue raised by the OMNCS, adding that he planned to include the issue in a Notice of Proposed Rulemaking slated for October 1997. (Regulatory Counsel)

Implementation. The OMNCS completed several studies investigating the technical aspects of CPAS implementation. The OMNCS developed a market study examining the potential user base of CPAS and a thorough analysis of existing and developing cellular and PCS handsets. These studies assist the OMNCS in working with industry to understand the technical implications of CPAS, understand the cellular industry's technical capabilities, and investigate the potential number of users and customers of a cellular priority capability. (Programs Division)

ENHANCED SATELLITE CAPABILITY

Through the ESC Program, the OMNCS investigates emerging satellite technologies, analyzes their ability to support NS/EP requirements, and works to enhance their capability to support NS/EP users. The ESC Program categorizes its responsibilities into two major areas: experimentation and studies. The following paragraphs describe ESC Program activities for FY97 within each area.

Experimentation. As commercial satellite systems become operational, the ESC Program analyzes and experiments with these systems to determine their potential to support NS/EP users. Information regarding these systems is then made available for NS/EP users to determine if their mission can be accomplished more efficiently and effectively. Whenever technology does not provide a user with NS/EP capability, the ESC Program will work with industry to identify the capability, integrate it into the system, and demonstrate this new feature.

The first experiment conducted under the ESC Program was with the National Aeronautics and Space Administration (NASA) Advanced Communications Technology Satellite. The OMNCS funded two Earth stations on this experimental system, modified the system to incorporate several NS/EP capabilities (e.g., security, priority), and then demonstrated them to NS/EP users.

The OMNCS is performing experiments on three relatively new satellite systems from American Mobile Satellite Corporation, Planet-1, and ORBCOMM. Evaluations of each system will determine their potential for fulfilling NS/EP requirements. The OMNCS will also work with industry to support the development of additional NS/EP capabilities within each system. After this initial experiment, the terminals will then be made available for the OMNCS Operations Division to evaluate during exercises and actual disasters.

Another ongoing experimental project within the ESC Program is the design and development of a transportable satellite terminal using NASA's Tracking and Data Relay Satellite System (TDRSS). This project will provide a needed capability (small, lightweight, high throughput satellite terminal) in an efficient, cost-effective manner. TDRSS may offer an existing Government satellite communications resource to effectively and efficiently provide emergency communications. When completed, this terminal will provide 1.544 Megabits per second of voice, data, and video in a relatively

small (fewer than 300 pounds) transportable package to support NS/EP events.

Studies. The recent emergence and planning of many potential low Earth orbit (LEO) satellite systems (e.g., Iridium, Globalstar, Odyssey, ICO) is creating another potential source of NS/EP telecommunications. To stay abreast of these and other new and developing satellite technologies, and to influence industry to incorporate NS/EP capabilities in their systems, the OMNCS studies these systems through the ESC Program. The goal of these studies is to analyze, assess, and influence the capabilities of emerging technologies to provide telecommunications services for NS/EP users.

PERSONAL COMMUNICATIONS SERVICES AND PCS WIRELESS DATA SERVICES

New technologies in the wireless telecommunications field, beyond cellular and satellite technologies, continue to emerge. To investigate the potential of these technologies for providing NS/EP telecommunications, the OMNCS developed the PWDS Program. The goal is to support E.O. 12472 by analyzing emerging telecommunications technologies to identify improved approaches for Federal entities to fulfill their NS/EP objectives.

The PWDS Program consists of a studies phase and an experimentation phase. Three major areas under investigation include PCS, wireless data technologies, and unmanned aerial vehicles (UAV).

PCS. Work has been ongoing to investigate the implementation of a priority capability in developing PCS systems. Coordinating with the CPAS Subgroup and industry, the OMNCS plans to implement a PCS priority capability to model the PACA standard.

Wireless Data. A technology that is rapidly becoming popular is the capability for wireless data transfer. The OMNCS is investigating the various wireless data technologies and service providers to gain an understanding of the technical aspects of this service and identify potential support that wireless data can provide to NS/EP users. The OMNCS is developing a report addressing NS/EP wireless data capabilities use and demonstration.

UAVs. The final area of investigation in the PWDS Program is the use of UAVs to provide disaster relief telecommunications to NS/EP users. Several studies are underway through coordination with the Department of Defense (DOD), and a preliminary demonstration of the capabilities of UAVs is planned.

The OMNCS is analyzing these three areas of wireless communications to determine if there is potential to provide enhanced service to NS/EP users. As other technologies or systems develop, the PWDS Program will also examine these areas to ensure that the OMNCS is abreast of all aspects of telecommunications.

ADVANCED INTELLIGENT NETWORK

Advanced Intelligent Network (AIN) is an emerging telecommunications technology identified by the President's NSTAC and the OMNCS as having the potential capability to meet the NS/EP telecommunications needs of NCS member organizations.

AIN technology supports a telecommunications architecture consisting of signaling systems, switches, computer processors, databases, and transmission media. The convergence of these elements allows for customized software-defined network services that can be flexibly, rapidly, and cost effectively configured to meet changing customer needs. Among other capabilities, AIN provides priority recognition, user authentication, enhanced routing, and network management alternatives in support of NS/EP contingency operations.

In the competitive market environment ushered in by the *Telecommunications Act of 1996*, PSN carriers are becoming increasingly dependent on AIN capabilities to deliver services to their customers. Carriers are using

AIN to deploy local number portability, as mandated by the FCC, to open networks to new third-party service providers, and to meet customer demand for new service capabilities (e.g., mobility, data, and Internet access). Because AIN has become a vital component of the PSN, the OMNCS must determine its reliability and availability to support NS/EP communications.

The AIN Program is responsible for the R&D of AIN-based technology applications for NS/EP and operates under the following mission objectives:

- Assess AIN architectures, standards, and implementations
- Define, develop, and demonstrate AIN NS/EP applications
- Ensure NS/EP requirements influence the evolving AIN technology
- Facilitate integration into Government initiatives (e.g., GETS, Defense Information System Network)
- Evaluate AIN security, survivability, reliability, and interoperability

The AIN Program Office coordinates with industry and NCS member organizations to identify AIN capabilities that will meet the NS/EP community's requirements for telecommunications during crises. It also identifies preliminary services that the OMNCS can introduce into NS/EP initiatives (e.g., GETS) through successful proof-of-concept demonstrations.

The GETS Program Office is deploying AIN-based alternate carrier routing to support LEC enhanced routing. In conjunction with AIN, the GETS Program Office is also pursuing use of the HPC ANSI standard for further enhancements. In addition, the OMNCS is investigating the feasibility of interconnecting LEC and IEC signaling networks, as required for implementation of AIN capabilities and wireless services.

The AIN Program Office evaluates uses of the technology in wireless and wireline environments to ensure AIN efficiencies can be applied to meet NS/EP needs. To influence the evolving AIN technology and ensure that it considers NS/EP needs in service development, the AIN Program Office monitors FCC AIN rulemaking procedures and participates in joint industry and Government forums. Recent Program Office accomplishments include evaluating industry's local number portability plans, reviewing initial wireless intelligent network capabilities for NS/EP application, and monitoring industry open network architecture filings to determine implications for NS/EP telecommunications.

The AIN Program Office is evaluating the evolution of common channel signaling to support future broadband capabilities. It is also assessing next-generation AIN standards for development, demonstration, and eventual implementation of NS/EP telecommunications enhancements.

EMERGENCY RESPONSE LINK

The Emergency Response Link (ERLink) Program is providing a controlled-access Web site designed to assist the emergency response community in sharing disaster response planning and operations. The response community includes the signatory agencies to the *Federal Response Plan* (FRP), and State and local agencies and organizations.

During FY97, the ERLink Program Office concentrated on enhancing Web site layout and structure, expanding the number of participants, and training and evaluating capabilities to support disaster response.

Major Enhancements Accomplished

One of the major enhancements to ERLink during the year was the inclusion of tropical storm data from the National Hurricane Center (NHC), including storm tracks, outlooks, and warnings. The NHC data hosted by ERLink

mirrors the data on the public NHC Web site. ERLink provides the response community an alternative source of storm information without having to compete with the public for the information.

Another content enhancement was the inclusion of the Federal Emergency Management Agency (FEMA) Daily Report (FDR). The FDR is a daily synopsis of upcoming events, pending storms, potential situations, and status of ongoing declared events.

Additional enhancements included the expansion of capable browsers to include both Netscape Navigator and Microsoft Internet Explorer. This expansion will allow a larger population of users to access and fully use ERLink features.

In February 1997, the OMNCS conducted its first ERLink exercise with the National Coordinating Center for Telecommunications (NCC) Blue Emergency Operations Team (EOT). This exercise focused on using ERLink as a new information resource for the EOT and provided recommendations for revising the ERLink product, training material, and the team exercise format.

In May, the OMNCS conducted the second ERLink exercise with the White EOT, having incorporated suggestions and feedback from the Blue EOT. In preparation for this exercise, the OMNCS developed and used an ERLink Self-Study Guide during the exercise. This guide proved quite useful in introducing and demonstrating ERLink's capabilities.

The Nuclear Regulatory Commission (NRC) initiated the incorporation of ERLink into two internal exercises: Exercise Farley and Exercise Turkey Point. In both exercises, participants used ERLink to transmit status reports and imagery between the field and headquarters operations elements.

In May, the OMNCS conducted a multiagency exercise with participants from the NRC, FEMA, Department of Transportation (DOT), Department of Commerce (DOC), General Services Administration (GSA), and U.S. Army Corps of Engineers. This exercise, which was the first event introducing ERLink into multiple operational units, showed that ERLink has value, but that additional training was needed in its use, and that file organization and categorization need to be improved.

The OMNCS continues to pursue the integration of ERLink into operational elements. The material, content, and usage by participants during events will measure ERLink's true value.

OPERATIONS

The Operations Division ensures the availability of telecommunications across the entire spectrum of emergencies. The following paragraphs describe activities of the Operations Division during FY97.

NATIONAL COORDINATING CENTER FOR TELECOMMUNICATIONS

The NCC is an industry-Government organization that assists in the initiation, coordination, restoration, and reconstitution of NS/EP telecommunications services and facilities. The NCC serves as the operations focal point for all the National Telecommunications Management Structure (NTMS) all-hazards response levels. AT&T's divestiture in 1984 created a need for an industry-Government coordinating mechanism, such as the NCC. Today's continuing structural changes within the telecommunications industry make the NCC even more essential in ensuring that NS/EP telecommunications requirements are met.

The commercial telecommunications industry has the majority of telecommunications assets, including the facilities, equipment, and personnel trained to restore NS/EP services. These assets are the primary resources for the NCC. Industry personnel located in the NCC are in direct contact with their companies' senior management and field counterparts. The NCC also collects information about Government-owned systems from Government

EXHIBIT 3-3
NATIONAL COORDINATING CENTER FOR TELECOMMUNICATIONS MEMBERSHIP

INDUSTRY REPRESENTATIVES				GOVERNMENT DETAILEES		
AT&T	AT&T Wireless Services, Inc.		ITT	DOD	DOS	DOE
COMSAT	MFS Telecom, Inc.		MCI	DOJ	FEMA	GSA
GTE	NTA	Sprint	USTA		FCC	

representatives to the NCC. Industry can route information and requests for assistance to Government or vice versa depending on the scenario. Exhibit 3-3 shows NCC membership as of September 30, 1997.

The NCC is responsible for the daily operations of the TSP System, the Telecommunications Electric Service Priority (TESP) Program, the Shared Resources (SHARES) High Frequency (HF) Radio Program, the Communications Resource Information Sharing (CRIS) Program, and GETS PIN assignments. Additionally, the Manager, NCC, may activate the NCC EOTs during an emergency to provide 24-hour emergency telecommunications support for a Federally declared emergency, acting as the national lead for Emergency Support Function (ESF)-2, Communications, of the FRP.

During FY97, the NCC provided telecommunications support during emergency response activities for flooding in the Pacific Northwest, Kentucky, and the Upper Midwest region near the Red River.

NATIONAL TELECOMMUNICATIONS COORDINATING NETWORK

The National Telecommunications Coordinating Network (NTCN) is the primary telecommunications capability supporting the operations and functions of the NTMS. The NTCN supports the NTMS by providing communications connectivity for the exchange of minimum essential telecommunications management information between NTMS elements.

To ensure communications for inter-carrier coordination of service restoration and Federal department and agency coordination when the PN is not available, the NTCN relies on existing multimedia telecommunications systems and capabilities that NS/EP users can access to support the NTMS all-hazards mission. These Government and industry communications assets and capabilities exist outside the PN and include NCC ringdown circuits, the National Alert and Warning System, SHARES, and the National Telecommunications Alliance's Backup Emergency Alerting Management System. NTCN HF radios deployed by the NTMS Program Office can serve in a contingency as a backup means of communications if the event disrupts other systems or network segments.

Efforts during the year focused on continuing HF radio installation, training operating center personnel, updating NTCN documentation, and conducting recurring communications testing.

During FY97, the NTCN accomplished the following tasks:

- Conducted site surveys at two NTMS Operating Centers for installing HF radios and associated antennas
- Researched new technologies to widen the scope of equipment to support an all-hazards capability
- Conducted NTCN communications tests

TELECOMMUNICATIONS SERVICE PRIORITY SYSTEM

The TSP System continues to facilitate the priority provisioning and restoration of NS/EP telecommunications services. During FY97, the Office of Priority Telecommunications (OPT) (formerly the TSP Program Office) received a weekly average of 220 requests for TSP assignments. Priority provisioning of telecommunications services was critical in supporting relief efforts following flooding in the Northwest, Kentucky, and the Red River areas, and other regions nationwide that experienced heavy rains and flooding.

The NCS plays a vital role in ensuring the availability of telecommunications services in crisis situations. For example, the TSP System is installing advanced technology to improve and expedite priority provisioning and restoration of telecommunications services for NS/EP users. The new TSP client-server system enables frequent TSP users to electronically complete and submit TSP requests, reconciliations, and confirmations online. In addition, redesigned forms and manuals greatly improve the user interface to the new TSP database platform. The new TSP Home Page provides an overview of the TSP System, access to electronic copies of TSP manuals, and electronic mail (E-mail) service to the OPT. In the future, the OPT plans to offer electronic TSP request forms via the Internet through the TSP Home Page.

Throughout the year, the TSP System Oversight Committee provided invaluable knowledge and expertise to the OPT, which resulted in significant enhancements to TSP processes, manuals, forms, and database applications. Additionally, the Committee initiated the change of sponsorship duties of State and local TSP issues from FEMA to NCS.

Educating and training emergency responders regarding the use of the TSP System remained a priority with the OPT. OMNCS personnel provided comprehensive training to potential users, vendors, and emergency response coordinators. They also provided training on the TSP Priority Telecommunications System which is the newly completed client-server platform that supports TSP. The client-server not only enables TSP service users and vendors to perform automated tasks, but also provides them and the OPT with a single, shared source of information relating to specific TSP requests and assignments.

OMNCS AUGMENTEE PROGRAM

The OMNCS continues to develop its augmentee program, which is supported through the Department of the Army's Individual Mobilization Augmentee (IMA) Program. The augmentees supplement existing staff within the OMNCS and at regional locations during national emergencies.

IMA Program. The NCS IMA Program provides a valuable array of skilled Reserve personnel to augment telecommunications response activities. During Presidentially declared disasters, the IMA Program provides the NCS with a surge capability to deploy and react to a myriad of situations associated with ESF-2 operations. IMA personnel are often among the first Federal disaster response personnel to reach a disaster scene. Many of these Reserve officers are telecommunications professionals in their full-time civilian careers and will apply these skills when responding to Federal emergencies. The IMA Program continues to provide an extremely important and invaluable service to the OMNCS NS/EP mission at the national and regional levels.

The IMA Program meets mission responsibilities through deployment of IMAs using a combination of annual training, paid and nonpaid individual drills, and temporary tours of active duty. The NCS provides a minimum of one annual 2-week training period for each of its 35 IMAs. Paid drill participation for the Drilling IMAs is almost 100 percent. Since August 1990, the IMA Program has provided more than 3 years of active duty days to support contingency and disaster relief operations. Exhibit 3-4 provides information

EXHIBIT 3-4
FISCAL YEAR 1997 INDIVIDUAL MOBILIZATION AUGMENTEE DEPLOYMENTS

EVENT	DATE	TOTAL DAYS*
Northwest Floods	January 1997	15
Kentucky Floods	March 1997	15

* Total Days is a cumulative figure of days IMAs were on-site supporting each deployment.

concerning NCS FY97 IMA deployments in disaster relief operations.

NORTH ATLANTIC TREATY ORGANIZATION CIVIL COMMUNICATIONS PLANNING COMMITTEE

The OMNCS represents the U.S. on the North Atlantic Treaty Organization (NATO) Civil Communications Planning Committee (CCPC), its working groups, and other subsidiary bodies. The Department of State (DOS) detailee to the OMNCS/NCC is the U.S. representative. CCPC purview extends to telecommunications and postal services. The OMNCS/NCC accordingly consults closely with U.S. commercial entities that provide telecommunications services and with affected U.S. Government agencies and organizations. The CCPC met twice in plenary session in Brussels, Belgium, during FY97; its working group met four times.

NATO once again identified the CCPC as a major committee in emergency planning under its new crisis management arrangements. A direct link between the CCPC and the NATO Command, Control, and Communications (C3) Board allows the C3 Board to provide direct tasking to the CCPC.

