



INSIDE INFORMATION

YOUR LINK TO INFORMATION EXCELLENCE



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Office of Information Resources Management

U.S. Nuclear Regulatory Commission

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Technology Infrastructure Branch: Paving the NRC Information Highway

Technology is not always easy to see or touch, but most would agree that you can't go far in today's world without it. We in the Technology Infrastructure Branch (TIB) design, build, and maintain the information highways that permit information to flow and NRC work to get done. In this issue, we explore key services that TIB provides for the NRC and plans for their expansion and improvement.



Jim Shields

TIB provides many services that are commonly available in private business, along with some that are not. We provide traditional telephone service; in addition we provide 24-hours-a-day, every-day-of-the-year switchboard operation to assist NRC staff and the public in the placement of calls and delivery of messages. Our automatic voice mail system dramatically reduces the number of messages that have to be recorded manually and NRC employees can check messages from any touch-tone telephone at their convenience. We also provide the computer systems programming and operations services necessary for the agency payroll, personnel, property, and document management systems.

Some of our most dramatic improvements have been in networking. With the implementation of the Agency Upgrade of Technology for Office Systems (AUTOS) network, PC workstations throughout the agency are now interconnected. NRC staff are increasingly using desktop PC and UNIX workstations to access and transmit information as well as to perform data processing and technical computation and analysis.

Being connected to the network is an essential part of life at the NRC. We will continue our efforts to provide NRC staff with improved methods for sending and receiving mail, preparing documents, making calculations, checking calendars and schedules, and accessing systems and services necessary to do their jobs efficiently and effectively.

We look forward to working with you to maintain and expand the NRC's technology infrastructure so that your information highway journey will be happy, safe, and productive. Please feel free to contact me at 415-7150 or via e-mail (JASH).

James A. Shields, Chief
Technology Infrastructure Branch

Computer and Communications Services Section

Rashida Alam, Chief, Computer and Communications Services Section (CCSS), joined the NRC in 1987 and has been in civil service for almost 17 years. She holds two master's degrees—one in nuclear physics from McMaster University in Canada and the other in computer science from the University of Iowa. Rashida is also a Certified Computer Professional.

Rashida came from the Department of Health and Human Services to join the NRC database administration team responsible



Rashida Alam

for the development of the Shared Information Network, the agency's corporate data base. Rashida has been a member of the NRC Asian/Pacific American Advisory Committee since its inception.

The CCSS manages the NRC Data Center and the Telecommunications Message Center/Switchboard and provides technical support for time-

shared mainframe computing. The section also manages the NRC's use of the Washington Interagency Telecommunications Services, known as WITS, and the Government Emergency Telecommunications Systems, called GETS, and provides voice mail, facsimile, cellular phone, and on-line/printed telephone directory services.

In the past year, CCSS accomplishments included consolidating Headquarters computer operations at TWFN, converting the prefix of all telephone numbers in OWFN from 504 to 415, converting the phone service for 600 multiline users to ISDN (Integrated Services Digital Network), implementing the Smartline fax-on-demand voice mail application that provides job vacancy and benefits information, and publishing an extensively revised NRC telephone directory.

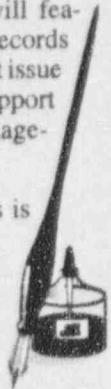
The CCSS looks forward to expansion of the agency voice mail system to the Regions and enhancement of customer support and technical support for NRC's new and existing Payroll and Personnel systems.

*Rashida can be reached at 415-7500 or via e-mail (RXA). **

From the Editor

The August newsletter will feature the Information and Records Management Branch. That issue will identify customer support in the area of records management agencywide.

Please remember that this is your newsletter. Your ideas, suggestions, and comments are always welcome. If you want IRM management to respond to your specific concerns, the "Ask IRM" column is your forum. The Employee of the Month will continue to be an **INSIDE INFORMATION** feature—but only if the customer community lets Gerald Cranford know who deserves to be nominated. Call Gerald at 415-7585 or e-mail him (GFC) the name of your nominee. Following IRM management concurrence, the employee will receive this public recognition.



INSIDE INFORMATION is intended to serve as a supplement to official pronouncements of policy and evolving procedural changes in the Agency's information technology environment.

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Voice Mail Automates Phone Message Process

Although it doesn't totally eliminate telephone tag, the NRC's voice mail system permits staff to send, receive, and save messages and to reply or send copies to others on the system. Available options include extended absence greeting, confirmation of message delivery, and notification by pager of message waiting. The voice mail system processes an average of 12,000 messages each week. Currently, more than 1,800 NRC Headquarters employees have mailboxes on the system.

The voice mail system does more than just take messages. The CCSS, working with other NRC offices, has implemented two voice processing applications. The first, administered by the Office of Administration, provides callers with information regarding NRC staff meetings that are open to the public. The second application, the Office of Personnel's Smartline fax-on-demand, allows callers to listen to information relating to vacancy announcements, bene-

fits, and policies and to have the information mailed or faxed.

Plans for the future include expansion of the voice mail system to the Regions and development of a fax-on-demand application for the Public Document Room.