Some major CCPC FY97 activities and accomplishments included the following:

- Approved the committee's work program for 1997-98, which included 11 elements ranging from updating documentation; exercising crisis management arrangements; conducting seminars with Partnership for Peace nations; and conducting studies in mobile and cellular radio, network management, and an international preference scheme
- Conducted a 3-day training of experts exercise (led by the U.S.) in the United Kingdom
- Completed work on a civil international preference scheme study, which identified a type of national preference scheme
- Began a review of national emergency authorities during crisis and war
- Developed a civil communications incident and situation reporting form for NATO use
- The U.S. and Canada jointly developed a home page for the NATO CCPC as a prototype for future civil committee home pages

U.S./CANADA CIVIL EMERGENCY PLANNING TELECOMMUNICATIONS ADVISORY GROUP

The U.S./Canada Civil Emergency Planning Telecommunications Advisory Group is responsible for advising and assisting the U.S./Canada Civil Emergency Planning Consultative Group on all telecommunications

matters concerning U.S./Canadian civil emergency planning. The advisory group works on a continuous basis with the various U.S./Canadian emergency planning committees and working groups to assist them in determining their cross-border telecommunications requirements. The advisory group also provides, as necessary, a coordinating mechanism for meeting these requirements. The advisory group performs the following functions:

- Provides advice and assistance to other specialized U.S./Canadian emergency planning committees and working groups in formulating estimated cross-border telecommunications requirements for the functional areas for which they have planning responsibility
- Studies the cross-border telecommunications requirements as stated by the other specialized U.S./Canadian emergency planning committees and working groups and evaluates the capability of existing and planned facilities to meet those requirements
- Acts as a consultant body in telecommunications matters to all U.S./Canadian emergency planning committees and working groups
- Continues to review the arrangements and capabilities of cross-border telecommunications to meet civil emergency requirements
- Exchanges views on the position of the U.S. and Canada on matters being considered by the NATO CCPC and other planning boards and committees as appropriate

TELECOMMUNICATIONS ELECTRIC SERVICE PRIORITY

The U.S. Government telecommunications policy is to meet NS/EP requirements and supply adequate and secure electric energy to critical telecommunications facilities. In 1987, the Department of Energy (DOE), in coordination with the NCS and the Energy Task Force of the President's NSTAC, developed the TESP initiative.

Essential national defense and civilian requirements may not be met if an event disrupts electric supplies to critical telecommunications facilities. Electric utilities have systems and processes in place for restoring electric service to specific customers in the event of threatened or actual electric power supply emergencies. Before TESP, the existing priority restoration systems reflected only essential State and local needs. The TESP Program promotes modification of the existing electric utility emergency priority restoration systems to include telecommunications facilities considered critical to NS/EP.

Currently, 239 telecommunications service providers and 475 electric utilities support the TESP Program. As of June 1997, the total number of telecommunications facilities exceeded 3,200.

SHARED RESOURCES HIGH FREQUENCY RADIO PROGRAM

The SHARES HF Radio Program continues to provide emergency communications in support of special operations and all-hazards situations. SHARES incorporates the resources of 1,098 HF radio stations, contributed by 63 Federal, State, and industry organizations, into a nationwide emergency message handling network.

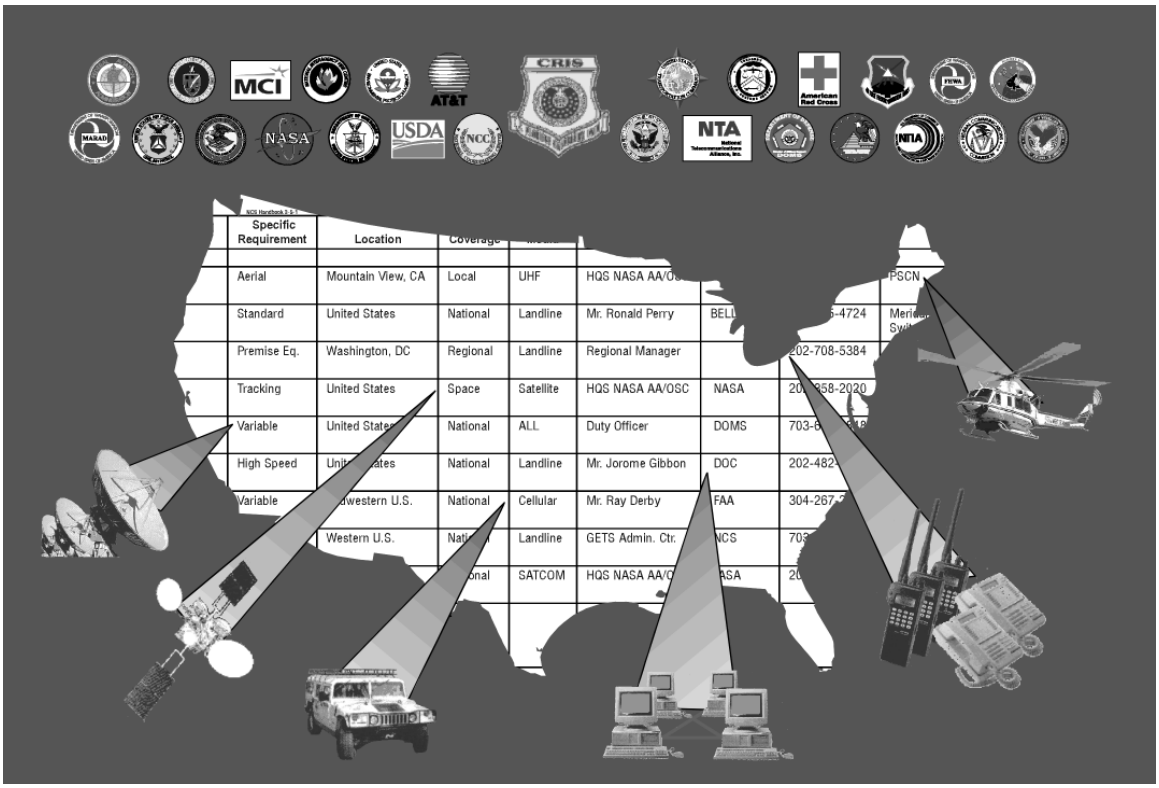
During FY97, the NCS issued SHARES Emergency Readiness Notices in response to the 1997 Presidential Inauguration, the Summit of Eight in Denver, Colorado, deployment of the Federal Aviation Administration's Communications Support Teams, and four Federally sponsored exercises. The SHARES

EXHIBIT 3-5
SHARED RESOURCES HIGH FREQUENCY COORDINATION NETWORK

Emergency Readiness Notice serves as a means to increase the number of stations "on the air" and available to support a particular emergency operation. It alerts participating SHARES stations to the fact that an emergency situation exists for one or more Federal entities, and that requests for assistance in processing SHARES messages may be expected. It also provides station personnel time to evaluate to what extent, if any, the stations could participate in SHARES and to reset station frequencies to those published in the SHARES HF Radio Program Directory. The SHARES Emergency Coordination Team prepares Emergency Readiness Notices and distributes notices to SHARES HF radio stations through the station's SHARES HF Interoperability Working Group representative. More than 1,040 SHARES stations, representing 41 organizations, participated in the three nationwide SHARES exercises conducted during the year.

The SHARES HF Interoperability Working Group, a permanent body established under the NCS Committee of Principals (COP)/Council of Representatives (COR), continued to meet monthly to coordinate SHARES network activities and to address issues affecting interoperability of Federal HF radio systems. During FY97, the working group approved NCS Handbook 3-3-2, "Federal Registry of Automatic Link Establishment (ALE) Address Codes." It also established the 10-channel (see Exhibit 3-5) nationwide SHARES Coordination Network and continued to support technologies in HF E-mail, and automatic HF interconnectivity into the PSN.

EXHIBIT 3-6
COMMUNICATIONS RESOURCE INFORMATION SHARING



COMMUNICATIONS RESOURCE INFORMATION SHARING

The CRIS initiative continues to support NS/EP requirements. It establishes an information source that provides resource points of contact, associated communications resources, and supporting information for use by the participating NCS member organizations. Today, 26 Federal and industry organizations contribute more than 40 communications assets, services, and capabilities that could be shared with other Federal departments and agencies during emergencies (see Exhibit 3-6).

During FY97, the CRIS Working Group, a permanent body under the COP, approved NCS Handbook 3-9-1, "Communications Resource Information Sharing (CRIS) Directory," and distributed the first edition of the handbook throughout the NCS community. The working group also completed development of the CRIS Automated System (CAS) for use by Federal and industry emergency planning and response personnel. The CRIS Working Group continues to focus on expanding the number of systems and resource contributors in the CAS and on increasing awareness of CRIS and its capability to support NS/EP. The CRIS Program became operational in October 1996 and then transferred to the NCC for continued support.

TRAINING AND EXERCISE BRANCH

The Training and Exercise Branch trains OMNCS staff, NCS Regional Managers, ESF-2 support agency personnel, the telecommunications industry, and regional and State responders to effectively execute their responsibilities during the various phases of

response and recovery operations. With an emphasis on providing emergency telecommunications services to the disaster site, this branch achieves its program goal through a series of training and exercise activities and technology demonstrations.

The Training and Exercise Branch successfully coordinated and performed the following activities:

- Due to the overwhelming success of the first phase of the Telecommunications Emergency Response Training (ERT) seminars, the Training and Exercise Branch designed and developed Phase II of its ERT. The ERT seminar is a joint training program with FEMA and GSA. The seminar addresses emergency plans and activities in five critical areas: FRP and ESF-2, telecommunications services and priority provisioning, regional and State emergency operations, national emergency operations, and current and future technologies. In addition, the branch presented a variety of technology demonstrations to complement the seminars. FY97 seminars were conducted in Atlanta, Georgia (Region IV), in November 1996; San Juan, Puerto Rico (Caribbean), in December 1996; Philadelphia, Pennsylvania (Regions II and III), in January 1997; Seattle, Washington (Region X), in June 1997; Honolulu, Hawaii (Pacific Rim), in June 1997; and Denton, Texas (Region VI), in July 1997.

- Designed and conducted a tabletop exercise in coordination with the medical response community (ESF-8) to examine the special communications requirements of medical emergency responders. More than 40 representatives from the telecommunications industry and Government agencies participated in the 8-hour event.

- Supported the Program Manager, ERLink, by developing and conducting exercises to assess the design and utility of ERLink. In the exercises, NCS EOTs used the Internet as a medium for information sharing during a typical emergency response scenario. The ERLink Program used exercise assessment results to improve the product's design and capabilities.

- Expanded the assessment of ERLink by developing a multiagency exercise that included participation by six Federal agencies. Working from their respective offices, the exercise participants used ERLink to upload and retrieve files that replicated the type of information published during an emergency response situation.

- Participated actively in developing and conducting the first of the FEMA-sponsored series of catastrophic emergency management seminars, Catastrophic-97. The seminar involved all FRP agencies and the member States of the Central U.S. Earthquake Consortium. It examined the Federal and State capabilities to respond to the catastrophic devastation created by an earthquake in the New Madrid seismic zone. The NCS provided a delegation of 13 communications experts from the Federal Government (OMNCS and GSA) and the telecommunications industry (AT&T, GTE, NTA, and three Regional Bell Operating Companies). As representatives of ESF-2, the delegation emphasized the critical importance of communications in the emergency response effort. It also increased all conference attendees' awareness of the vulnerabilities of the Nation's communications infrastructure to a major earthquake.

- Developed a training and exercise planning schedule that included a chronological

compilation of significant training and exercise events for the next year. The exercises included those sponsored by the NCS, FEMA, DOD, NATO, Federal departments and agencies, and the telecommunications industry.

- Developed and conducted a tabletop exercise for the Executive Office of the President, Office of Science Technology Policy (OSTP) to examine the unique legal and technical telecommunications management considerations during a highly stressed environment. Representatives from industry and Government participated in the 6-hour event.

- Participated in developing and conducting a series of exercises to enhance the operational performance of the FEMA Emergency Support Team (EST). The EST is staffed by liaison officers from each of the principal agencies that are responsible for the ESFs defined in the FRP. The series of three exercises provided training for each of three teams (Red, Blue, and White) that are on call for EST activations.

OPERATIONAL PLANS AND POLICY SUPPORT

The Operational Plans and Policy Support Branch's emergency response policy and planning activities ensure readiness and compliance with established or emerging requirements.

Beginning with annual NS/EP requirements assessments at the national and regional levels, branch personnel develop and maintain operational concepts, organizational structures, and operational plans for the OMNCS. This branch also provides technical assistance in communications and predisaster planning, coordination with interagency working groups, and implementation with other Federal agencies.

FY97 Operational Plans and Policy Support Branch accomplishments included:

- Assessed OMNCS's all-hazards mandate and its effect on NCS Directive 3-4. The branch prepared a decision paper and presented it to management.

- Collaborated with FEMA in establishing the National Team Communications Project for collecting department and agency communications requirements for the National Emergency Management Team. The branch collected requirements and issued a final report and also provided technical advice and project planning for the implementation of an IOC.

- Worked with the Programs Division to obtain frequency certification for the NCS/Disaster Response Terminal.

- Provided guidance and support to OSTP on NS/EP telecommunications policy matters.

- Represented the OMNCS at the Interdepartment Radio Advisory Committee and the Federal Radiological Preparedness Coordinating Committee.

- Assessed the effect of technological, regulatory, and economic changes affecting the use of radio frequencies.

- Monitored national organizational, policy, and technical developments in Congress, the National Telecommunications and Information Administration (NTIA), the FCC, and FEMA.

- Supported OMNCS participation in the Presidential Decision Directive-39 Consequences of Terrorism Assessment Core Group.

- Collected requirements for and initiated the development of the OMNCS's Continuity of Operations Plan, based on new guidance from the executive branch.
- Assessed the status of the NTMS and made recommendations for a future course of action.
- Provided recommendations to the Office of Emergency Planning in the Office of the Secretary of Defense for solutions to its need for a requirements definition project.
- Worked with the Defense Information Systems Agency (DISA) on its request for sharing frequencies and radio equipment.

INFORMATION SYSTEMS

The Information Systems Branch implements and supports the information systems required by the NCC's primary and alternate operation centers. It provides technical support to the OMNCS EOTs, offers help desk support to OMNCS staff, and coordinates OMNCS user information technology requirements. It also purchases hardware and software systems for OMNCS users. The branch is responsible for evaluating and implementing Office of Management and Budget and DOD information technology policy within the OMNCS.

PLANS AND RESOURCES

The Plans and Resources Division provides management and oversight for finances, acquisition, planning, manpower, and all other resources supporting the OMNCS. All Plans and Resources Division activities are integrated under the NS/EP Telecommunications Planning Process. Under this process, the Plans and Resources Division prepares the NCS Strategic Plan and develops the Future Years Corporate Plan and Advanced Acquisition Plan. The Acquisition Team develops the Advanced Acquisition Plan, and the Contracting Officer's Representatives review and monitor all acquisition packages for GETS and other OMNCS contracts. After planning process approval, the division executes the budget by certifying the availability of all funding documents.

CUSTOMER SERVICE AND INFORMATION ASSURANCE

The Customer Service and Information Assurance Division provides high quality service to the NCS member agencies, the NCS COP, and the President's NSTAC. It focuses NCS security initiatives and increases general awareness of the importance of network and information security in the industry and Government NS/EP community. Additionally, the division identifies and validates NS/EP telecommunications requirements to ensure that the NCS addresses customer needs.

NCS COMMITTEE OF PRINCIPALS/COUNCIL OF REPRESENTATIVES

The NCS held three COP and two COR meetings during FY97. The groups agreed to reduce the number of COP and COR meetings to two per year each—dedicating the summer meeting to the Manager's Annual Report and the winter meeting to an NSTAC update. The COP/COR reviewed the NSTAC XIX agenda and concurred on the NSTAC XIX Executive Report.

The COP/COR formed the NCS NCC Vision Implementation Team. This team serves as Government's parallel group to the NSTAC NCC Vision Subgroup. The NCC Vision Implementation Team will study how to modify the NCC mission to conduct electronic intrusion and detection functions, and develop the necessary tools and procedures to improve the NCC mission. In addition, the Team will determine whether Government staffing at the NCC should change to support a modified mission—specifically, information security and intrusion detection. The Team also plans to identify subjects they believe the NSTAC should study during the next year.

The COP/COR completed a Computer Incident Response Capabilities Survey and

nominated, via mail vote, Federal Government members to the TSP Oversight Committee. Members also participated in an NCC Vision Tabletop Exercise.

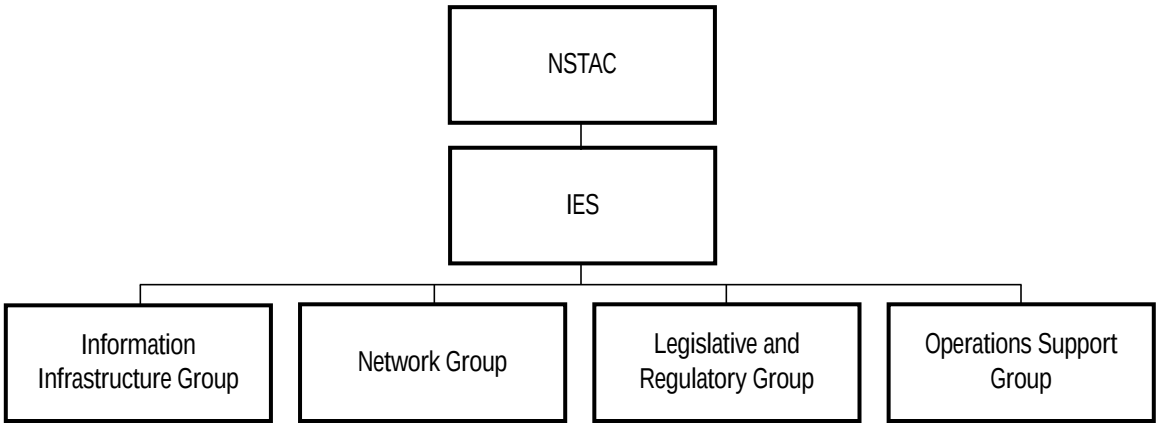
THE PRESIDENT'S NATIONAL SECURITY TELECOMMUNICATIONS ADVISORY COMMITTEE

The 19th meeting of the President's NSTAC took place on March 18, 1997, at DOS. Addressing an environment of increasing dependence on information systems and heightened interdependencies among infrastructures, the theme of NSTAC XIX was the importance of the industry-Government information assurance (IA) partnership and outreach. During the meeting, presentations described information warfare and counterterrorism; infrastructure vulnerability and interdependence; and cyber security and crime. Throughout the meeting, attendees cited the NCS-NSTAC partnership as the preeminent model for promoting strong industry-Government relationships for other critical infrastructures.

In keeping with its mission of providing the President with a unique source of national security telecommunications policy expertise, the NSTAC approved four recommendations to the President. Three of those recommendations addressed the growing concern for the information-based vulnerabilities of the Nation's electric power infrastructure and its NS/EP implications. The fourth recommendation was for the President to endorse establishing an industry-based Information Systems Security Board as a potential mechanism for enhancing the reliability and trustworthiness of the Nation's information products and services. The following paragraphs summarize the activities of NSTAC's IES and its subgroups.

NSTAC's IES Activities. In addition to overseeing issue development, the NSTAC's IES addresses numerous overarching areas, such as organizational structure, work and strategic plans, and outreach activities. After NSTAC XIX, the IES finalized a reorganization of its subgroups, resulting in the streamlined structure depicted in Exhibit 3-7. It also produced a strategic plan, which defines the IES vision and goals, and prioritizes group activities. Since NSTAC XIX, the IES increased the frequency of its meetings from four per year to once a month. This allows the IES to better track the activities of the groups, offering

EXHIBIT 3-7
THE PRESIDENT'S NATIONAL SECURITY TELECOMMUNICATIONS ADVISORY COMMITTEE ORGANIZATION



guidance where necessary. The more frequent meetings also allow for the IES to interact with other non-NSTAC groups examining similar issues. In particular, representatives of the PCCIP participated in numerous IES meetings and activities.

NSTAC's Information Infrastructure Group (IIG) Activities. In FY97, the IIG, formerly the IA Task Force, addressed IA and infrastructure protection issues on several fronts. The IIG completed IA risk assessments focusing on two of the Nation's most critical infrastructures—electric power and financial services—and is completing a third on the transportation infrastructure. The NSTAC approved and forwarded the electric power final report to the President, and the IIG will complete the financial services risk assessment and transportation risk assessment interim report by NSTAC XX. In addition, the IIG worked closely with the PCCIP; the IPTF; and the Federal law enforcement, intelligence, and defense communities. Much of the IIG's activity focused on investigating and enhancing industry and Government partnerships and communications regarding infrastructure protection and IA. The IIG continues to be an active driver for information exchange between the infrastructure protection stakeholders.

NSTAC's Network Group (NG) Activities. The NG, formerly the Network Security Group, focused on a broad range of issues in FY97. As a result of a high level of interest in intrusion protection, the NG established a subgroup to examine gaps in intrusion detection technology R&D. Working with Government R&D organizations and the private sector, the subgroup developed a report that identified gaps in intrusion detection R&D that might affect future NS/EP requirements. In response to the April 1997 letter from Dr. John Gibbons, Assistant to the President for Science and Technology Policy, regarding the likelihood of a widespread telecommunications service outage, the NG established its Widespread Outage Subgroup to analyze such an incident and its potential NS/EP implications. In addition, the NG sponsored a November 1996 panel to discuss the possible effects of the *Telecommunications Act of 1996* and open network architecture on network security and the NS/EP community.

NSTAC's Legislative and Regulatory Group (LRG) Activities. At the February 28, 1996, NSTAC XVIII Executive Session, the President encouraged the NSTAC to consider the impact of the recently signed *Telecommunications Act of 1996* and other legislative, regulatory, and judicial actions on NS/EP services. To this end, the LRG assessed prevailing issues related to the act, including the NS/EP obligations of common carriers and new market entrants, and the effects of detariffing on TSP and GETS. In summer 1997, the LRG established a framework to analyze implementation of the act and emerging legislation and regulations affecting NS/EP telecommunications services. The group initiated research on the potential effects of issues such as interconnection, regulatory forbearance, and Federal infrastructure–sharing mandates on the provision of NS/EP services.

NSTAC's Operations Support Group (OSG) Activities. The OSG, formerly the NS/EP Group, evaluates the overall progress and direction of NS/EP operational activities. In FY97, the OSG assumed oversight of the former ad hoc NCC Vision Task Force, now called the NCC Vision Subgroup, and created the National Coordinating Mechanism (NCM) Subgroup.

- *NCC Vision Subgroup.* The NCC Vision Subgroup is examining how to alter the NCC mission, organization, and capabilities in light of ongoing changes in technology, industry composition, threats, and requirements. Working closely with NCS member organizations and NCC industry representatives, the subgroup validated the 10 original NCC chartered

functions from 1984 for the current operational environment. The subgroup also determined that it should integrate an electronic intrusion incident information processing function into the NCC's activities without changing the chartered functions. In August 1997, the subgroup held a tabletop exercise to explore the issues associated with establishing an electronic intrusion incident reporting capability. The subgroup is completing a proposed concept of operations for carrying out this incident reporting capability in the future NCC.

- *NCM Subgroup.* Throughout FY97, the NSTAC and the PCCIP promoted the concept of a national entity or process for coordinating critical infrastructure protection. In July 1997, the NCM Subgroup began to explore the need for and feasibility of creating a cross-infrastructure NCM. The subgroup plans to continue exploring the NCM concept and to prepare a recommendation for NSTAC XXI related to national infrastructure protection.

INFORMATION ASSURANCE ACTIVITIES

The Customer Service and Information Assurance Division supported the following network security and IA initiatives of the President's NSTAC and helped coordinate those initiatives with the related activities of the PCCIP, the interagency IPTF, and other public and private organizations. Division personnel assessed the natural, technological, and electronic intrusion threat to NS/EP telecommunications and managed the PSN modeling and simulation capability of the Network Design and Analysis Center (NDAC).

Network Security Information Exchange (NSIE) Activities. The joint meetings of the NSTAC and Government NSIEs remain a unique forum that allows industry and Government representatives to exchange information on network threats and vulnerabilities in a trusted environment. The NSIEs continued to examine the overall security of the PSN and its critical components. The NSIEs published white papers on system software integrity and local number portability to disseminate this information to a broader audience. To enhance information exchange capabilities between industry and Government members, the NSIEs also developed a secure World Wide Web server to distribute network security information to members over the Internet. In May 1997, the NSTAC NSIE increased the number of industry participants from 9 to 20 companies. At the same time, the Government NSIE membership expanded from 9 to 10.

Interagency IA Activities. In addition to working closely with industry, OMNCS staff also participated in a number of interagency activities related to network security and IA. The NCS designated a full-time representative to the IPTF, established by E.O. 13010, *Critical Infrastructure Protection*, as an interagency body responsible for examining physical and cyber threats to critical infrastructures. Another IA Branch representative serves as a liaison for information exchange between DISA's Automated Systems Security Incident Support Team, the OMNCS, and the NCC. Finally, representatives of the OMNCS participated in the National Security Telecommunications and Information Systems Security Committee, which examines high-level policy issues associated with national telecommunications and information systems security policy.

Modeling and Analysis. The NDAC supports information assurance activities and initiatives through telecommunications network modeling and analysis. A continuing objective is to maintain a current and valid data model of the U.S. PSN. IA personnel initiated several modeling and analysis tasks to adapt

current models to changes in PSN architectures and routing schemes arising from the introduction of new carriers, networks, and technologies such as Synchronous Optical Network (SONET) and Asynchronous Transfer Mode (ATM). These tasks included studying the impact of new telecommunications service providers on PSN structure and integrating SONET/ATM technologies into existing network performance analysis software. An additional study analyzed the interdependence of the Internet and the PSN with respect to potential vulnerabilities inherent in their relationship.

The OMNCS also conducted several analyses to determine critical network nodes and potential single points of failure in the PSN infrastructure, including an in-depth connectivity analysis of the Washington, DC, metropolitan area. A particular emphasis of these analyses is the interdependence and reliance of Government networks, such as those of the Defense Information Infrastructure, on commercial networks.

Exercise Activities. IA personnel played a prominent role in two exercise activities. The OMNCS co-sponsored the March 1997 Prosperity Game for Infrastructure Surety with DOE, the PCCIP, and Sandia National Laboratories. That game examined threats and vulnerabilities to critical infrastructures and identified possible solutions to infrastructure-specific and cross-infrastructure issues. OMNCS staff also worked closely with the OSG's NCC Vision Subgroup to develop its August 1997 tabletop exercise.

NCS INFORMATION ASSETS

In performing its management functions, the OMNCS coordinated and maintained NCS issuances, published *NS/EP Telecom News* and *FY96 National Communications System* report, and managed information resources.

NCS Issuance System. The NCS Issuance System is the authority regarding the internal organization, policy, procedures, practices, and management of the NCS. In September 1997, the Manager approved NCS Handbook 3-3-2, "Federal Registry of Automatic Link Establishment (ALE) Address Codes."

NS/EP Telecom News. NS/EP Telecom News, published bimonthly by the OMNCS, provides an NS/EP impact assessment for the NCS and NS/EP telecommunications community and helps the NCS member organizations keep abreast of legislative, regulatory, judicial, technological, and executive developments. The Customer Service Branch of N5 redesigned the layout and design of *NS/EP Telecom News*, making the publication much easier to read.

NCS Homepage. The NCS Homepage (http://www.ncs.gov) provides Internet clients and browsers a chance to learn about the NCS, its programs, and its association with the telecommunications industry. The homepage contains the NCS history, information about NCS programs and activities, and online versions of *NS/EP Telecom News* and other NCS publications.

REQUIREMENTS

In February 1997, the Customer Service and Information Assurance Division established the Requirements Staff to address the NCS requirements process. The Requirements Staff is responsible for identifying and validating NS/EP telecommunications requirements in an effort to ensure that the customer's needs are being addressed. The following paragraphs describe the accomplishments of the Requirements Staff during FY97.

Establishment of an OMNCS Requirements Forum. The Requirements Staff established an OMNCS Requirements Forum, consisting of representatives from each of the OMNCS divisions, to assist with the requirements process. This forum provides an ongoing process for identifying and discussing

requirements across the OMNCS and applying the maximum agency expertise and experience toward addressing identified customer needs. In addition, this forum serves to optimize the OMNCS customer interface and participation in the requirements process.

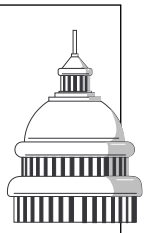
Development of an NCS Customer Services and Requirements Assessment Activities Report.
The Requirements Staff quickly concluded that a clear definition of who constitutes the NS/EP customer community was required before beginning the requirements identification process. After extensive analysis, the Requirements Forum determined that the organizations in Exhibit 3-8 comprise the NS/EP customer community.

The Requirements Staff, through the OMNCS Requirements Forum, developed an NCS Customer Services and Requirements Assessment Activities report. This report identifies NS/EP customers, the services the OMNCS provides to those customers, and the forums in which the OMNCS interfaces with those customers. For NCS member organizations, the OMNCS identified customers at the lowest organizational level possible. The report clearly identifies those activities in which the OMNCS regularly interfaces with the NS/EP customer community and provides insight into customer requirements. The Requirements Staff intends this report to be a living document and will update it as changes occur.

Development of an NCS Requirements Baseline. Capitalizing on previous requirements activities, the Requirements Staff conducted extensive research to gather customer requirements identified through earlier efforts. Documents analyzed included disaster after-action reports, training and exercise after-action reports, previous

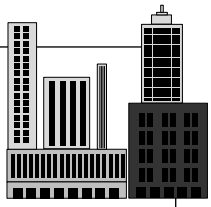
EXHIBIT 3-8
THE NATIONAL SECURITY AND EMERGENCY PREPAREDNESS CUSTOMER COMMUNITY

GOVERNMENT



- Executive Office of the President
- Executive Agent
- NCS member organizations
- Other Federal NS/EP organizations
- Other emergency response organizations (non-government)
- State, local, and tribal organizations
- International and treaty organizations

INDUSTRY



- NSTAC organizations
- Other telecommunications organizations
- Critical infrastructure industry organizations

requirements survey reports, policy mandates and directives, previous shortfalls analysis reports, and study/analysis/research findings and reports. In addition to the literature research effort, the Requirements Staff tasked the OMNCS representatives currently interfacing in regular forums with the NCS customer community to provide a listing of requirements identified through their interactions. These two efforts resulted in a Customer Requirements Baseline.

Shortfalls Assessment. The Requirements Forum initiated a shortfalls assessment against the Requirements Baseline. The forum used the following criteria to evaluate each requirement:

- Is the requirement within the NCS mandates?
- Are there current OMNCS programs/initiatives that address the requirement?
- Is there current or developing technology that addresses the requirement?
- Are there current NCS member organization programs/initiatives that address the requirement?

The forum forwarded those requirements identified with current solutions—either through existing programs/initiatives or technology applications—to the OMNCS Customer Services Branch for incorporation into the Customer Outreach Program. The Customer Services Branch will schedule appointments with NCS customer community representatives to share information on solutions to their requirements. The remaining requirements—those without known identifiable solutions—will become shortfalls. The Requirements Staff, via the Requirements Forum, will validate the shortfalls with the customers and then forward those shortfalls to the OMNCS Plans and Resources Division for incorporation into the planning process.

TECHNOLOGY AND STANDARDS

The Technology and Standards Division develops plans, procedures, and standards that promote the reliability, security, and interoperability of the NCS. The division emphasizes incorporating advanced, cost-effective technology. In fulfilling this mission, division personnel perform technical studies and analyses in the areas of emerging telecommunications technologies that have the potential to provide services for NS/EP communications. In concert with the technology activities, the OMNCS manages the Federal Telecommunications Standards Program. This program develops NS/EP-related standards through the Federal Telecommunications Standards Committee (FTSC) and through commercial, national, and international organizations.

The division maintains an NCS strategic architecture, based on the evolutionary communications services identified in the technology analyses and on interoperable commercial products predicted from industry standards programs. The architecture presents a practical technical framework of technologies and services that will satisfy the NS/EP needs. Requirements developed through the NCS planning process drive the architecture, which aids NCS member organizations in planning for communications capabilities.

The division groups emerging technologies and standards supporting NS/EP communications into three broad categories. The first category is wireless communications, which includes cellular, satellite, and radio systems. Intelligent network features, such as geographically independent directory numbers and priority treatment of NS/EP calls, are considered wireless communications so that these services can be effective end-to-end regardless of the number of diverse networks through which the call connects.

The second category includes electronic imagery, such as video teleconferencing and

facsimile. The third category is high-speed networks, which includes the technology that provides the Nation's networking infrastructure. Examples include SONET, ATM, the Internet, and the management and security of these networks.

Standards provide the means for manufacturers, carriers, and users to implement the new technology while preserving an "open system," meaning a system that allows interoperation with products and services of different vendors. For example, a communications network is an open system if public standards define the software and hardware interfaces so that other vendors can produce products that interoperate with the network.

There are three types of standards that OMNCS personnel help to develop so that NS/EP requirements are included: (1) Federal standards, including Federal Information Processing Standards (FIPS) and Federal Telecommunications Recommendations (FTR); (2) national standards, created by organizations accredited by ANSI; and (3) international standards developed by the International Telecommunication Union (ITU) and the International Organization for Standardization. The ITU does not develop standards, but develops recommendations, the content of which is the same as other organizations' standards.

In addition to active participation in standards development, OMNCS personnel hold leadership roles in many of the standards organizations. The OMNCS provides the heads of the U.S. delegations to the ITU Study Groups on Data Networks and Open System Communications, and on Characteristics of Telematic Systems.

The Chief of the NCS Technology and Standards Division chairs the FTSC. The FTSC, an interagency committee, holds monthly meetings to review proposals for standards and recommendations and to develop recommended positions that could be supported by Federal Government officials as members of national and international standards committees.

Number Portability. Number portability efforts focused on methods to permit an NS/EP subscriber to change local service providers, network services, and geographic locations, all without changing telephone numbers.

Cellular Radio. The TIA TR-45 Standards Committee developed standards for analog and digital cellular products. The OMNCS actively champions NS/EP requirements in the appropriate TIA Standards Committee, including the development of priority treatment services via the CPAS effort.

Licensed Personal Communications Services. The OMNCS, in support of NS/EP requirements, completed development of the Priority Access and Channel Assignment – Enhanced (PACA-E) Stage 1 description, within the appropriate standards bodies. The Stage 1 description describes the service from the user's perspective. Major efforts now focus on standardizing the Stage 2 service description. The Stage 2 description depicts the network architectures and message flows needed to implement the service.

International Mobile Telecommunications-2000 (IMT-2000). IMT-2000 is a draft international third-generation wireless communications standard that aims to unify the existing diverse wireless systems into a radio infrastructure capable of offering a wide range of services around the year 2000. The OMNCS is participating in U.S. working group meetings preparing for International Telecommunication Union-Radiocommunication Sector (ITU-R) and Telecommunication Standardization Sector (ITU-T) Study Group meetings.