*For more information about voice mail, please contact **Brian Brownell** at 415-7152 or via e-mail (BDB) or **Bryan Champion** at 415-7356 or via e-mail (BLC). **

NRC Data Center—A New Home for NRC Computers

For the first time in its history, the NRC has a full-service Data Center. Located on the fifth floor of TWFN, the facility was designed by IRM and the Office of Consolidation and built during the construction of TWFN.

Equipment

The Data Center houses several minicomputers—a Data General MV/60000, an IBM 9370, and a Data General MV/15000. Each of these minicomputers supports a number of systems—

- ◆ MV/60000—Payroll, Personnel, Property and Supply, NUDOCS, and the Criminal History Check system
- ◆ IBM 9370—EXSIS, Commission Calendar, e-mail, and the Voter Tracking System, General License Data Base, Licensing Tracking System, Allegation Management System, Work Item Tracking System, and the Safety Information Management System
- ◆ MV/15000—the Integrated Library System

Two high-speed (220 and 100 pages per minute, respectively) printers connected to two HP 9000 systems provide continuous-form laser printing from mainframe computers at the Department of Health and Human

Services and the Department of Treasury, the in-house minicomputers, IBM RS/6000 UNIX systems, and the AUTOS network.

Operations

A contractor supplies a staff of computer operators 24 hours a day from 6:00 a.m. Monday to 5:00 p.m. Saturday. The systems are operational but in unattended mode on Sundays, when maintenance work is performed. If any system is out of service, Data Center staff notify the customers immediately.

The Data Center staff distribute reports, identified by the first letter of the programmer's name, into output bins in room T-5 B21. Customers can access the bins 24 hours a day. Operators hold reports marked "sensitive" until customers request them at the output window in the bin area.

OWFN customers can pick up reports/outputs at the OWFN Computer Room O-2 G18 distribution bins or call 415-2885. An operator attends this facility from 7:00 a.m. to 5:00 p.m. on the hour, every hour (for 10 minutes), Monday through Friday.

*Please direct inquiries regarding the Data Center to David Barrow at 415-5846 or via e-mail (DAB1) or to the Data Center operators at 415-5015. **

Systems Programming

Systems programming is something of a misnomer in that systems programmers seldom write computer programs. Instead they spend their time integrating vendor-provided operating systems and applications to meet customer needs. Dave Barrow, Kay Moses, and Judy Seeherman are the NRC's systems programmers. As IRM Project Managers, they plan and oversee contracts for the systems programming and data communications support tasks involved in installing, upgrading, and maintaining operating system and proprietary application software on NRC's Data General, IBM 9370, and HP/9000 minicomputers.

Dave, Kay, and Judy are also responsible for monitoring system performance, developing and maintaining programs and procedures to backup system and user files; adding, deleting, and modifying user accounts; providing support to customers and application programmers; and maintaining communications among various computer systems.

IRM's systems programmers are always looking for ways to improve service. For example, until recently, large month-end reports from the FFS were printed in Hyattsville, MD, at the Treasury Department's schedule and convenience. IRM's systems programmers devised a procedure to print the reports on the NRC Data Center's HP/9000 high-speed laser printers and programmed the printers to separate the reports by office and generate the specified number of copies. This procedure has resulted in faster distribution of the reports to NRC offices, has reduced the transmission cost, and has cut in half the amount of paper used.

*Please direct inquiries regarding systems programming to Rashida Alam at 415-7500 or via e-mail (RXA). **



The NRC Data Center houses Data General and IBM minicomputers.

NRC Operators—Just a Phone Call Away

IRM's Computer and Communications Services Section provides telephone switchboard operator support services through its Telecommunications Message Center (TMC) to benefit the NRC community and the general public. The facility, located in T-4 C8, operates 24 hours a day, 7 days a week. Qualified contractor telephone operators provide locator, audio conferencing, telex, and facsimile services. The switchboard may be contacted by dialing "0" from NRC telephones in the White Flint complex or 415-7000 from outside Headquarters. For the convenience of employees on travel and the general public, the switchboard can also be reached via the toll-free number, 800-368-6692.

The TMC is equipped with a telecommunications device for the deaf (TDD) to answer calls from hearing-impaired individuals on 301-415-5575. Telephone conference service (also known as a conference bridge) is available through the TMC. This service permits up to 64 conferees to participate in interoffice, local, FTS2000, long-distance, and international calls simultaneously. You can make conference reservations through the conference attendant at 415-7027.

Address questions regarding the TMC to **Ben Randall** at 415-7250 by or e-mail (BWR) or to the contractor supervisor at the switchboard (415-7000). *



Gregory Jenkins, an employee on The KEVRIC Company contract, helps a member of the public contact an NRC employee.

Telephone Usage Tips...

There's only one problem in any organization: failure to communicate. Communications specialists **Bryan Champion** (415-7356) and **Brian Brownell** (415-7152) of the Technology Infrastructure Branch offer these voice mail tips:

- Don't hide behind your voice mail; reply promptly.
- Personalize your greetings and change them frequently.
- Make your greeting brief. If you're rambling, rerecord.
- Leave detailed messages to avoid telephone tag. If you request information, make sure your message is complete and concise so the recipient can respond fully.
- Address only one or two topics per message.
- State the key point by the third sentence.
- Talk live or write a memo if the topic is sensitive or complex.
- If the distribution list is long, put it at the end.
- Use the "urgent" option with discretion. In some cases, an urgent delivery option can trigger a pager.

In addition, the Office of Personnel encourages employees and contractors to brush up on their phone manners. Responding openly, professionally, and courteously entails—

- Answering by the third ring
- Clearly enunciating your name and your organization (but no acronyms, please)
- Offering assistance by transferring the caller or taking a message
- Refraining from disclosing personal information—"Mr. Jones is expected to return at 2" *not* "I think Sam's shopping at White Flint."
- Using the speaker phone only in a group setting (and announcing that fact to your caller)

Network Development and Support Section



Jim Schaeffer

Jim Schaeffer, Chief, Network Development and Support Section (NDS), has been with the NRC and a member of the IRM professional staff since 1991. After an extensive search, he was hired to direct the agency's AUTOS program and later assumed responsibility for the TIB/NDS. Holding bachelor's degrees in accounting and computer science from the University of Maryland, Jim has more than 13 years of technical and managerial experience with computers and networks in the private sector and the Federal Government.

The NDS is responsible for the overall direction, planning, development, implementation, and management of the NRC's local area network (LAN) and wide area network (WAN) environment, supporting office automation, high-performance UNIX systems, client/server computing, host connectivity, and agency applications. Additional responsibilities include data and video communications services, network security, emergency data and telecommunications support, secure telecommunications services, and agencywide development, implementation and support of AUTOS, Transmission Control Protocol/Internet Protocol (known as TCP/IP), Internet access, and Mosaic.

Future plans include contract award and implementation of the next generation network (NGN) and consolidated telecommunications services (CTS), network hardware/software upgrades, and enhanced network security and emergency communications.

*Jim can be reached at 415-7154 or via e-mail (JBS). **

AUTOS—NRC's Network

In 1988, the NRC began planning a general-purpose PC-based network to replace the agency's IBM 5520 administrative office system network. During the following two years, a network environment with several file servers, shared printers, and common word processing and e-mail applications began to take shape. Since the award of the Agency Upgrade of Technology for Office Systems (AUTOS) contract in 1990, NRC's network has grown from a small group of networked PCs to an agencywide network of more than 3,000 PC and high-performance UNIX workstations. Every NRC employee who needs a computer workstation has one, and information flows freely from any workstation to any other workstation on the network, agencywide. With the recent addition of Internet mail capability, information can be shared with those outside the NRC as well.

Applications

The AUTOS network is a reliable, dependable mainstay of the NRC office environment. Word processing capability is provided by WordPerfect version 5.1 with an upgrade planned to an enhanced version. E-mail is now part of an office suite of programs to support related functions: scheduling, calendaring, calculating, and the like. Spreadsheet and graphic capabilities are becoming a standard part of network applications as well.

Applications development now centers around the shared information concept. There are applications for a workgroup, such as the AP-600 project, officewide applications such as the Resource Information Management System (RIMS), and agency applications such as the briefing papers and roster of utilities. Any NRC staff member can access the desired application merely by choosing a DOS menu selection or clicking on a Windows icon. As AUTOS continues to improve, the Windows mouse click will become a standard part of the workstation environment for everyone.

Management

The management of the network has also changed and improved significantly. There is now a centralized Network Control Center (NCC) at Headquarters, and LAN Administrators are located throughout Headquarters and in the Region. Together, these two functions support customers and maintain the network at peak efficiency. LAN Administrators are the first line of support to the customer. They are in daily contact to resolve problems and to assist the customer in using the workstation efficiently. NCC provides central network management and monitoring.

Network Control Center

The NCC manages the operation and growth of the AUTOS network, providing comprehensive assistance to ensure an effective customer interface with the AUTOS environment. The NCC also includes the technical support required to maintain network performance in terms of its responsiveness and continuing ability to support the NRC's communications requirements.

Located in TWFN, the NCC serves as the hub of network operations and customer support. Primary duties include operation and performance monitoring as well as technical sup-

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port of all network components such as file servers, remote access servers, mail servers, and communication hubs. Technical support also focuses on network optimization and performance tuning and on resolution of the more complex problems related to network operation. NCC staff also address management of growth and the evaluation and integration of equipment and functionality.

In terms of customer support, the NCC is the focal point of the centralized IRM customer service program for coordination and administration of network services to the NRC community. The NCC's primary interface with customers involves general administrative support such as adding and deleting user accounts, managing file access privileges, and maintaining e-mail lists.

LAN Administrators

If the NCC is the heart of AUTOS, the LAN Administrators are the brains and muscle. The NCC coordinates and dispatches LAN Administrators and other support personnel to fulfill

customers' requests for services. These requests run the gamut of network problems—application software difficulties, connectivity and communications problems, familiarization and indoctrination issues, and the diagnosis of hardware malfunctions. Currently, four LAN Administrators provide customer support in OWFN, four provide coverage in TWFN, and there is one assigned to each of the regional offices and to the Technical Training Center in Chattanooga, TN.