Unlicensed PCS. The OMNCS tracks the development of products and services that will operate in the unlicensed PCS spectrum near

2 Gigahertz (GHz) to determine their suitability for supporting the NS/EP mission. When available, unlicensed PCS products will use nonstandardized, proprietary applications and solutions, raising NS/EP interoperability concerns.

Mobile Satellite System (MSS). The OMNCS anticipates that MSS technology will become an integral part of a wireless communications infrastructure capable of providing a broad range of communications services without restricting the user to a particular location or environment. The OMNCS observes the progress of the big LEO service providers as they seek to identify and resolve the security and interoperability concerns of potential NS/EP users. Furthermore, the OMNCS actively participates in the TIA committee that addresses satellite standards development.

Wireless Local Area Network (LAN). Wireless LANs may be useful as an adjunct or replacement to wired LANs where new cable installation is infeasible or requires rapid deployment or when requirements are temporary. The OMNCS is participating in the development of wireless LAN standards addressing interoperability and security concerns of potential NS/EP users.

Wide Area Mobile Data Networks. Users who seek the ability to transmit and receive data anytime and anywhere adopt wireless data technology. Wide area mobile data networks could provide nationwide mobile data service to NS/EP users. The OMNCS is monitoring the capabilities and applications of mobile data networks to determine their suitability to NS/EP missions.

Federal Wireless Users Forum (FWUF). The FWUF provides an opportunity for potential and current Government users of wireless services to obtain information on different types of services. The May 1997 FWUF Workshop, co-sponsored by the OMNCS and the National Security Agency, addressed MSS, Wide Area Data Services, and Commercial Dispatch Services. A total of 187 people representing Federal, State, and local governments; wireless equipment manufacturers; and service providers attended the workshop.

Multimedia (Video Teleconferencing). OMNCS personnel actively participate in the development of technical recommendations for multimedia by industry and international groups. The ITU-T made substantial progress in FY97 in developing and approving technical recommendations for transmitting multimedia traffic over various networks. Of particular interest to NS/EP are recommendations for multimedia traffic over the General Switched Telephone Network (H.324 and H.324/Mobile), Broadband Integrated Services Digital Networks (B-ISDN)/ATM Networks (H.310), Guaranteed-Bandwidth LANs (H.322), Non-Guaranteed-Bandwidth LANs (H.323), and translation of ISDN to B-ISDN (H.321).

Of the aforementioned recommendations, the one with the most interest to the NCS is Non-Guaranteed-Bandwidth LANs (H.323). The optional "gateway" defined by H.323 is the mechanism that will provide interoperability with other networks, thereby resulting in a global multimedia environment. Among the responsibilities for the gateway is translation of transmission formats, communications procedures, and both the audio and video signals. Two other important aspects of the gateway are responsibility for call setup/release and multipoint control units (MCU). The MCU provides conferencing capabilities for three or more participants.

Multimedia Performance Handbook. The OMNCS, in a cooperative effort with NTIA's Institute for Telecommunications Sciences, is developing a CD ROM-based multimedia performance handbook. This handbook is a tool used to provide performance information for

Government users to assist them in selecting multimedia communications systems that meet their defined requirements. The FY97 release focuses on desktop and conference room video teleconferencing applications. Future releases will include sections on application sharing, whiteboard capabilities, distance learning, and video surveillance.

Facsimile. Through OMNCS leadership and U.S. technical contributions, the ITU-T made numerous enhancements to facsimile recommendations. Included in the enhancements are new options for security and color. The Chief of the NCS Technology and Standards Division heads the U.S. delegation to the Study Group developing these recommendations.

During FY97, the ITU-T approved two methods for adding security to facsimile transmissions. The first method, based on public-key encryption technology developed by Rivest, Shamir, and Adleman, is commonly known as RSA. The second method is based on private-key encryption technology known as HKM/HFX or the Hawthorne Key Method/Hawthorne Encipherment Method. Both technologies provide services such as confidentiality, authentication, nonrepudiation with proof of delivery, and nonrepudiation with proof of origin. ITU-T Recommendation T.36 details the security options.

Another major accomplishment in the facsimile area was the addition of optional color and gray-scale capabilities for facsimile. The ITU-T approved the first in a series of recommendations, T.43, that will make it possible to interchange color and gray-scale facsimile image data.

The ITU-T is beginning work on standardizing facsimile transmissions over the Internet. Numerous implementations of "Internet Facsimile" exist, but as is the case when standards do not exist, these proprietary implementations do not provide interoperability.

Asynchronous Transfer Mode. The focus of FY97's studies and analysis efforts in the connection-oriented architectures centered on multimedia communications over ATM networks. In cooperation with DOC's National Institute of Standards and Technology, the division simulated and modeled investigations of ATM network congestion. Preliminary simulations indicate that as the density of data bursts approaches bandwidth saturation levels, transmission errors exponentially degrade the system's congestion recovery ability.

Network Security. The OMNCS has participated in the development of communications security standards in three forums. In the ITU, the Study Group on Data Networks and Open System Communications is working on standards for authentication and nonrepudiation. The ANSI- accredited committee on Services, Architecture, and Signaling (T1S1) wrote "A Security Framework Network Capability" standard. The ANSI committee on Network Management (T1M1) developed a standard to facilitate interoperability with security transformations at the application layer.

ATM Forum. The OMNCS participated in the development of industry specifications for voice telephony over ATM (VTOA) using adaptation layer 1 for narrowband services. These specifications are bringing ATM at the desktop closer to reality.

Exhibits 3-9 and 3-10 present highlights of significant accomplishments in the technology and standards area. Exhibit 3-9 lists technical notes (TN), technical information bulletins (TIB), and reports prepared by the Technology and Standards Division for member organizations and other Government agencies. Exhibit 3-10 lists FIPSs and FTRs developed by the FTSC. Exhibit 3-11 summarizes significant NS/EP-related standards activities not described in the narrative.

EXHIBIT 3-9
TECHNICAL NOTES, BULLETINS, AND REPORTS

TITLE	DESCRIPTION
The Effect of Solar Flares and Magnetic Storms on Telecommunications Service, TN Vol. 4, No. 1, February, 1997	Examines the potential natural and technological threats to NS/EP telecommunications
PCS and the NS/EP User, TN Vol. 4, No. 2, July 1997	Describes personal communications technology and its importance to the NS/EP user community
Electromagnetic Fields: Controversies - Myths - Policies, TN Vol. 4, No. 3, July 1997	Examines the potential physiological threat of electromagnetic fields
Internet Protocol Next Generation (IPng) also known as IPv6, TN Vol. 4, No. 4, August 1997	Discusses the IPv6 enhanced features from a user's perspective. Provides means of insuring Internet Protocol Version 4 and IPv6 compatibility in ATM environments
Global Mobile Personal Communications Services, TN Vol. 4, No. 4, August 1997	Provides information on the extension of mobile/portable/personal communications services using satellite connectivity
Internet Protocol, Next Generation (IPv6), TIB 97-1, January 1997	Tutorial on IPv6 for information managers. Provides most important characteristics of the protocol.
IPv6 Enhancements and Transition Issues, TIB 97-2, June 1997	Illustrates the potential benefits of the enhanced features of IPv6
Project 25, The TIA-Published 102-Series Documents, May 1997	A CD ROM-based report that contains 10 documents published by the TIA regarding narrowband digital land mobile radio

EXHIBIT 3-10
FEDERAL INFORMATION PROCESSING STANDARDS AND FEDERAL TELECOMMUNICATIONS RECOMMENDATIONS

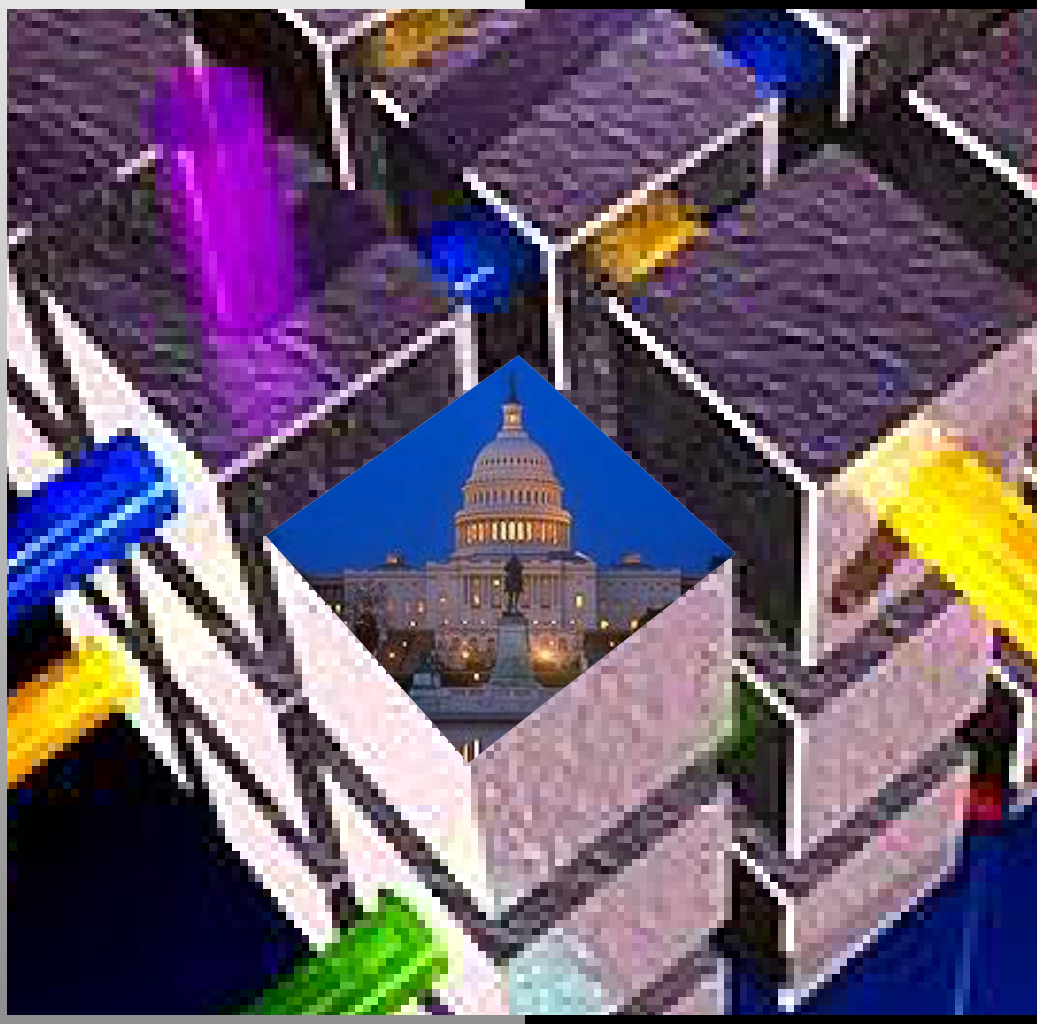
TITLE	DATE	NUMBER
Land Mobile Radio, Project 25 Radio Equipment	April 16, 1997	FTR 1024A-1997
Group 3 Facsimile Apparatus for Document Transmission in the General Switched Telephone Network (ANSI/TIA/EIA 465-A-1995)	August 11, 1997	FTR 1062-1997
Procedures for Document Facsimile Transmission (ANSI/TIA/EIA-466- A-1996)	August 11, 1997	FTR 1063-1997
Federal Building Telecommunications Wiring Standards (ANSI/TIA/EIA 568-A-1995)	August 11, 1997	FTR 1090-1997

EXHIBIT 3-11
OTHER SIGNIFICANT NS/EP TELECOMMUNICATIONS ACTIVITIES NOT COVERED IN NARRATIVES

DESCRIPTION	COMMITTEE
Standard that incorporates assignment of higher priority to NS/EP call set-up messages in signaling system 7; referred to as HPC for NS/EP	ANSI Committee on Telecommunications (T1)
Methods and procedures within carrier service centers as a means of reducing human-error-induced outages. Reporting of communications outages affecting at least 30,000 lines for at least 30 minutes	Alliance for Telecommunications Industry Solutions, Network Reliability Steering Committee
Electrical protection of telephone central offices and broadband facilities	ANSI Committee on Interfaces, Power, and Protection for Networks (T1E1)
Ways to facilitate transmission of VTOA and Government addressing schemes	ANSI Committee on Services, Architectures, and Signaling (T1S1)
Network synchronization and interfaces for B-ISDN	ANSI Committee on Digital Hierarchy and Synchronization (T1X1)
Industry position developed on use of 2.165–2.200 GHz frequency band between MSS and microwave fixed service developed by the TIA	ANSI TR-11.1
Recommendations to the mobile satellite community on satellite system features required by the search and rescue community	DOT Interagency Committee on Search and Rescue

IV.

NS/EP TELECOMMUNICATIONS SUPPORT AND ACTIVITIES OF NCS MEMBER ORGANIZATIONS



DEPARTMENT OF STATE (DOS)

NS/EP TELECOMMUNICATIONS MISSION

The Department's mission is to support the President in formulating and executing U.S. foreign policy. This mission determines its telecommunications support requirements. Essential DOS telecommunications functions include the following:

- Implementing and managing a reliable, secure, responsive, survivable, cost-effective, global telecommunications network
- Providing communications support (including data, voice, imagery, facsimile, and video) for all U.S. Government agencies at U.S. overseas diplomatic facilities
- Maintaining a rapid response capability via alternate means that ensure the continuous availability of effective communications links under all conditions

TELECOMMUNICATIONS STAFF ORGANIZATION

DOS manages its telecommunications through the Office of the Deputy Assistant Secretary for Information Management and the Diplomatic Telecommunications Service (DTS) Program Office.

DOS SIGNIFICANT ACCOMPLISHMENTS

Communications Security	The Department maintained a vigorous computer antivirus program at domestic bureaus and overseas posts. It installed and tested the Secure Terminal Equipment, using Integrated Services Digital Network. The Department continued to assist the U.S./North Atlantic Treaty Organization operation in Bosnia by providing a secure voice network. The Department also identified and evaluated commercial-off-the-shelf printer technology as an alternative to expensive TEMPEST printers used for classified processing, which resulted in considerable monetary savings.
Counter-Narcotics Program	The Department provided imagery, automated data processing, voice, and high-speed data services to the Department of Defense and Counter-Narcotics Command Management System.
Voice Program	The Department provided voice services to the foreign affairs community through the DTS network of satellite, fiber, and leased-line transmission media.
Modernization Efforts	Department personnel began implementation of "A Logical Modernization Approach," a standards-based information technology infrastructure, at diplomatic posts worldwide. Personnel inventoried and assessed departmentwide Year 2000 (Y2K) system compliance status and requirements, established a compliant mainframe test environment, procured automated Y2K software tools, and conducted pilot upgrade and renovation projects. In addition, the Department continued to upgrade mainframe systems in support of mission-critical systems and the Department's strategic requirements. It also upgraded telecommunications hardware to T3 speed to allow remote vaulting between the Main State and Beltsville, Maryland, Computer Operations Centers for backup contingency and disaster recovery, and modernized communications control facilities at Main State and the Beltsville DTS Network Relay Center.
Radio Systems	Department personnel installed and maintained wireless high frequency, very high frequency/ultra high frequency, tactical satellite, and international maritime satellite domestic and overseas communications systems. The Department also managed and maintained the Washington Area Radio Network.
Support for the Secretary of State	Department personnel established secure voice networks between the Department and a number of foreign governments for the Secretary of State and Deputy Secretary of State. It provided and supported Protective Radio Packages for domestic and overseas protection of the Secretary of State and designated diplomats. In addition, it supported the Secretary of State when traveling using Transportable Telephone Systems.
Telephone Systems	The Department networked five private branch exchanges (PBX) to support the Denver Summit of Eight. It installed a PBX and a 100 Megabits per second backbone to support the Agency for International Development's telecommunications requirements in the new Ronald Reagan Federal Building. The Department also installed new telephone PBXs in nine overseas embassies.
Training	The Department expanded and improved the training of communications personnel at the Department's Technical Training Center in Warrenton, Virginia. It strengthened training of Information Management (IM) personnel at the Department's School of Applied Information Technology in Arlington, Virginia, focusing on the Department's new generation of local area network based systems. The school is also developing a comprehensive career-long training plan for IM professionals.

DEPARTMENT OF THE TREASURY (TREAS)

NS/EP TELECOMMUNICATIONS MISSION

The essential functions of the TREAS requiring NS/EP telecommunications are summarized as follows:

- Protecting the President, Vice President, their families, and other dignitaries
- Managing the economic activities of the United States, including all monetary, credit, and financial systems
- Administering the laws pertaining to customs, taxes, alcohol, tobacco, and firearms
- Serving as the principal economic advisor to the President
- Accomplishing international economic and monetary control as it pertains to the well-being of the Nation
- Manufacturing currency, coins, and stamps, and establishing methods of exchange

CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

The continuing development of a departmentwide telecommunications strategy and the implementation and evolution of the Treasury Communications System (TCS) are ongoing activities that will significantly enhance the Department's NS/EP posture. TREAS actively participates in the Cellular Priority Access Service working group discussions and planning, the Federal Telecommunications Standards Committee through the Office of Corporate Systems Management (CSM), and the Shared Resources High Frequency Interoperability Working Group through the U.S. Customs Service and CSM.

The Department's leadership on the Government Information Technology Service (GITS) Board positions TREAS as a key stakeholder in future National Communications System (NCS) NS/EP initiatives.