The eight local administrators, together with five LAN Analysts assigned to the NCC, process approximately 2,000 support requests per month. In the Regions, on-site LAN Administrators provide general customer support through processes in place at these locations.

*For more information about AUTOS or the NCC, please contact Karen Paradiso at 415-5852 or via e-mail (KXP). Network problems should be reported to the IRM Customer Support Center at 415-1234. **



In the Network Control Center, Janson C. Pinto (SAIC Corporation) and Justin C. Kim (CEXEC, Inc.) field service requests and offer solutions to problems.

Next Generation Network—AUTOS Gets Refreshed

In recent years, IRM has made significant strides in the development and expansion of NRC's network environment to meet growing demands for automation and access to computer resources. Successes have included implementation of the Agency Upgrade of Technology for Office Systems (AUTOS) program, setup and support of the high-performance UNIX environment, support for client/server computing, and agencywide Internet access.

The Network Development Section (NDS) is now working with the Division of Contracts to obtain a support contract that will design, develop, procure, implement, maintain, and operate the NRC's agencywide office automation and high-performance network environment through fiscal year (FY) 2000. This effort is called the next generation network (NGN) program. The NGN is the evolutionary result of upgrading, expanding, and replacing key components of the current AUTOS network with newer technology to meet the NRC's growing requirements for network resources.

The goal of the program is to continue to provide reliable and responsive operational support and administration for the existing network environment; develop and implement new technology to support current and future requirements for application interoperability, network connectivity, and office automation; provide a vehicle to purchase network hardware and software; and obtain vendor maintenance, support, and upgrades for these components.

NGN Requirements

To identify requirements for the NGN, IRM conducted extensive interviews with managers, project leaders, and staff throughout the NRC to deter-

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mine the network requirements through FY 2000. Through this process, five key areas were identified that will have significant impact on the NRC's future network environment: extension of existing capabilities, high-performance computing, client/server applications, interactive Internet access, and on-line management of NRC documents.

Extension of Existing Capabilities

NRC's requirements call for the general upgrade of the existing office automation capabilities. The desired goal is to obtain a high level of interoperability among current and future office automation and agency-wide applications. Another major requirement for office automation entails implementation of "workflow" management software. This will increase the use of network resources as work products flow from group to group electronically instead of being moved through offices on paper.

High-Performance Computing

Program offices throughout the agency currently use high-performance UNIX-based systems for demanding engineering applications, such as modeling and simulation of advanced nuclear reactor designs, processing of very high-quality graphics, and retrieving and processing technical reports. As the high-performance computing environment continues to develop, there will be increasing requirements for distributed applications and greater network bandwidth.

Client/Server Applications

Another key area of potential impact on the network is the rehosting of agency mini and mainframe computer applications to a client/server environment. IRM is currently "right-sizing" applications now hosted on Data General and IBM mini and mainframe computers and migrating them

to IBM RS/6000 UNIX servers and other LAN-based server platforms. Some of the applications being converted include Office of Personnel applications, the Regulatory Inspection Program, Integrated Voter Tracking System, Events Tracking, Allegations Management System, and the Automated RITS Entry and Signature Processing System.

Interactive Internet Access

Increased activity over the Internet has become a major thrust in NRC's support for the National Performance Review and Vice President Gore's initiatives to reinvent government. This access permits the agency to be more responsive to public needs. The NRC is also relying more and more on the Internet to conduct its day-to-day unofficial business and to connect to national laboratories and other Government agencies.

Another contributor to the increased network traffic is the realization by NRC customers of the benefits available from Mosaic and Internet electronic mail. Greater Internet traffic will place increased loads on the LAN backbone and the Internet gateway.

On-Line Management of NRC Documents

One of the NRC's major goals is to make all nonsensitive documents accessible electronically to staff and the public. The agency is developing the Regulatory Agency Document System (RADS) which will capture the original text and graphical contents of all new documents coming into the NRC and those created by the NRC. As the number of RADS customers increases, so will the demand for bandwidth (system capacity). It is expected that the RADS system will place a significant load on the NRC network.

Status of the NGN

Progress continues on the program development and acquisition activities for the NGN. The request for proposals was released during the week of March 20. A preproposal bidders conference, held on April 10, provided an overview of the statement of work, described the current NRC environment, reviewed the cost requirements, and addressed vendor questions. The Source Evaluation Panel is reviewing the proposals, and award is anticipated in the first quarter of FY1996.

There will be a 30-day overlap in services between the current AUTOS contract and the new NGN contract to facilitate full transfer of all information necessary for the new contractor to assume full operational responsibility.

IRM is eager to launch the NGN, and looks forward to contract award and implementation.

*For more information about the NGN, please contact Don Larrick at 415-7210 or via e-mail (DML). **

Network Software Upgrade

An effort is under way to upgrade and enhance the suite of tools and services available to agency staff on the AUTOS network. These upgrades are being implemented in a two-phased approach for each NRC office over the next several months.

AUTOS for Windows

In the first phase of the project, the Microsoft Windows graphical user interface, configured for us on the AUTOS network, will replace the current AUTOS DOS "blue menu" system. Windows will permit staff to efficiently access and move among current applications as well as provide support for graphical applica-

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tions. Approximately 3,000 workstations in Headquarters and Regional offices have been installed with the standard Windows configuration.

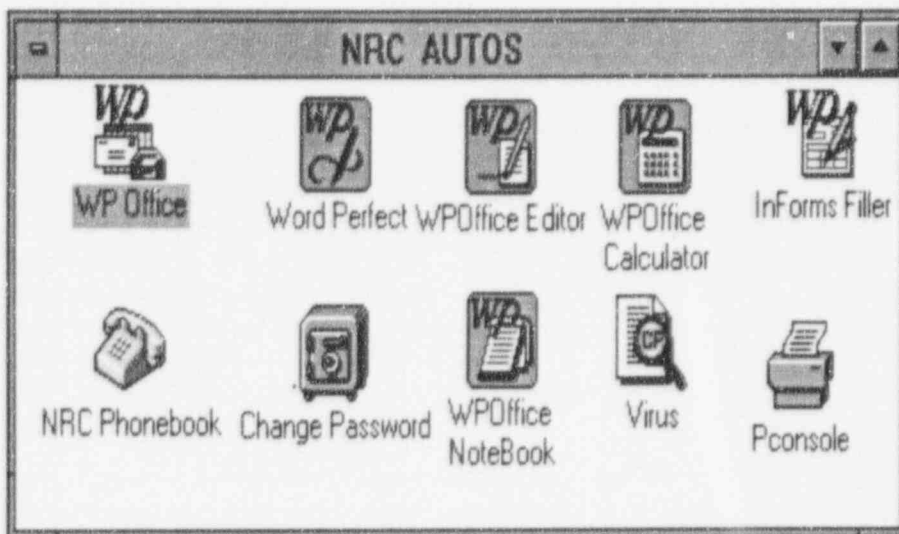
The AUTOS for Windows interface consists of a Windows group with an icon for each standard AUTOS application. Customers access network applications such as WordPerfect and e-mail by moving the mouse pointer and "clicking" on the appropriate icon. Windows offers the ability to run more than one application at the same time. For example, customers can access both e-mail and WordPerfect and quickly switch between them without exiting either application.

Phase One is scheduled for completion by September 1995. You may contact your IT Coordinator to determine the specific schedule as it applies to your workstation.

WordPerfect Office for Windows

During Phase Two the current DOS versions of e-mail, calendar, and scheduler will be replaced agency-wide with WordPerfect Office for Windows, an integrated Windows-based application. Enhanced features include—

- ❖ E-mail, calendar, and scheduler in a single package.
- ❖ Incoming mail, requests for appointments, and tasks all appear in a single in-box; customer-accepted requests for appointments and tasks are entered into their calendar.
- ❖ A document viewer provides the what-you-see-is-what-you-get (WYSIWYG) display of documents attached to e-mail.
- ❖ Cut and paste capability between WordPerfect Office and other Windows applications.
- ❖ NRC personnel can generate forms using WordPerfect InForms.



Soon everyone's AUTOS menu will appear as a Windows group.

WordPerfect Office for Windows has been installed on workstations in IRM, and IRM is now actively addressing some operational issues before installing Office for Windows agency-wide. Agencywide installation is being coordinated with office IT Coordinators and should be completed in the fall of 1995.

WordPerfect 5.1, the word processor currently available on the network, will not be upgraded in either Phase One or Two of the network software upgrade project. The move to a Windows-based word processor and other graphical user applications will be addressed in FY 1996.

The migration to a Windows environment presents a major change for much of the NRC customer community. IRM recommends that you register and attend the "Using Windows 3.1" and "WordPerfect Office for Windows" training courses, which are being offered in the NRC Professional Development Center. Customers should work with office IT Coordinators to schedule training as close as possible to the date of installation. (See the related article on page 13 showing how the customer community can prepare for this transition.)

*Please address questions regarding the network software upgrade project to Karen Paradiso at 415-5852 or via e-mail (KXP). **

**X.400 E-Mail—
A New Federal
Connection**

The Office of Information Resources Management is enhancing the agency's electronic mail system with the implementation of a mail gateway that will permit agency personnel to electronically exchange information with other Federal agencies, private corporations, and international contacts who support X.400 mail. X.400 is an international standard that has been adopted by the Federal government for exchange of official information. It provides a more secure information exchange than the Internet.

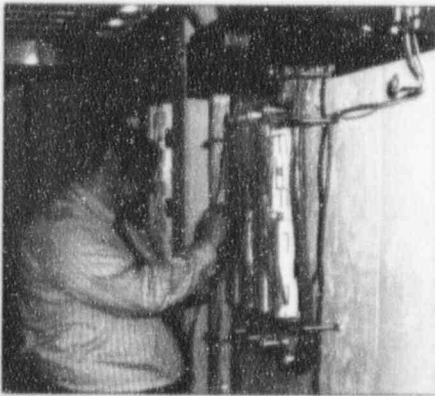
The NRC's customer interface to the X.400 mail gateway is the current WordPerfect Office Mail system. The X.400 addressing scheme is not intuitive; therefore, message recipients must provide senders with their X.400 electronic mail address prior to any electronic message communications.