TELECOMMUNICATIONS STAFF ORGANIZATION

TREAS manages telecommunications through the Office of the Deputy Assistant Secretary for Information Systems and Chief Information Officer (CIO), under the Assistant Secretary of the Treasury for Management. Under this office, the Director, CSM, oversees NCS liaison and NS/EP support activities. The Director, CSM, also provides management guidance and financial oversight to improve the Department's use of telecommunications systems. CSM ensures, through the exercise of program management authority, that TREAS bureaus have access to a cost-effective, technologically sound telecommunications infrastructure so that bureaus may carry out their missions.

The TREAS CIO also serves as the GITS Board vice chairperson. In this capacity, the TREAS CIO is responsible for developing information technology applications to improve the Federal Government performance within the National Performance Review framework. The GITS Board affords significant opportunities to examine and enhance NS/EP, with emphasis on law enforcement and security initiatives and programs.

TREASURY SIGNIFICANT ACCOMPLISHMENTS

Continued to support the Telecommunications Service Priority (TSP) and Government Emergency Telecommunications Service (GETS) programs through TREAS membership on the TSP Oversight Committee and the GETS User Council.

Continued implementation of the TCS as TREAS' enterprise network and foundation for corporate information services.

Began implementation of the Information Technology Innovation Fund Proposal to pilot Governmentwide electronic messaging services.

DEPARTMENT OF DEFENSE (DOD)

NS/EP TELECOMMUNICATIONS MISSION

Under the provisions of Executive Order (E.O.) 12472, *Assignment of National Security and Emergency Preparedness Telecommunications Functions*, April 3, 1984, DOD maintains the following NS/EP telecommunications responsibilities:

- Provides, operates, and maintains the telecommunications services and facilities to support the National Command Authorities and executes the responsibilities assigned by E.O. 12333, *United States Intelligence Activities*, December 4, 1981
- Ensures that the Director, National Security Agency, provides the technical support necessary to develop and maintain adequate plans for the security and protection of NS/EP telecommunications
- Executes the functions listed in Section 3(I) of E.O. 12472

TELECOMMUNICATIONS STAFF ORGANIZATION

DOD includes the Office of the Secretary of Defense (OSD), the military departments and the services within them, the unified and specified commands, and other agencies established to meet specific U.S. military requirements. The Defense Information Systems Agency (DISA) is a separate DOD agency under the direction, authority, and control of the Assistant Secretary of Defense (ASD) for Command, Control, Communications and Intelligence (C3I).

The principal staff positions concerned with NS/EP telecommunications in the OSD are the Under Secretary of Defense for Policy and the ASD (C3I). Command, control, and communications systems are the concern of a Joint Staff directorate.

DOD SIGNIFICANT ACCOMPLISHMENTS

Defense Information System Network (DISN)	DISA continues to make significant advances in building an affordable and fully integrated, interoperable, protected, and positively controlled global information transport utility. By the close of calendar year 1997, DISA will award five contracts: two for the continental United States, one for Hawaii, and two for global DISN services. One additional acquisition for the Pacific Theater will have been released as a Request for Proposals. Additional acquisitions for the European Theater and deployed forces are being prepared for release during the next calendar year. DISN implementation and transition, well under way, are creating an evolving, worldwide, high-bandwidth, common operating environment (COE) in support of the "warfighter," disaster recovery operations, and peacekeeping missions.
	The DISN COE will support secure and nonsecure voice, data, video teleconferencing, broadcast video, imagery, messaging, and directory services. Worldwide DISN implementation will help to provide the infrastructure required to connect DOD locations around the world with deployed forces and with National Communications System disaster recovery teams wherever and whenever needed.
Defense Message System (DMS)	DISA completed formal initial operational testing of the DMS on August 29, 1997, and provided information to support the Major Automated Information System Review Council Milestone III decision in September. Service and agency implementation activities are aggressive to ensure closure of the Automated Digital Network by December 1999. The intelligence community (IC) has been equally active in addressing implementation within the IC organizations. Currently, the agency is expanding the regional nodes, and classified and tactical pilots are proceeding.
	The Joint Staff led a three-star review of DMS requirements and endorsed DOD's course into the next century. Additionally, this review outlined recommendations for evolution post-Year 2000. A number of pilots and limited rate deployment sites and regional nodes are operational; and the Local Control Center, Regional Control Center, and Global Operations and Security Center structure is operating on a 24-hours-a-day, 7-days-a-week schedule. The regional nodes are being expanded and classified, and tactical pilots are under way.
	On June 2, 1997, DISA announced the first list of fully tested DMS-compliant products; DISA's Joint Interoperability Test Command (JITC) registered 13 commercial products. JITC is now testing products from Track II vendors (vendors not on the Lockheed Martin contract).
Information Assurance (IA)	The ASD (C3I), working with the Joint Staff, established policy for the connection of classified networks to unclassified networks in its Secret and Below Initiative (SABI). These interconnections create a shared risk environment for the Department and a SABI-established mandatory policy for consistent management of this risk.
	Working through its IA Group, C3I and the community developed a common terminology for Computer Emergency Response Team reporting. Efforts were established to make IA a readiness issue for the Department as well as to formalize and institutionalize "red teaming." Additionally, IA readiness was the focus of a major exercise during the year. This exercise identified that broad improvement of IA readiness and operational procedures is required.
	Significant progress was made toward standardization of the Department's Public Key Infrastructure with the issuance of department-level management reform guidance and policy from both the Deputy Secretary of Defense and the ASD (C3I). Finally, the Secretary of Defense has tasked efforts to improve the linkage of IA policy to the Program, Planning, and Budgeting System and the value the Department places on IA.

DEPARTMENT OF JUSTICE (DOJ)

NS/EP TELECOMMUNICATIONS MISSION

DOJ provides telecommunications facilities and services in support of DOJ NS/EP essential functions. The Department centralizes its NS/EP responsibilities in the Justice Management Division for all Department entities except the Federal Bureau of Investigation (FBI) and the Drug Enforcement Administration (DEA). These bureaus maintain separate secure network facilities.

TELECOMMUNICATIONS STAFF ORGANIZATION

The Director, Telecommunications Services Staff (TSS), under the Deputy Assistant Attorney General for Information Resource Management, operates and manages DOJ's message processing system and the Telecommunications Service Center. TSS also provides networking and technical assistance to DOJ's offices, boards, and divisions. Secure message transmission is offered through separate facilities.

The Information Security Policy Group (ISPG) Security and Emergency Planning Staff is responsible for security oversight of all national security communications systems within the Department. The ISPG is the central office of record for all national security information key material for the Department. The DEA and FBI administer their own communications security programs.

CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

The following current/ongoing DOJ activities support NS/EP objectives:

- DOJ continues its active participation in the National Communications System (NCS) activities of the Committee of Principals/Council of Representatives, attends the President's National Security Telecommunications Advisory Committee meetings, and participates in NCS NS/EP telecommunications support, activities, and programs
- DOJ continues its vigorous support of NCS information infrastructure activities; Government NS/EP telecommunications activities; NS/EP planning, program, and contingency programs; and emerging NS/EP telecommunications programs. Additionally, the Department actively participates in the Government Emergency Telecommunication Service (GETS) Program, the Federal Telecommunications Standards Committee (FTSC), the Telecommunications Service Priority System, the Shared Resources (SHARES) High Frequency (HF) Radio Program, and the Communications Resource Information Sharing Initiative
- DOJ continues its active support of the FTSC's HF Radio Subcommittee (HFRS); chairs the HFRS Statement of Requirement Working Group; and participates in the Fiber Optics Subcommittee and the Land Mobile Radio Subcommittee, and their associated working groups.

PENDING ISSUES

DOJ continues monitoring GETS for its impact on the Department.

DOJ COMMUNICATION SYSTEMS ASSETS/SERVICES

- Automatic Data Processing Teleprocessing System
- DEA Nationwide Very High Frequency Radio System
- DEA Secure Voice System
- Immigration and Naturalization Service (INS) Tactical Radio System
- INS Integrated Network Communications
  - Justice Network
  - Justice Telecommunications Service
  - National Crime Information Center
  - U.S. Marshals Service Communications System
  - U.S. Marshals Service Special Operations Group

DOJ SIGNIFICANT ACCOMPLISHMENTS

DOJ provided one full-time employee to meet the staffing support requirement for the Office of the Manager, NCS, as required by Executive Order 12472.

TSS provided operational telecommunications services by managing, engineering, and operating the DOJ nationwide data telecommunications systems serving all DOJ offices except the FBI.

DOJ and its bureaus continue to actively participate in the SHARES HF Radio Program. HF radio stations from the TSS, DEA, FBI, and INS participated in passing NS/EP traffic during SHARES exercises.

DOJ participated in the National Coordinating Center for Telecommunications Vision Implementation Team process. A senior staff member serves on each team.

DEPARTMENT OF THE INTERIOR (DOI)

NS/EP TELECOMMUNICATIONS MISSION

The Department's mission is to efficiently manage the Nation's natural resources. DOI and the United States Department of Agriculture (USDA) co-manage the National Interagency Fire Center in Boise, Idaho. The center is the Department's primary emergency support facility for forest fire suppression. From multiple radio caches strategically located throughout the United States, emergency mobile radio systems are available for fire fighting and other national emergencies.

CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

DOI implemented a departmental, nationwide communications network (DOINET) to support departmentwide administrative systems, bureau programs, and other agency needs. The network's architecture is based on cell switching technology and consists of redundant switches and circuitry for high reliability. The Alaska Regional Telecommunications Network, based on DOINET technologies, provides services to several Federal agencies in Alaska and uses DOINET to connect to the continental United States. These networks provide economical Internet and shared information processing system access for the Department's bureaus.

Shared use of these networks lowered costs, improved performance, and increased the availability of data, video, and voice services. In addition, DOI and USDA are working together to improve operations through sharing telecommunications services, particularly where facilities are collocated.

DOI initiated a procurement for the acquisition of narrowband radios in response to the National Telecommunications and Information Administration mandated 10-year transition to narrowband land mobile radio operations. Contract award in fiscal year 1998 will make low-cost standardized digital radios available throughout DOI. DOI modified radio specifications to meet USDA requirements. Other Federal agencies will also be able to use the contract to buy narrowband radio equipment and systems.

Key officials, emergency coordinators, and telecommunications managers throughout the Department now have Government Emergency Telecommunications Service (GETS) cards for long distance emergency telephone communications. User policies and instructions accompanied distribution of GETS cards.

California Governor's Office of Emergency Services/Photograph by Robert A. Eplett

DOI helps to manage the Nation's natural resources by combating forest fires.

UNITED STATES DEPARTMENT OF AGRICULTURE (USDA)

NS/EP TELECOMMUNICATIONS MISSION

USDA has several essential functions requiring NS/EP telecommunications. These functions include providing for the domestic distribution of seed, livestock, poultry feed, fertilizer, and farm equipment. They also include managing lands and facilities use under USDA jurisdiction and directing the rural fire control activities for national forests in coordination with local authorities. USDA also inspects livestock, poultry, and other products to ensure food safety and wholesomeness.

CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

USDA, in response to the National Telecommunications and Information Administration mandate to convert very high frequency land mobile radios to narrowband operation, partnered with the Department of the Interior to investigate sharing systems and facilities. This effort includes the use of the USDA Forest Service radio laboratory for joint compliance and acceptance testing of proposed narrowband radios.

USDA, through the Department of State (DOS), is negotiating an agreement with Mexico to protect radio frequencies from interference. USDA uses these frequencies in support of fire suppression and response to natural disasters along the United States-Mexico border. This agreement, which will further cooperation between the United States and Mexico in emergency support, is similar to one in effect with Canada.

USDA also—

- Continues support for the Committee of Principals/Council of Representatives and the President's National Security Telecommunications Advisory Committee
- Participates in the Shared Resources High Frequency Radio Program, Communications Resource Information Sharing Initiative, Federal Telecommunications Standards Committee, and Federal Wireless Users Forum
- Supports the DOS Diplomatic Telecommunications Service
- Participates in and represents the USDA on Cellular Priority Access Service, Federal Law Enforcement Wireless Users Group, and other working groups as necessary
- Maintains Secure Telephone Units-Third Generation throughout the Department supporting NS/EP functions

USDA SIGNIFICANT ACCOMPLISHMENTS

During fiscal year 1997, USDA Disaster Management and Coordination Staff and other key NS/EP personnel received Government Emergency Telecommunications Service (GETS) personal identification number cards. USDA also provided GETS usage policy and incorporated GETS awareness into training for emergency coordinators.

USDA requested Telecommunications Service Priority for snowpack telemetry circuits in Idaho, Oregon, and Utah. The snowpack telemetry network provides USDA offices with daily or more frequent information on streamflow potential. The information is especially valuable during periods of flood or drought. The information collected by the telemetry system and snow surveyors translates into monthly water supply forecasts issued from January to June in cooperation with the National Weather Service.

DEPARTMENT OF COMMERCE (DOC)

NS/EP TELECOMMUNICATIONS MISSION

The DOC mission includes support for domestic and international trade, commodities, invention, economic analysis of census and industry, and technology-related patents and standards. Its technology role includes providing the tools for monitoring and analyzing environmental weather, oceanic, and geophysical data used for reporting critical early warnings of emergencies to prevent loss of human lives and damage to property. These missions are ongoing and enduring to support national-level NS/EP activities in all-hazards emergencies, including stress periods during peacetime, crisis, and mobilization, as well as late trans-attack and early post-attack (LTA/EPA).

DOC missions are critical to the economic strength of the national infrastructure. They include 15 activities supporting NS/EP functions from Executive Orders 12656 and 12472 that require implementing plans during peacetime and activating plans during crisis/mobilization and LTA/EPA. The *Federal Response Plan* identifies DOC as a major supporter of seven emergency support functions for reconstitution and support of State and local identified critical functions.

CURRENT NS/EP TELECOMMUNICATIONS ACTIVITIES

- The International Trade Administration (ITA) continued to plan for major upgrades to its data communications services provided by the Department of State (DOS) Diplomatic Telecommunications Service (DTS) network to support international trade.
- The Economics and Statistics Administration and the Census Bureau continued to plan their use of frame relay service to enhance information collection and delivery using automated platforms connected to national networks for delivery to regional and central processing facilities.
- The National Oceanic and Atmospheric Administration (NOAA) and the National Weather Service (NWS) initiated enhanced services that support weather data collection and distribution over the Internet to improve access to field observation offices and processing centers for public warnings and forecasts. DOC implemented several pilot systems to upgrade telecommunications capabilities to support deployment of advanced weather interactive processing systems.
- NOAA and NWS continued to deploy new weather Doppler radar systems as an effective weather information gathering platform with the wind profiler program.
- DOC headquarters is developing a pilot platform for automating administration information systems to allow Internet and intranet access using web browser technology.

PENDING ISSUES

To enhance services, DOC expanded its use of National Comunications System (NCS)-supported NS/EP programs, such as Telecommunications Service Priority, Government Emergency Telecommunications Service, Shared Resources High Frequency Radio Program, Communications Resource Information Sharing, and the Emergency Response Link. DOC continues to provide leadership resources for Government agencies implementing wireless communications technology with the new Cellular Priority Access Service. DOC is continuing to expand use of these services as more regions and locations gain access to them. The NCS strategic plan expands agency involvement in more responsive, proactive roles. Cost and human resource factors continue to be key drivers for agency participation. Early program involvement by the agencies is essential to program success in the Governmentwide arena.

DOC SIGNIFICANT ACCOMPLISHMENTS

ITA added upgraded communication links within the DOS DTS network for processing trade information used in domestic and international commerce.

The NOAA added upgraded, high-speed 10 Megabits per second (Mbps) services to enhance the transfer of information between major data centers, implementing services for the National Information Infrastructure and gateways to the Internet to support electronic commerce.

NOAA added additional frame relay services to enhance connectivity for remote computing and to support regional commerce activities.

NOAA and the National Environmental Satellite Data and Information Service (NESDIS) expanded management support for the search and rescue satellite (SARSAT) data network to lead the Western Hemisphere effort for SARSAT information gathering and distribution.

NOAA/NESDIS completed testing of the new Geostationary Operational Environmental Satellite for gathering Earth image and sensory data used in warnings and forecasts to domestic and international locations.

DOC headquarters again expanded its automated telecommunications management system to enhance the management of communications services and expanded the DOC network performance monitoring capability.

DOC headquarters expanded its 10 Mbps network services to enhance information system usage and made new upgrades to the Internet access of the DOC Home Page, resulting in wider availability of data products. Access was added to include new bureaus' information services, i.e., NWS data, Cooperative Institute for Meteorological Satellite Studies data, Federal Registry, *Commerce Business Daily*, and the all-new Statistical Database of the National Trade Data Base and DOC FedWorld site.

DEPARTMENT OF HEALTH AND HUMAN SERVICES (DHHS)

DHHS enhanced its disaster response communications capability by supplying 21 Disaster Medical Assistance Teams (DMAT) with ultra high frequency (UHF) secure voice radio systems. The Office of Emergency Preparedness added two portable repeaters to support DMAT communications in disaster areas. DHHS equipped three National Medical Response Teams (response to terrorist acts employing weapons of mass destruction) with UHF secure voice radio systems with specialized equipment to permit communications from within level-A hazardous materials suits.

DHHS personnel used NS/EP telecommunications systems during the Public Health Service (PHS) support to the Summit of Eight in Denver, Colorado, and most recently, to the PHS victim identification mission in support of the National Transportation Safety Board at the 747 crash site in Guam.

California Governor's Office of Emergency Services/Photograph by Robert A. Eplett

DHHS equips DMATs with specialized telecommunications systems.