IRM is sponsoring a pilot program with a limited number of participants from each program office. It is anticipated that the X.400 gateway will be available for full agency use prior to the end of FY 1995.

*For more information, contact Stan Wood, at 415-7211 or via e-mail (SDW). **

Communications Connections

As the communications landscape has changed over the past few years and the NRC customer has become a partner with the telephone company, so too has IRM's approach to the ongoing provision and management of systems and services. An explosion of technology has resulted in an ever-increasing array of systems that inevitably require service and support sometime during their useful life.



George Lopez troubleshoots cabling connectivity in TWFN.

Communications specialists in IRM's Technology Infrastructure Branch evaluate system choices in terms of their applicability to agency objectives—improving customer service, planning for future installations and/or technology, managing diverse activity, sharing critical resources, responding to changing business conditions, and reducing communications costs. Services range from building the cable infrastructure and network design and installation to voice and data, cellular, facsimile, CATV, and satellite communications.

Planning

The cable infrastructure for TWFN exemplifies IRM's successful planning. Before the NRC move to TWFN, a cable specification was developed to meet established cabling and communication needs and to ensure an easy migration to systems and net-

works requiring higher transmission speeds. System troubles and maintenance downtime have been reduced by our using higher quality cable as well as patch panels and other circuit break points.

Helping Hands

Of course, TIB continues to provide everyday items such as headsets, audio conferencing units, modems, longer telephone and handset cords, and cord keepers. Some of these things may be mundane, but if they make your job easier, they're important to TIB. If you need telecommunications information, guidance, or just a helping hand, please call 415-7150 and you will be referred to a telecommunication specialist for assistance. Problems should be reported to IRM's **Customer Support Center at 415-1234.** *

At Your Service

Tom Sheffler is the IRM point of contact in One White Flint North. OWFN houses nine program offices as well as the offices of the Commission, the Executive Director for Operations, and the Secretary to the Commission. Tom is responsible for coordinating communications, network, and hardware/software support for all offices in the building.

Tom has extensive experience in the field of information management in the private and public sectors. Over the years, he has worked as a systems analyst for scientific systems, a systems analyst for business systems, and as a project manager for business systems. For Fairfax County, VA, he designed and implemented an on-line real property assessment system for residential and commercial property, which is still in use today.

Tom joined the Federal Government in 1976 as a Computer Systems Analyst for the Department of Health, Education and Welfare. He joined the NRC in 1988 and a year later transferred to the IRM team being formed for implementing network facilities agencywide. Since 1989, he has been "AUTOS" all the way. He was Acting Chief of the Network Development Section when IRM initially established the management capabilities that would lead to the appointment of a permanent AUTOS Project Manager. Once a permanent manager was assigned, Tom moved to OWFN. He was the senior analyst assigned to expand the pre-AUTOS network that added nearly 200 workstations in NRR, then to implement AUTOS in OWFN, and subsequently to oversee implementation of the consolidation of the NRC offices' network facilities at TWFN.



Tom Sheffler

He retains his office in OWFN as the person to be contacted for any new requirements for the network. His commitment to customer service is readily evident by his willingness to work with all the OWFN offices in developing their individual and officewide requirements. He is available at any time for consultation, requirements development, or solutions of network approaches to problem solving. Tom is located in O-9H8 and can be contacted by phone at 415-2906 or e-mail (TBS). *

UNIX Support—A Key Technical and Administrative Service

The NRC UNIX environment has grown rapidly from a few UNIX systems in 1993 to approximately 100 today. IRM's Technology Infrastructure Branch (TIB) provides UNIX support for program offices as well as for NRC's information technology infrastructure.

Program Office Support

UNIX computing within the NRC program offices is a heterogeneous world consisting of Sun, IBM, DEC, and Silicon Graphics workstations. This diverse environment is collectively known as the high-performance computing environment (HPCE). A group of UNIX Systems Administrators maintain this environment by using a standards-based approach to maximize operational readiness of these systems.

NRR

The Office of Nuclear Reactor Regulation (NRR) has 25 UNIX workstations, four of which are servers. An additional 20 customers access these UNIX workstations through their desktop PCs using PC-Xware software for UNIX terminal and Windows emulation. A recent addition to the NRR HPCE, a Sun Sparc 20 server with 10 gigabytes of storage supports operational and testing data for AP600 reactor design review and analysis. NRR's UNIX workstations support analytical capabilities in thermohydraulics, finite element analysis, radiation protection, and mechanical and electrical engineering. Many of the codes that support these activities were developed either by or for the NRC; many were developed in a mainframe environment.

RES

The Office of Nuclear Regulatory Research (RES) HPCE environment consists of 18 UNIX workstations supporting 35 to 50 customers. It is a heterogeneous environment consisting of IBM, Sun, and DEC computers. The current file server is a Sun Sparcstation 20 with four processors and 15 gigabytes of disk storage. RES staff use the UNIX computers for thermohydraulic analyses, studies involving severe accident codes, accident phenomenology, containment performance, and structural integrity.