DEPARTMENT OF TRANSPORTATION (DOT)

CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

DOT and its 10 operating administrations drafted a strategic plan in alignment with administration priorities and Congressional mandates. A cornerstone of this plan is a DOT pledge to remain vigilant in matters of public safety, national security, and emergency response.

DOT's NS/EP telecommunications activities align with this strategy and continue at a high level. The Department demonstrates its commitment to enhanced NS/EP telecommunications through participation in the National Communications System (NCS) Committee of Principals, Council of Representatives, and through strong participation in the President's National Security Telecommunications Advisory Committee and NCS initiatives related to information assurance. A DOT member serves on the Telecommunications Service Priority Oversight Committee.

The United States Coast Guard (USCG), Federal Aviation Administration (FAA), Federal Highway Administration (FHWA), and Office of Emergency Transportation (OET) participated in the National Emergency Communications Network, a Federal Emergency Management Agency (FEMA) sponsored initiative to coordinate all Federal agencies' primary high frequency (HF) radio networks during emergencies. The same agencies were heavily supportive of the Shared Resources (SHARES) HF Radio Program throughout the year and have been key in developing the Caribbean Emergency Communications Plan and the recently completed memorandum of agreement.

The Department demonstrated its commitment to emergency preparedness in the extensive training and exercising of its NS/EP telecommunications assets. For example—

- OET designed and ran on-site regional training sessions in all 10 DOT regions. Working with the Regional Emergency Transportation Coordinators and the Regional Emergency Transportation Representatives, OET and its supporting contractor factored NS/EP communications needs into training. Additionally, many DOT employees attended NCS Emergency Support Function (ESF)-2 training cosponsored by FEMA throughout the United States.

- The Coast Guard extensively deployed its Transportable Communications Centers (TCC) for training and exercises. Exercise deployments were made to Alaska, the Southwest border area, and South Korea for Ulchi Focus Lens. Numerous regional training deployments were made along the east coast and to Hawaii.

- FHWA provided training and assistance to regional and State personnel at conferences in Virginia, Iowa, Pennsylvania, and Arkansas throughout the year. Topics included satellite communications and HF voice radio and data procedures and the emergency release funding process.

- FAA Communications Support Teams (CST) provide command and control communications for the FAA during emergency operations. Teams are composed of emergency response personnel equipped with fly-away equipment kits that include radio, cellular, satellite, and graphics equipment. CSTs recently deployed to San Juan, Puerto Rico, and St. Thomas and St. Croix, U.S. Virgin Islands; and jointly exercised with the NCS SHARES network.

- The Department maintains 1,135 Government Emergency Telecommunications Service (GETS) cards. DOT agencies distributed GETS cards to 440 people through fiscal year 1997 (FY97).

- The FAA Telecommunications Satellite (FAATSAT) system, which is in the testing stage, should be ready for operation in fiscal year 1998. This system augments the FAA's land-based Leased Interfacility National Air Space Communications System in the fourth year of its contract. FAATSAT provides connectivity, especially in remote areas where terrestrial communications are cost prohibitive.

- The Research and Special Programs Administration (RSPA) is one of four agencies with access to the prototype of NCS Emergency Response Link pilot-controlled Web site for sharing emergency operations information.

DOT SIGNIFICANT ACCOMPLISHMENTS

The Department participated in numerous special events during FY97. The OET of the RSPA and other DOT agencies participated extensively in the Presidential Inauguration, the Oklahoma City Federal Building bombing trial, and the Denver Summit of Eight. In each case, backup NS/EP communications were vital.

DOT representatives from four regions, OET, FHWA, and other DOT agencies participated in the FEMA-sponsored Catastrophic-97 seminar, a catastrophic earthquake scenario on the New Madrid Fault in south central United States. This seminar demonstrated the need for reliable and redundant communications in support of recovery operations. From this event, DOT learned significant lessons for enhancing disaster recovery.

The FAA completed a $500,000 renovation of its operations and communications centers. The new center combines communications and operations into a single center under the supervision of the Director of Emergency Operations. The center enables communications and operations duty officers to rapidly exchange time-critical information that may involve national security issues. The upgrade also includes a high-tech facility that serves as the focal point for FAA's International Aviation Crisis Response Working Group.

USCG procured $2.4 million in very high frequency radios to support emergency response operations and all other Coast Guard missions. The radios can be used in an encrypted mode, are interoperable with other response agencies' communications systems, and are Project 25 compliant. The Coast Guard and Red Cross are developing a statement of understanding for the use of TCCs to support ESFs-1, 6, and 10 during execution of the *Federal Response Plan.*

The FHWA Emergency Planning Liaison Group established emergency communications system procedures governing all field activities to ensure that reliable communications are available for emergency response activities. Satellite and HF radio voice and data components compose the FHWA Emergency Communication System. The group also defined alert bulletin procedures to enhance response to disasters.

DEPARTMENT OF ENERGY (DOE)

CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

Currently, DOE's Pittsburgh Naval Reactors Office Bettis site maintains a Bridge Telephone System used during emergencies and drills. By the end of calendar year 1997, Bettis plans to replace this bridge with a full-duplex system that will provide clear, simultaneous two-way communication.

DOE's Lawrence Livermore National Laboratory awarded a contract to Motorola Communications in 1996 for a SmartZone™ Astro™ narrowband digital trunked system with six sites. The new system will ensure compliance with Federal regulations requiring reduced bandwidth and increased efficiency. It also will provide increased radio coverage and greater spectrum management capabilities.

DOE's Savannah River Operations Office awarded a contract for a radio trunking system replacing obsolete radio equipment, increasing radio coverage, and providing greater spectrum management and control to emergency preparedness planners.

Bonneville Power Administration (BPA) will participate in a major terrorism exercise scheduled for May-June 1998, sponsored by DOE's Office of Emergency Management and the Hammer Training and Education Center in Richland, Washington. This exercise will involve the Pacific Northwest and Louisiana.

DOE SIGNIFICANT ACCOMPLISHMENTS

DOE's Idaho National Engineering Laboratory implemented an Asynchronous Transfer Mode data communications backbone on its data communications network, greatly increasing current bandwidth and providing redundant routing.

The fiber backbone from DOE's Richland site to the outer Hanford site areas was expanded recently with a robust, redundant looped fiber system, ensuring critical telecommunications users of 100 percent service availability during both routine operations and emergency situations.

DOE's Oakland Operations Office entered into an Interagency Partnership Agreement with the Food and Drug Administration (FDA) for shared satellite downlink services. FDA will provide Oakland with shared access to commercial satellite television broadcast service.

DOE's Savannah River Site Diverse Alternative Routing initiative was implemented providing true alternate routing of off site telephone trunk cables servicing incoming and outgoing commercial trunks, private line services, Federal Telecommunications System 2000 network, and other services.

DOE's BPA Munro Control Center in Spokane, Washington, became fully operational in January 1997. This center is a full backup to the existing Dittmer Control Center in Vancouver, Washington. The two control centers provide real-time dispatching and control to Bonneville's electric power transmission grid.

DEPARTMENT OF VETERANS AFFAIRS (VA)

CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

VA WIDE-AREA TELECOMMUNICATIONS NETWORK

VA has made significant improvements to the Integrated Data Communications Utility (IDCU), which has been operational since 1991. The IDCU provides network capability to all VA facilities in the continental United States, Puerto Rico, Alaska, Hawaii, and the Philippines. Individual VA local area networks connect to the IDCU by means of routers. VA medical centers are installing and using frame relay high-speed communications for telemedicine applications and other traffic related to medical center operations. VA benefit operations are using frame relay to send veteran claims check information to the Austin Automation Center for Processing.

EMERGENCY SATELLITE TELEPHONES ADDED TO VA NS/EP CAPABILITIES

The Emergency Management Strategic Health Group, located at the VA Medical Center in Martinsburg, West Virginia, purchased five American Mobile Satellite Corporation SkyCell portable satellite telephone terminals. These terminals are available for deployment to crisis or disaster areas whenever needed. VA tested this new capability, and it proved very useful in establishing emergency communications during the 1996 Olympic Games in Atlanta, Georgia.

VA AMATEUR RADIO SERVICES AVAILABLE DURING EMERGENCY SITUATIONS

VA authorizes its medical centers to use on-campus amateur radio equipment for therapeutic purposes in veterans' health care programs. VA also authorizes the use of the amateur radio facilities during emergency situations. Amateur radio communication can supplement other emergency radio facilities during crises and emergencies. VA amateur radio operators conduct annual emergency exercises to enhance and retain their operational capabilities.

SECURE TELEPHONES AVAILABLE FOR VA NS/EP

VA placed 83 Secure Telephone Units–Third Generation (STU-III) at strategic VA locations in support of VA's emergency support functions. These units provide a capability to pass secure information within VA and between VA and other Federal organizations involved in NS/EP operations. In addition to normal secure telephone exchanges, VA tests each STU-III monthly with another VA STU-III or other Government STU-III to ensure proper operation.

VA NATIONWIDE TELECONFERENCING SYSTEM (VANTS)

VANTS provides VA facilities with not only 400 ports for voice conferencing but also a video bridge that provides T-1/Integrated Service Digital Network connectivity and has ports on Federal Telecommunications System 2000 networks A and B and on commercial Bell Atlantic networks. VA uses this capability extensively for conferencing among VA personnel and with non-VA facilities, including educational institutions, State officials, and vendors. This teleconferencing system is an additional communication medium that expands the VA NS/EP inventory.

VA SIGNIFICANT ACCOMPLISHMENTS

Veterans Integrated Service Network (VISN 21) Wireless Communications System	VA's VISN 21 established the Sierra Pacific Network Emergency Communication System (SPNECS), which provides emergency communication to all of its medical centers and clinics in northern California and the Reno, Nevada, area. SPNECS uses wireless communication services provided by Nextel and communication instruments made by Motorola. The communication instruments provide high-quality digital cellular, dispatch, text, and voice messaging over a system of cellular sites. In the dispatch mode, calls can be made in a group mode similarly to two-way radio communications, but at distances limited only by the location of cellular sites. Unlike two-way radio but like a telephone, the dispatch mode also provides one-to-one communications (private calls).

CENTRAL INTELLIGENCE AGENCY (CIA)

NS/EP TELECOMMUNICATIONS MISSION

The NS/EP telecommunications mission of the CIA is to ensure the secure flow of all-source foreign intelligence information to the President and other selected national policy makers. To this end, CIA provides secure, rapid, and reliable round-the-clock telecommunications and information services that are—

- Modern, efficient, and interoperable to support intelligence collection and distribution requirements
- High-volume and timely for open-source collection
- Quick-reacting in support of crises and special operational requirements wherever needed

TELECOMMUNICATIONS STAFF ORGANIZATION

The Office of Communications and the Office of Information Technology, under the Deputy Director of Administration, operate, manage, and maintain the CIA's messaging, telecommunications, and information services capabilities. The agency also provides telecommunications support to other U.S. Government departments, agencies, and the military services as required to support intelligence requirements.

CURRENT/ONGOING TELECOMMUNICATIONS ACTIVITIES

The following CIA activities support NS/EP objectives:

- Assignment of a full-time CIA detailee to the Office of the Manager, National Communications System
- Active participation in the National Communications System activities of the Committee of Principals/Council of Representatives
- Continued support of the Government Emergency Telecommunications Service (GETS), the Federal Telecommunications Standards Committee, the Telecommunications Service Priority System, and the Shared Resources High Frequency Radio Program

CIA SIGNIFICANT ACCOMPLISHMENTS

Completed the move to provide online distribution of intelligence to policy makers.
Continued to develop a cadre of professional personnel prepared to meet operational, technical, and system management requirements of modern telecommunications and automated information systems.
Provided enhanced telecommunications services between the CIA and the U.S. military services.
Expanded CIA-wide participation in NS/EP GETS activities.

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

NS/EP TELECOMMUNICATIONS MISSION

FEMA's mission is to reduce the loss of life and property and protect U.S. institutions from all hazards by leading and supporting the Nation in a comprehensive, risk-based emergency management program of mitigation, preparedness, response, and recovery.

CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

In fiscal year 1997 (FY97), FEMA developed its Five-Year Strategic Plan. This plan has three major goals:

- Protect lives and prevent the loss of property from all hazards
- Reduce human suffering and enhance the recovery of communities after disaster strikes
- Ensure that FEMA serves the public in a timely and cost-effective manner

FEMA continued its development and coordination of its all-hazards disaster programs among Federal departments and agencies; State and local governments; national associations, including the National Emergency Management Association; volunteer organizations; and the private sector. This activity sustained a comprehensive national mitigation, preparedness, response, and recovery, all-hazards emergency management capability. FEMA continues to adhere to the requirements of the Stafford Act, National Security Decision Directive-97, and Executive Orders 12472 and 12656.

FEMA continued to administer the *Federal Response Plan* and responded to 10 presidentially declared disasters. FEMA deployed the full suite of its fixed and mobile information system assets to provide rapid emergency telecommunications and other information systems support to disaster management field locations, such as Disaster Field Offices (DFO).

The development and testing of the National Emergency Management Information System (NEMIS) continued. NEMIS will provide state-of-the-art, automated data processing capabilities for administering FEMA's emergency response and recovery efforts. These capabilities will result in improved services to Federal customers, such as victims of disasters and State and local governments. FEMA plans operational fielding of NEMIS modules during the third quarter of fiscal year 1998 (FY98).

The FEMA Headquarters, Information Technology Services Directorate, provides Geographic Information System (GIS) support through the GIS and Software Development Team, and the Mapping and Analysis Center. This support provides GIS maps and spatial analysis, storm tracking, and execution of predictive models. The products support FEMA senior management, Emergency Support Function representatives at FEMA Headquarters, and emergency managers at DFOs. The GIS Team also provides on-site technical assistance at DFOs, including a deployable GIS suite, map production, and training.

FEMA's home page continues to be very popular. During FY97, more than five million users from 52 countries accessed the home page. FEMA will add "FEMA for Kids" to the Web site in FY98.

FEMA responded to 10 presidentially declared disasters in FY97, including floods throughout the Nation.

UNITED STATES INFORMATION AGENCY (USIA)

NS/EP TELECOMMUNICATIONS MISSION

USIA's Voice of America (VOA) Broadcast System, a validated National Communications System (NCS) asset, is available to the NCS primarily during international emergencies. The Radio Broadcast System, which provides worldwide coverage, is equipped with high-power broadcast transmitters and a staff to coordinate program schedules, facilities, and circuits. The entire staff is available to operate the network with programming material provided by the NCS or its designated representative.

TELECOMMUNICATIONS STAFF ORGANIZATION

The Agency's telecommunications element assigns members to the NCS Committee of Principals (COP)/Council of Representatives. The Director of the USIA assigns the authority to implement NS/EP procedures to the COP.

CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

VOA continues to update its facilities and procedures to ensure operation during an international emergency. These comprehensive updates cover localized events, such as demonstrations in Washington, DC; localized emergencies, such as fires and bombings; international emergencies, such as terrorist incidents; and conventional and nuclear war. USIA accomplishes all actions required under NS/EP and Telecommunications Service Priority procedures in close coordination with day-to-day operating facilities that must be operational in emergency conditions. USIA addresses interoperability considerations at the time of validation by the NCS.

USIA SIGNIFICANT ACCOMPLISHMENTS

Under the Digital Broadcasting Project, VOA is upgrading and modernizing its worldwide broadcast infrastructure.

USIA is nearing completion of implementation of CableXpress, a paperless message delivery system that has enhanced the USIA's ability to quickly and accurately distribute unclassified cable traffic.

THE JOINT STAFF (JS)

NS/EP TELECOMMUNICATIONS MISSION

The Director for Command, Control, Communications, and Computer (C4) Systems Directorate (J-6) provides advice and recommendations on C4 matters to the Chairman of the Joint Chiefs of Staff and to the Joint Chiefs of Staff, as directed by the Chairman. The J-6 develops policy and plans, monitors programs for joint C4 systems, and ensures adequate C4 support to the Commanders in Chief (CINC), National Command Authorities, and all joint warfighters for joint and combined military operations. The J-6 leads the C4 community, conceptualizes future C4 systems architectures, and provides direction to improve joint C4 systems. The J-6 will oversee C4 support for the National Military Command System.

TELECOMMUNICATIONS STAFF ORGANIZATION

The J-6 consists of the Director, a Vice Director, three Deputy Directors (C4 Command Operation, C4 Systems, and C4 Assessments and Technologies), and appropriate subordinate divisions. The Director is also the Chairman of the Military Communications-Electronics Board (MCEB). Each military department will have approximately equal representation by rank, number, and importance of billets throughout the directorate. The Director and Vice Director for C4 Systems will be general or flag officers from the military departments. Exhibit 4-1 depicts the organization of the J-6 Directorate.

CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

Refer to Department of Defense (DOD) section.