NMSS

The Office of Nuclear Material Safety and Safeguards (NMSS) has developed a centralized advance computer system (ACS) that employs UNIX client/server computing technology designed to meet the multifaceted needs of the various NMSS divisions. The ACS supports Internet access, analytical resources, techni-



cal and regulatory document references, and two- and three-dimensional graphics and visualization. The ACS uses high-performance Sun and Silicon Graphics file and applications servers combined with sophisticated input and output peripherals (scanners, color printers and plotters, and digital input devices) in a centralized

computing environment. The system is comprised of 18 UNIX workstations and five UNIX servers and includes systems from Sun, IBM, and Silicon Graphics. Thirty people from three divisions—Waste Management, Industrial and Medical Nuclear Safety, and Fuel Cycle Safety and Safeguards—access these UNIX resources through their desktop PCs.

Infrastructure Support

UNIX systems comprise a growing portion of the NRC's information technology infrastructure. These UNIX servers are typically locked away in closets, unseen by NRC staff. They provide access to the Internet (as well as protection from it through a "firewall"), network monitoring, global naming services, electronic mail, file transfer, and World Wide Web access. TIB has installed two Web servers—one for access by external customers and another for NRC customers. Both are ready for NRC offices to populate them with information. This summer will see the advent of a News server capability and a production grade Listserver—all on UNIX-based platforms. The infrastructure also includes a number of IBM RS/6000 systems, which will be a significant base for client/server program and administrative applications to be developed throughout the decade.

Service

TIB is dedicated to maximizing operational availability, ensuring data integrity, responding quickly, and resolving any difficulties customers may encounter in the UNIX environment. TIB's Systems Engineers perform the complex and delicate task of integrating each UNIX workstation into the agency's computing and communications environment. TIB Systems Administrators

Continued on page 11

UNIX Support, continued from page 10

provide daily care for UNIX systems and ensure they are fully available for use. Each Systems Administrator knows the computing environment and customers in the office in which they serve. Regular activities include the execution of a comprehensive system and data backup plan that protects data against the inevitability of hard disk failures. The System Administrator works with customers to tailor their computing environment by evaluating, installing, customizing, and integrating commercial and custom-developed UNIX application software packages. TIB provides hands-on guidance and indoctrination for customers of high-performance computers, trouble shooting, and problem resolution related to UNIX systems hardware, software, and networking. UNIX customer accounts and systems require regular maintenance to keep them running smoothly. Customer accounts are maintained in conformance with agency standards to ensure consistency and integrity: UNIX operating system and application software require regular upgrades just as in the PC world. Networked UNIX computers can share printers, scanners, files, hard drives, and other peripherals with other UNIX systems. Maintaining and reconfiguring these relationships in response to customer requirements is an important ongoing activity.

Increasingly, the NRC UNIX community is requesting more support to meet the challenges of the exploding Internet and World Wide Web activities. TIB supports these activities by keeping abreast of the latest releases of browser software (Mosaic being the most familiar) and keeping them installed and configured in the UNIX environment.

For more information about UNIX support, please contact **John Badri-an** at 415-5748 or via e-mail (JHB). *



In addition to his perseverance as a Computer Security Specialist with the Financial Management, Computer Security, and Administrative Support Staff, Lou Numkin engaged NRC staff with his security briefings. For these outstanding services, Lou received the November Employee of the Month Award from IRM Director Gerald F. Cranford.

CONGRATULATIONS

April 26 was a proud day for IRM when the agency's annual award ceremony recognized **Gerald F. Cranford** and **Tyrone S. Greene**. Gerald, the IRM Director, received a Presidential Meritorious Executive Rank Award for his significant contributions to collecting, processing, and disseminating information within several important areas of the Federal Government. Part of the testimonial reflected that he directs the "planning, acquisition, installation, and maintenance of state-of-the-art information processing equipment to enable the NRC to effectively meet its responsibilities for protecting public health and safety."

The Meritorious Service Award for Administrative Excellence was bestowed on **Tyrone**, Chief of the Licensing Documentation Reference Unit in the Information and Records Management Branch. Tyrone was lauded, in part, for his "dedication to promoting high-quality customer service and to ensuring the integrity of the official documentation of the NRC's policies and activities."

Congratulations are also in order for **Cosmo Fornaro**, who retired from the Resources Management and Administrative Support Section at the end of March, and for **Alvin B. Blunt**, recently promoted from Chief of the IRM Automated Graphics Services Section to Branch Chief, Printing and Mail Services, in the Office of Administration. *



Welcome Aboard

...NRC Staff

Christopher L. Hoxie recently transferred to the Technology Assessment Staff to provide customer support in the areas of integration of enhanced IT approaches to agency operations. Chris joined the NRC as a member of the Technical Specifications Branch in 1989. He worked on the standard technical specifications improvement project until fruition and the publication of NUREG 1430-1434. During that period he also collaborated with Tom Dunning to start one of the first NRC bulletin board systems—Tech Specs Plus. A year ago Chris moved to the Containment and Severe Accident Branch of NRR, where he was lead reviewer for the AP600 advanced plant containment.