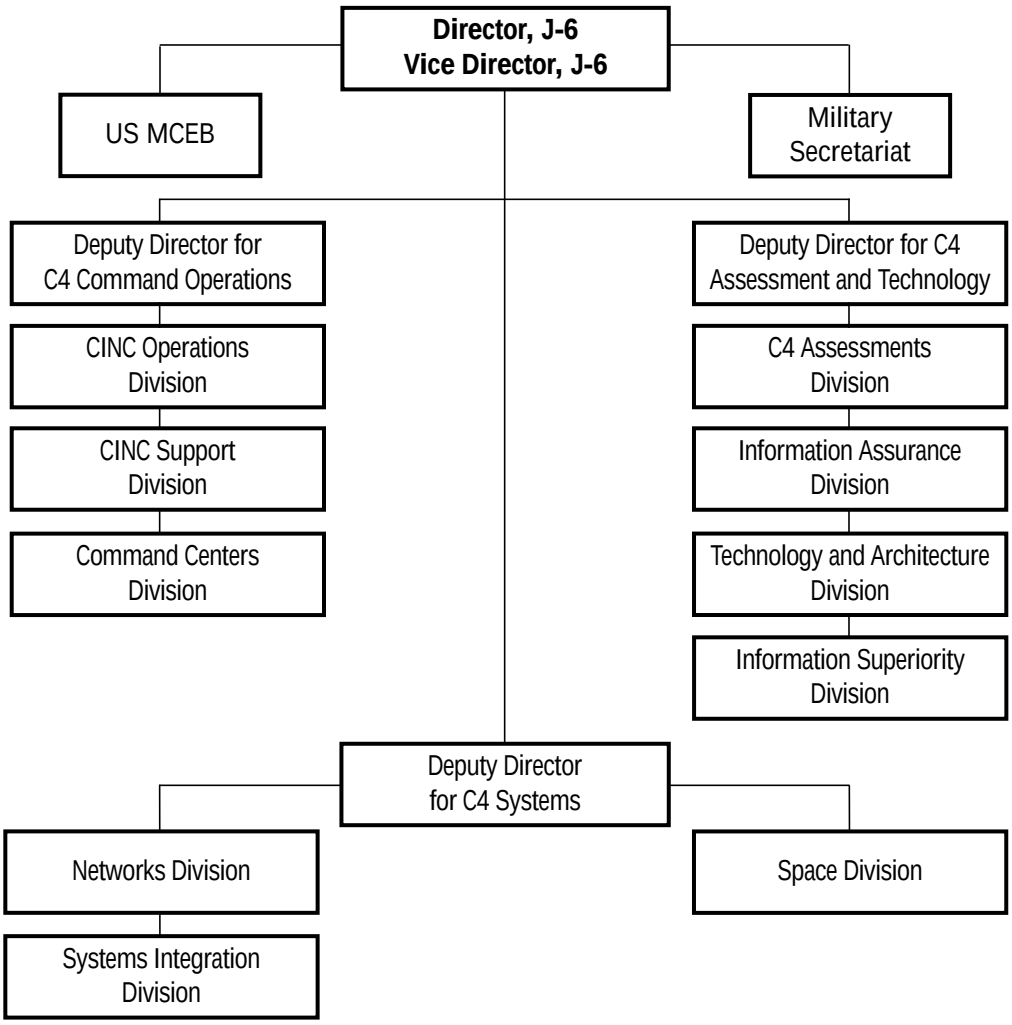
PENDING ISSUES

Refer to DOD section.

SIGNIFICANT ACCOMPLISHMENTS

Refer to DOD section.

EXHIBIT 4-1
COMMAND, CONTROL, COMMUNICATIONS, AND COMPUTER SYSTEMS DIRECTORATE



GENERAL SERVICES ADMINISTRATION (GSA)

NS/EP TELECOMMUNICATIONS MISSION

The GSA, Federal Technology Service's (FTS) mission is to provide information technology solutions and network services that deliver the best value and innovation to support the Federal departments and agencies worldwide.

TELECOMMUNICATIONS STAFF ORGANIZATION

The GSA telecommunications staff manages NS/EP responsibilities through the Commissioner, FTS, Office of Service Delivery, Center for NSEP. The organization's NS/EP responsibilities include coordinating telecommunications service provisioning (information technology, network services), policy development, Federal regulatory responsibilities, program development, and Committee of Principals/Council of Representatives.

CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

The GSA FTS expanded to provide a full range of network services and information technology solutions, and stands ready to meet the current and future NS/EP needs of the Federal, State and local governments with a world of resources, services, and solutions.

The GSA FTS—

- Awarded contracts for international direct distance dialing, domestic wireless voice and data, Internet access, and technical services support. All of these contracts encompass special conditions and technical capabilities to support NS/EP, contingency planning, and network reliability.
- Upgrades its offerings with the development and preparation of solicitations in the acquisition of the replacement of the Federal Telecommmunications System 2000 contracts, metropolitan area acquisitions, technical and management support, and wire and cable. GSA estimates that these contracts will be awarded in 1998.
- Continues to support the National Communications System (NCS) by providing a detailee to the NCS as Deputy Manager, National Coordinating Center for Telecommunications (NCC); planning and coordinating support from the GSA FTS Center for NSEP; Regional Emergency Communications Planners; and Federal Emergency Communications Coordinators when required.
- Continues to support the Office of Science and Technology Policy in the development of the National Emergency Management Team and Continuity of Government in light of the changing world situation.
- Continues to improve GSA disaster response internal and interagency communications capability through the distribution of laptop computers and specialized state-of-the-art software applications programs to the Regional Emergency Communications Coordinators.
- Continues to cooperate with the NCS to develop and promulgate the use of the Emergency Response Link and expand its capabilities.
- Redeveloped its NS/EP organizational product line and client agency interface to improve efficiency and customer service. This effort includes reviewing existing and establishing new memorandums of understanding with key agencies to support their disaster response and continuity of operations missions.
- Provides agencies access to all FTS services, including disaster support and continuity of operations services through the GSA FTS home page (http://fts.info.gov).
- Continues to develop and improve operating and action plans to accommodate concurrent disasters and emergencies within the constraints of increasingly limited resources.

GSA NS/EP TELECOMMUNICATIONS ACCOMPLISHMENTS

GSA FTS offers end-to-end NS/EP solutions in telecommunications products and services available under its Telecommunications Support Contract 2 (TSC2) contract, including emergency response and continuity of operations planning services. TSC2's comprehensive technical support to NS/EP needs spans six functional areas: telecommunications planning; analytical support services; design and engineering support; acquisition support; installation, integration, and implementation; and operations and maintenance support.

The Federal Wireless Telecommunications Services contract provides nationwide wireless voice and data telecommunications services and equipment to Federal, State, local, and tribal governments.

GSA FTS provides a full range of contracts relating to electronic commerce, Internet, and electronic mail access services.

The GSA FTS Office of Information Security provides a broad range of technical system security services to meet the emerging technology needs for classified and sensitive applications for all Federal departments and agencies, State and local governments, and government contractors.

GSA FTS Center for NSEP closed its Hagerstown, Maryland, facility and collocated its alternate FTS Emergency Response Center with the NCS NCC relocation center and Federal Emergency Management Agency National Network Operations Center.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)

NS/EP TELECOMMUNICATIONS MISSION

The NASA Administrator shall (pursuant to Executive Order 12656) coordinate with the Secretary of Defense to prepare for use, maintenance, and development of technologically advanced aerospace and aeronautical-related systems, equipment, and methodologies applicable to national security emergencies.

TELECOMMUNICATIONS STAFF ORGANIZATION

NASA's Associate Administrator for the Office of Space Flight has programmatic responsibility for representing the organization, on behalf of the Administrator, in the National Communications System (NCS) process.

The Associate Administrator for Space Flight assigned NASA's Lead Center role for Space Operations to the Johnson Space Center, Houston, Texas. The Director, Space Operations Management Office (SOMO), also NASA's alternate Committee of Principals member, serves as the functional manager for agencywide space operations and for space operations and mission control facilities, including data processing, planning, and all telecommunications systems or NCS NS/EP assets listed below.

NASA's George C. Marshall Space Flight Center, located in Huntsville, Alabama, maintains Lead Center responsibility to consolidate the five wide area networks listed below and now known as the NASA Integrated Services Network, one of several operational elements of SOMO.

CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

NASA continues to support the NCS in achieving its assigned missions and the successful accomplishment of national level programs approved by the White House. This includes Telecommunications Service Priority, Shared Resources High Frequency Radio Program, Government Emergency Telecommunications Service, Communications Resources Information Sharing, Federal Telecommunications Standards Program, Cellular Priority Access Service, Enhanced Satellite Capability, Emergency Response Link, National Telecommunications Management Structure, Emergency Response Fly-Away Kit, and Emergency Response Operations Network.

NASA's Administrator reaffirmed the support of NASA to continue the Interagency Committee on Search and Rescue (ICSAR) for another 4 years. Established in 1973, the ICSAR's core member agencies are NASA, the Department of Defense, the Department of the Interior, the Department of Commerce, the Department of Transportation, the Federal Emergency Management Agency, and the Federal Communications Commission.

NASA/EP TELECOMMUNICATIONS ASSETS

NASA INTEGRATED SERVICES NETWORK	
NASA Operational Communications System (NASCOM)	NASA's mission operational telecommunications network provides communications services used in the operational conduct of flight missions, programs, and projects.
Program Support Communications Network (PSCN)	NASA's PSCN provides communication services used in the day-to-day intercenter administrative and program support activities.
Aeronautic Network (AEROnet)	AEROnet is a high-capacity network that enables the nationwide aerospace research and technology community to access NASA's Numerical Aerodynamics Simulation supercomputing facility, located at NASA Ames Research Center, California.
Earth Observing System Backbone Network (Ebnet)	Ebnet is the project name for the wide area network being developed to support the requirements of NASA's Earth Observing System program.
NASA Science Internet (NSI)	NSI provides connectivity between NASA's space science community and its computing facilities, archives, and databases.
SPACE NETWORK	
NASA Tracking and Data Relay Satellite System (TDRSS)	This constellation of geostationary satellites supports classified and unclassified customers, and provides almost uninterrupted communications with Earth-orbiting space shuttles and other supported customer satellites.
Deep Space Network (DSN)	DSN supports deep space interplanetary, high-Earth orbiting spacecraft, and radio science missions.

NUCLEAR REGULATORY COMMISSION (NRC)

NS/EP TELECOMMUNICATIONS MISSION

NRC is responsible for ensuring adequate protection of the public health and safety, the common defense and security, and the environment with respect to the use of nuclear materials for civilian purposes in the United States. Activities licensed and regulated by the Commission include commercial nuclear power reactors; nonpower research, test, and training reactors; fuel cycle facilities; medical, academic, and industrial uses of nuclear materials; and the transportation, storage, and disposal of nuclear materials and waste.

The Commission's NS/EP telecommunications provide for reliable connectivity between the NRC Operations Center, operating nuclear power plant control rooms, emergency operations facilities, fuel fabrication facilities, and regional incident response centers. This connectivity ensures immediate notification to the NRC Operations Center of unusual occurrences and provides relevant information during events at nuclear facilities.

CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

Federal Telecommunications System 2000 (FTS 2000) provides reliable service to all nuclear power plants, associated emergency operations facilities, and major NRC fuel facilities. NRC provides circuits for seven emergency operations functions by multiple lines and provides current emergency access. The Incident Response Division initiated an assessment of current costs and services and will be evaluating post-FTS2000 emergency telecommunications requirements. An analysis of post-FTS2000 options was performed by Booz•Allen & Hamilton under General Services Administration Telecommunications Support Contract 2. NRC is working with the National Communications System (NCS) to develop one option that would involve using Government Emergency Telecommunications Service (GETS) for priority access.

NRC participated with NCS in the beta test of the Emergency Response Link (ERLink) system, which will allow emergency response-related information to be posted on an Internet-based server. NRC is particularly interested in expanding this effort to State and local officials.

In response to Executive Orders 12472 and 12656, NRC will expand internal procedures to include NS/EP telecommunications requirements. The procedures will also include specific guidance on actions to restore and/or augment emergency telecommunications services and resources during emergency situations. NRC completed the draft procedures, which are in staff review.

NRC SIGNIFICANT ACCOMPLISHMENTS

NRC incorporated use of ERLink in two nuclear power plant emergency drills to transfer information, including status summaries and press releases to the States of Georgia and Missouri.

NRC tested the capabilities of GETS during two full-scale exercises and coordinated with NCS to resolve performance issues.

NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION (NTIA)

CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

The NTIA/Office of Spectrum Management (OSM) continues to plan and implement, using a phased approach, a capability for total electronic transfer of Federal spectrum management data and information. It also continues to develop, field, and maintain several spectrum management automation tools for use by Federal spectrum managers to more effectively plan, coordinate, and control use of the radio frequency (RF) electromagnetic spectrum during NS/EP and normal conditions. Examples include the following:

- Worked with the Department of Defense's Joint Spectrum Center to develop the Joint Spectrum Management System for Windows, Version 2.1
- Populated and maintaining the first-ever, electronic database of prioritized emergency requirements for RF electromagnetic spectrum use by Federal departments and agencies in support of a national emergency declared under Section 706 of the Communications Act of 1934, as amended
- Staffed the first-ever, proposed Federal spectrum management data dictionary composed of about 400 data fields

In addition, the NTIA/OSM—

- Participated in National Emergency Management Team Communications Functional Group activities
- Participated in Government Emergency Telecommunications Service (GETS) User Council activities
- Participated in the President's National Security Telecommunication Advisory Committee (NSTAC) Operations Support Group activities such as those of the National Coordinating Center for Telecommunications (NCC) Vision Subgroup
- Participated in National Communications System (NCS) Committee of Principals and Council of Representatives activities
- Participated in NCS Shared Resources High Frequency Coordination Network Interoperability Working Group activities
- Participated in NCS Communications Resource Information Sharing (CRIS) Working Group activities
- Participated in Office of the Manager, NCS-sponsored exercises such as the Medical, Office of Science and Technology Policy, and NCC Vision Concept of Operations (CONOPS) tabletop exercises

NTIA SIGNIFICANT ACCOMPLISHMENTS

Published its Continuity of Operations Plan (COOP), which delineated essential functions along with the resources required to accomplish them. The COOP ensures that appropriate and necessary people, equipment, and information are available to perform essential functions. This may occur in a new operating area when the normal place of business becomes unusable or when a resource failure necessitates emergency action(s).

Provided GETS user authorizations to all NTIA emergency essential personnel.

Conducted training classes for Federal spectrum managers on the Joint Spectrum Management System for Windows.

Included NTIA's Institute for Telecommunication Sciences as a participant in the NCS CRIS Program with its service of measuring radio frequency electromagnetic spectrum use on a fee-for-service basis.

Enhanced the NTIA home page on the World Wide Web to make useful information more available to Federal spectrum managers during an NS/EP emergency.

Established an NTIA user account with the NCS Emergency Response Link.

Completed the NTIA Emergency Readiness Plan for Use of the Radio Spectrum, Parts I-V, which includes a first-ever Telecommunications Service Priority (TSP) for Radio Communications (TSP-R) based on the NCS TSP System for NS/EP; the TSP-Rs provide a system of priorities for Federal use of the radio frequency electromagnetic spectrum during a wartime emergency.

Actively participated in drafting the proposed CONOPS for an NCC Intrusion Incident Information Processing Function as a member of the President's NSTAC NCC Vision Subgroup's NCC Vision CONOPS Writing Team.

NATIONAL SECURITY AGENCY (NSA)

NS/EP TELECOMMUNICATIONS MISSION

NSA has an operational mission to support the critical intelligence needs of the Department of Defense (DOD) and national security community, and provide the technical support necessary to develop and maintain the security and protection of NS/EP telecommunications.

TECHNOLOGY AND INFORMATION SYSTEMS SECURITY STAFF ORGANIZATIONS

Within NSA, support to NS/EP-related activities is split between two organizations. The Technology and Systems Organization is responsible for planning and operating the telecommunications systems and networks linking Agency elements worldwide and for providing Agency connectivity to other Government services. The Information Systems Security Organization is responsible for developing information security (INFOSEC) products and services to enhance the security of telecommunications systems. Both organizations work in close collaboration with the military services and defense agencies in support of overall DOD initiatives. INFOSEC products and services are also applicable across the Government for the protection of classified and sensitive national security information.

NSA's customer set includes a broader range of users of the National Information Infrastructure (NII) and involves a close working relationship with the National Institute of Standards and Technology (NIST). In accordance with National Security Directive-42, the Director NSA also serves as the National Manager for Telecommunications Policy for National Security Systems and as Secretariat of the National Security Telecommunications and Information Systems Security Committee for the Assistant Secretary of Defense for Command, Control, Comunications, and Intelligence.

NSA CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

- Support and provide extension of National Security Telecommunications Advisory Committee (NSTAC) activities in developing a Government strategy for the endorsement of commercial products and services in accordance with the Common Criteria (in cooperation with NIST).
- Support National Communication System (NCS)/NSTAC activities in reviewing National Coordinating Center for Telecommunications roles and responsibilities, and support development of indications and warning capabilities for DOD and civil department applications.
- Support the General Services Administration Federal Security Infrastructure Program Office in the establishment of a civil sector Security Management Infrastructure (SMI) and independent SMI development activities for classified and national security applications.
- Support the Federal Wireless Users Forum and Federal Wireless Policy Committee in development of vulnerability information, solution recommendations and policy.
- Foster development of the Multilevel Information Systems Security Initiative (MISSI) that has been created to make available a set of products that can be used to construct a secure computer network in support of a wide variety of missions. NSA's approach is to work closely with customers to completely understand their present and future needs. As a result, the technological underpinnings of MISSI are driven by information management approaches and existing constraints rather than by independent security solutions. MISSI products collectively provide the following:
  - Writer-to-reader information security services, including data integrity and access control
  - Support for applications, such as electronic mail and file transfer
  - Protection against unauthorized disclosure or modification of information while enabling the integration of systems containing different sensitivity levels.
- For member organizations, provide services that include threat and vulnerability assessments that lead to security guidance and advice, especially with respect to dependence on the NII.
- Provide security guidance for ongoing NCS programs, including Government Emergency Telecommunications Service and Emergency Response Link.

UNITED STATES POSTAL SERVICE (USPS)

NS/EP TELECOMMUNICATIONS MISSION

The USPS does not maintain specific NS/EP telecommunications responsibilities in the event of a national emergency or other declared disaster. Therefore, the USPS designs its telecommunications systems and services to support day-to-day organizational, administrative, and operational mission requirements. Telecommunications facilities dedicated specifically to NS/EP are limited in scope. The accomplishments listed below are enhancing the ability of USPS to support the overall NS/EP mission.

USPS SIGNIFICANT ACCOMPLISHMENTS

Completely revised and updated the standards definition for the USPS Infrastructure Tool Kit and the Postal Computing Environment Handbook as the basis for the USPS Information Technology architecture. This revision included updated standards for intrafacility data communications, wireless local area networks (LAN), mobile data communications, cellular data access, and cellular packet data. These documents provide a standardized technical architecture that defines the evolving computing and telecommunications infrastructure required in Year 2000 and beyond. This architecture follows a utility company model to focus on the infrastructure required to deliver a standard suite of services to all users in field facilities.

Completed a competitive solicitation for the Managed Network Service (MNS) contract, which was awarded to MCI. Conversion of the current USPS network is underway, with 1,000 connected locations, and plans to expand MNS to support more than 7,000 locations by fiscal year 1998 (FY98). The MNS contract provides a standardized suite of the necessary network access, service provisioning, and performance standards; all network equipment; management tools; personnel; and commercial services.

Deployed the Associate Office Infrastructure (AOI) Program to support the rollout of the national Point of Service implementation. The AOI Program consists of a structured wiring plant, following the USPS Universal Wiring Standard, to provide a 10BaseT Ethernet LAN, a standard High End Back Office Microsoft NT Server, and Wellfleet Router connection into the Postal Routed Network. The USPS will implement this standard suite at more than 7,000 USPS retail locations by the end of FY98.

Completed the competitive solicitation for the Mobile Data Collection Device for the Delivery Confirmation Project. This award to Lockheed Martin Federal Systems will place mobile computing devices in the hands of more than 250,000 mail carriers. National deployment of these devices will begin in January 1998 with a total installation base at 30,000 facilities by the end of FY98.

During fiscal year 1997, the Postal Service corporate electronic mail network grew from 600 to more than 1,000 cc:Mail Post Offices. This network, which presently has more than 125,000 directory entries, adds more than 200 users per day and averages in excess of 300,000 messages per 24-hour period. In addition, numerous mail-enabled applications using this network have deployed. These applications provide two-way information flow between major mailers and Postal Service operations to facilitate arrival scheduling and delivery performance of date-critical business advertisement mailings.

Completed the design for deploying very small aperture terminals using 1.2 meter (or less) diameter satellite Earth terminal dish antennas as the primary USPS Intranet access to an estimated 15,000 facilities, and as a secondary network access medium to an additional 15,000 larger facilities. The USPS expects to begin equipment deployment during the first quarter of FY98 and follow the AOI deployment schedule.

FEDERAL RESERVE BOARD (FRB)

NS/EP TELECOMMUNICATIONS MISSION

FRB's NS/EP responsibilities relate to the "maintenance of the economic posture," and, in particular, the "maintenance of national monetary, credit, and financial systems." The FRB does not have telecommunications assets listed as National Communications System (NCS) primary assets. Federal Reserve Banks, not the FRB, own or lease the Federal Reserve System's significant telecommunications assets.

TELECOMMUNICATIONS STAFF ORGANIZATION

The Manager for the Information Technology Program in the Board's Division of Reserve Bank Operations and Payment Systems has responsibility for oversight of the Federal Reserve Banks' telecommunications services and serves as a liaison member on the NCS Committee of Prinicpals.

CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

The FRB will continue to sponsor Telecommunications Service Priority (TSP) assignments for essential telecommunications services supporting large-value payment systems, Federal Reserve open market and foreign operations, and the automated auction processing system for Treasury securities. The FRB will also support NCS initiatives designed to provide essential telecommunications services needed to maintain the Nation's financial telecommunications infrastructure and payment systems.

FRB SIGNIFICANT ACCOMPLISHMENTS

The FRB focused its NS/EP activities on its sponsorship role for assigning TSP status, primarily at restoration level four, to essential telecommunications services under criteria it adopted in 1993. The FRB sponsored 919 active TSP assignments by the end of this fiscal year, with an estimated 100 assignments made during the year.

The FRB continued to sponsor a TSP assignment for circuits used for Fedwire funds transfer and securities transfer services.

The FRB is sponsoring a TSP assignment for circuits used by other payment systems (e.g., The Society for Worldwide Interbank Financial Telecommunications) that meet FRB's eligibility criteria.

The FRB is sponsoring a TSP assignment for access circuits to the Fedwire network from depository institutions that engage in large-dollar Fedwire transactions.

The FRB completed a successful Government Emergency Telecommunications Service (GETS) pilot program and is preparing to implement GETS across the Federal Reserve System.

FEDERAL COMMUNICATIONS COMMISSION (FCC)

TELECOMMUNICATIONS ACT OF 1996

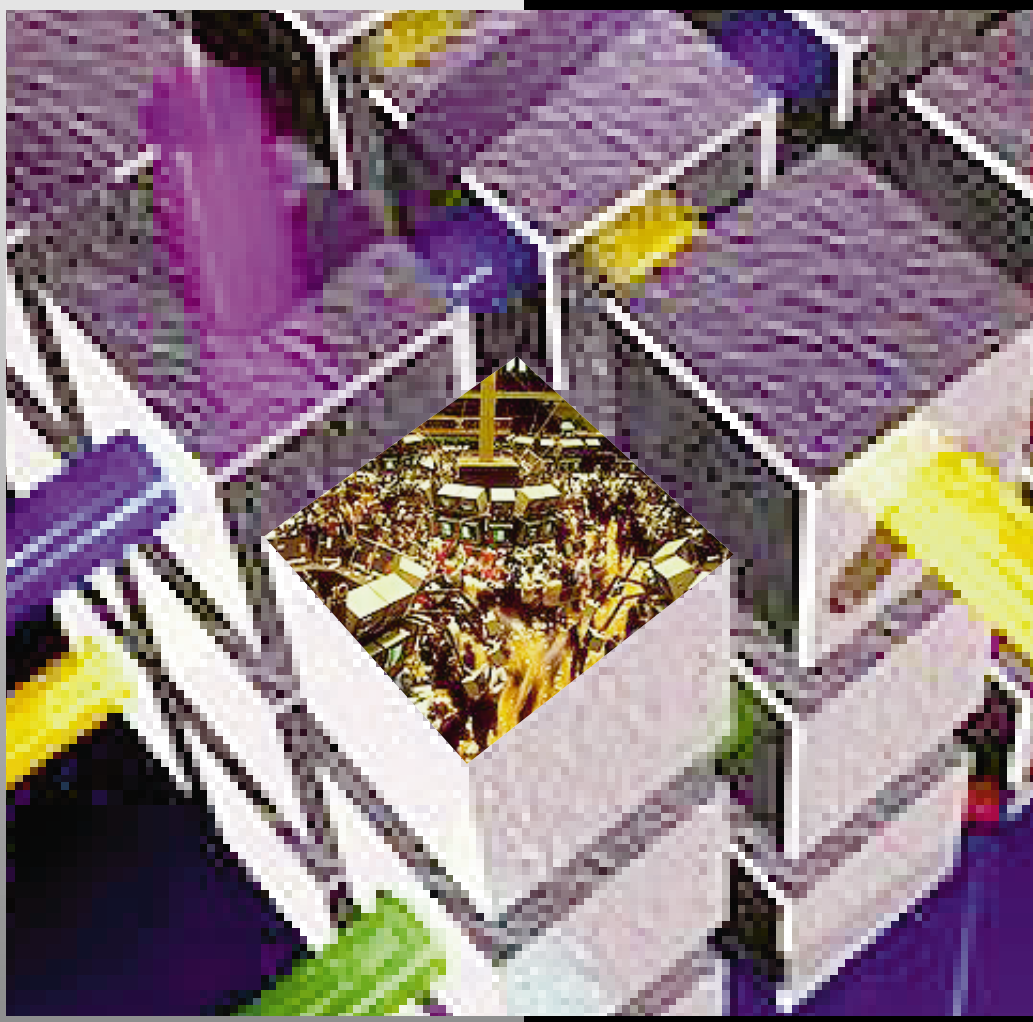
The FCC continued to implement many of the changes brought about by the *Telecommunications Act of 1996*, which was the first major overhaul of telecommunications law in almost 62 years. The goal of the law is to promote full, open competition in the communications arena so that any communications business can compete in any market. Much of what the FCC does as a result of the law will affect the NS/EP telecommunications activities of other Government departments and agencies.

FCC TELECOMMUNICATIONS ACT ACTIVITIES

Made available 300 Megahertz of spectrum for the Unlicensed National Information Infrastructure.
Created new 311 Code for nonemergency police calls and 711 Code for access to telecommunications relay services.
Adopted service and auction rules for local multipoint distribution services.
Adopted rules to allow a transition to digital television.
Adopted a new system of universal service whereby schools, libraries, and rural health care providers will receive discounts for telecommunications services.
Adopted changes to the FCC system of interstate access charges to make them compatible with the procompetitive deregulatory framework established by the *Telecommunications Act of 1996*.
Sought comment on its proposal to reallocate television channels 60 to 69 to relieve a critical shortage of spectrum, in particular that allocated to public safety use.
Proposed actions to prevent changing a consumer's long distance telephone service provider without the consumer's knowledge or consent. This practice is known as "slamming."
Created a Local Telephone Competition Task Force.
Approved the Bell Atlantic/NYNEX merger.
Addressed telephone number portability issues.
Issued the first digital television permit application.

NCS Related Acronyms

A.



A. NCS RELATED ACRONYMS

A	
AERONet	Aeronautic Network
AIN	Advanced Intelligent Network
ALE	Automatic Link Establishment
ANSI	American National Standards Institute
AOI	Associate Office Infrastructure
ASD	Assistant Secretary of Defense
AT	Access Tandem
ATM	Asynchronous Transfer Mode
B	
B-ISDN	Broadband ISDN
BPA	Bonneville Power Administration
BT	British Telecommunications
C	
C3	Command, Control, and Communications
C3I	Command, Control, Communications, and Intelligence
C4	Command, Control, Communications, and Computers
CAS	CRIS Automated System
CAT-97	Catastrophic-97
CCPC	Civil Communications Planning Committee
CIA	Central Intelligence Agency
CINC	Commander in Chief
CIO	Chief Information Officer
COE	Common Operating Environment
CONOPS	Concept of Operations
COOP	Continuity of Operations Plan
COP	Committee of Principals
COR	Council of Representatives
CPAS	Cellular Priority Access Service
CPS	Cellular Priority Service
CRIS	Communications Resource Information Sharing
CSM	Corporate Systems Management
CST	Communications Support Team
D	
DEA	Drug Enforcement Administration
DFO	Disaster Field Office
DHHS	Department of Health and Human Services
DISA	Defense Information Systems Agency
DISN	Defense Information System Network
DMAT	Disaster Medical Assistance Team
DMS	Defense Message System
DOC	Department of Commerce
DOD	Department of Defense
DOE	Department of Energy
DOI	Department of the Interior
DOINET	DOI Network
DOJ	Department of Justice
DOS	Department of State
DOT	Department of Transportation
DSN	Deep Space Network
DTS	Diplomatic Telecommunications Service
E	
Ebnet	Earth Observing System Backbone Network
EIA	Electronics Industry Association
E-Mail	Electronic Mail

EO	End Office
E.O.	Executive Order
EOT	Emergency Operations Team
EPA	Early Post-Attack
ERLink	Emergency Response Link
ERT	Emergency Response Training
ESC	Enhanced Satellite Capability
ESF	Emergency Support Function
EST	Emergency Support Team

F

FAA	Federal Aviation Administration
FAATSAT	FAA Telecommunications Satellite
FBI	Federal Bureau of Investigation
FCC	Federal Communications Commission
FDA	Food and Drug Administration
FDR	FEMA Daily Report
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIPS	Federal Information Processing Standards
FRB	Federal Reserve Board
FRP	Federal Response Plan
FTR	Federal Telecommunications Recommendations
FTS	Federal Technology Service
FTS2000	Federal Telecommunications System 2000
FTSC	Federal Telecommunications Standards Committee
FWUF	Federal Wireless Users Forum
FY97	Fiscal Year 1997
FY98	Fiscal Year 1998

G

GETS	Government Emergency Telecommunications Service
GHz	Gigahertz
GIS	Geographic Information System
GITS	Government Information Technology Service
GSA	General Services Administration

H

HF	High Frequency
HFRS	HF Radio Subcommittee
HPC	High Probability Completion

I

IA	Information Assurance
IC	Intelligence Community
ICSAR	Interagency Committee on Search and Rescue
IDCU	Integrated Data Communications Utility
IEC	Interexchange Carrier
IES	Industry Executive Subcommittee
IIG	Information Infrastructure Group
IM	Information Management
IMA	Individual Mobilization Augmentee
IMT-2000	International Mobile Telecommunications-2000
INFOSEC	Information Security
INS	Immigration and Naturalization Service
IOC	Initial Operational Capability
IPng	Internet Protocol Next Generation
IPv6	Internet Protocol Next Generation
IPTF	Infrastructure Protection Task Force
IS	Interim Standard
ISDN	Integrated Services Digital Network
ISPG	Information Security Policy Group
ITA	International Trade Administration
ITU	International Telecommunication Union
ITU-R	International Telecommunication Union - Radiocommunication Sector
ITU-T	International Telecommunication Union - Telecommunication Standardization Sector

J

J-6	Command, Control, Communications, and Computers Directorate
JITC	Joint Interoperability Test Command
JS	Joint Staff

L

LAN	Local Area Network
LEC	Local Exchange Carrier
LEO	Low Earth Orbit
LRG	Legislative and Regulatory Group
LTA	Late Trans-Attack

M

Mbps	Megabits Per Second
MCEB	Military Communications-Electronics Board
MCU	Multipoint Control Unit
MISSI	Multilevel Information Systems Security Initiative
MNS	Managed Network Service
MSS	Mobile Satellite System
MTSO	Mobile Telephone Switching Office

N

NASA	National Aeronautics and Space Administration
NASCOM	NASA Operational Communications System
NATO	North Atlantic Treaty Organization
NCC	National Coordinating Center for Telecommunications
NCM	National Coordinating Mechanism
NCS	National Communications System
NDAC	Network Design and Analysis Center
NEMIS	National Emergency Management Information System
NESDIS	National Environmental Satellite Data and Information Service
NG	Network Group
NHC	National Hurricane Center
NII	National Information Infrastructure
NIE	National Intelligence Estimate
NIST	National Institute of Standards and Technology
NOAA	National Oceanic and Atmospheric Administration
NRC	Nuclear Regulatory Commission
NRIC	Network Reliability and Interoperability Council
NSA	National Security Agency
NS/EP	National Security and Emergency Preparedness
NSI	NASA Science Internet
NSIE	Network Security Information Exchange
NSTAC	National Security Telecommunications Advisory Committee
NTCN	National Telecommunications Coordinating Network
NTIA	National Telecommunications and Information Administration
NTMS	National Telecommunications Management Structure
NWS	National Weather Service

O

OET	Office of Emergency Transportation
OMNCS	Office of the Manager, National Communications System
OPT	Office of Priority Telecommunications
OSD	Office of the Secretary of Defense
OSG	Operations Support Group
OSM	Office of Spectrum Management
OSTP	Office of Science and Technology Policy

P

PACA	Priority Access and Channel Assignment
PACA-E	PACA Enhanced
PBX	Private Branch Exchange
PCCIP	President's Commission on Critical Infrastructure Protection
PCS	Personal Communications Services
PHS	Public Health Service
PIN	Personal Identification Number
PN	Public Network
PSCN	Program Support Communications Network
PSN	Public Switched Network
PWDS	PCS Wireless Data Services

R

R&D	Research and Development
RF	Radio Frequency
RSPA	Research and Special Programs Administration

S

SABI	Secret and Below Initiative
SARSAT	Search and Rescue Satellite
SHARES	Shared Resources
SMI	Security Management Infrastructure
SOMO	Space Operations Management Office
SONET	Synchronous Optical Network
SPNECS	Sierra Pacific Network Emergency Communication System
STU-III	Secure Telephone Unit – Third Generation

T

T1	ANSI Committee on Telecommunications
T1E1	ANSI Committee on Interfaces, Power, and Protection for Networks
T1M1	ANSI Committee on Network Management
T1S1	ANSI Committee on Services, Architectures, and Signaling
T1X1	ANSI Committee on Digital Hierarchy and Synchronization
TCC	Transportable Communications Centers
TCS	Treasury Communications System
TDRSS	Tracking and Data Relay Satellite System
TESP	Telecommunications Electric Service Priority
TIA	Telecommunications Industry Association
TIB	Technical Information Bulletin
TN	Technical Note
TREAS	Department of the Treasury
TSC2	Telecommunications Support Contract 2
TSP	Telecommunications Service Priority
TSP-R	TSP for Radio Communications
TSS	Telecommunications Services Staff

U

UAV	Unmanned Aerial Vehicle
UHF	Ultra High Frequency
US	United States
USCG	United States Coast Guard
USDA	United States Department of Agriculture
USIA	United States Information Agency
USPS	United States Postal Service

V

VA	Department of Veterans Affairs
VANTS	VA Nationwide Teleconferencing System
VISN 21	Veterans Integrated Service Network 21
VOA	Voice of America
VTOA	Voice Telephony Over ATM

W

WOS	Widespread Outage Subgroup

Y

Y2K	Year 2000

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