Chris received a Ph.D. in nuclear engineering from the Massachusetts Institute of Technology, having earned both bachelor's and master's degrees in that discipline from the University of Florida. Following attainment of his doctorate, he worked at NUMATEC/COMEGA (the American subsidiary of the French nuclear fuel cycle company), NUS Corporation, and Oak Ridge National Laboratory.

It is with sadness that IRM reports the death of **Lucille Lanier**, an NRC employee for more than 20 years. Lucille lost a valiant fight against kidney disease in April 1995. She will be remembered for her significant contributions to IRM's information technology programs and her always-present smile throughout the workday.



Chris Hoxie

Chris's main area of interest is application of advanced information and communication technologies to the work of the NRC. His office is T-6 C4. Get in touch with him at 415-5824 or by e-mail (CLH1). His mail stop is T-6 C14.

...Contractor Staff

Susan Marie Miller is the new on-site manager of the contract for the **IRM Customer Support Center**. Assisting her as customer support analysts are **Monif Alqarshi** and **Thomas (Chip) Kellam**.

Numkin and Tran End the Year With Employee of the Month Awards

In late fall, **Louis M. Numkin** briefed Office of Investigations staff from Headquarters and the Regions on computer security awareness. Among the letters of thanks was one that noted his presentation was "very informative, interesting, and well received by everyone." During a briefing given by the Division of Security, Lou's talk on computer ethics to the resident inspectors from the gaseous diffusion plants again drew favorable comments. (For a flavor of Lou's style, be sure to read his article on page 14.)

Along with his speaking assignments, Lou coordinated with three Headquarters offices to obtain their responses to draft computer system certification and accreditation (C&A) reports. His persistence helped to complete the last of the C&A activities and led to the clearing of the computer security material weakness more than a year ahead of the original schedule. In fact, the material weakness was declared closed more than 2 weeks ahead of the deadline requested by the Executive Director for Operations.

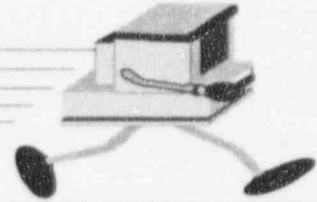
Lou works in T-6 F9, and you can call him at 415-5906. Address mail to T-6 F15 or e-mail him (LMN).

As the Data Base Administrator for the NRC's OS/2 (IBM Operating System/2) and the RS/6000 computers, **Tu T. Tran** makes sure they are working and correctly configured. Tu thoroughly tests all the changes she makes, and when she says, "It's working," it really is.

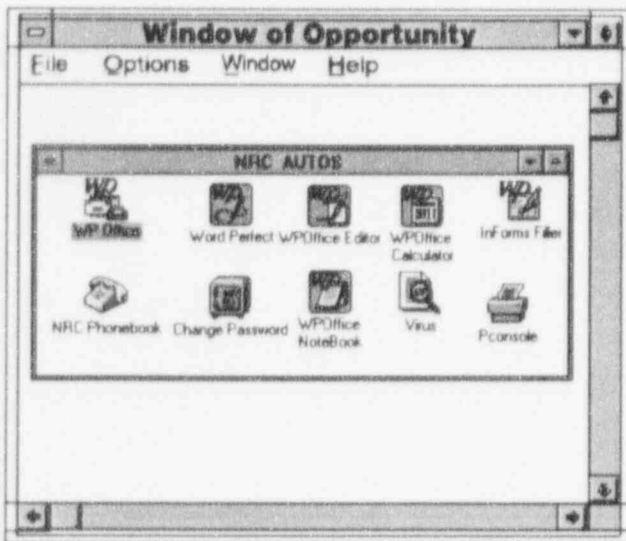
The following anecdote, related in her nomination, reflects Tu's care that customers get top-notch service. When Tu overheard a customer discussing a recent software installation, she volunteered to verify the work. Tu made the necessary corrections. For her skill and outstanding professional services, Tu was accorded the Employee of the Month Award for December (but, as usual, she was so committed to problem-solving that she could not be captured for a photograph).

Tu, a Computer Systems Analyst with the Systems Development and Integration Branch, works in T-6 C9. E-mail (TTT) or call her at 415-5797. Her mail stop is T-6 C30.

Info on the Go!



The Professional Development Center (PDC) offers a number of training operations for you to learn the basic—and advanced—concepts of Windows. Invest an hour, a day, or a week (or more!) to learn the terminology and how to work with icons, button bars, and menu bars. Then advance to the intriguing world of customizing your Windows environment: use bookmarks, create icons, and simplify your information storage needs through sophisticated but easy file management. Three instructor-led courses are available as are four



self-paced, hands-on tutorials. Or you can measure your present proficiency in Windows with the Skill Check Assessment program, so you'll know what you don't know. E-mail (PDC) questions or call 415-7750 for more specifics.

A background in the Windows environment will smooth your transition to WordPerfect Office for Windows. As the May 16 Weekly

Announcements related, "There are virtually no similarities between WordPerfect Office as you know it now and Office for Windows." Moreover, e-mail, on which we all depend, will be "surprisingly different." But not overwhelmingly surprising if you attend one of the ongoing demonstrations of WordPerfect Office 4.0. Just walk in to the PDC (T-3 B3) any Monday at either 8:30 a.m. or at 1 p.m. for the 2-hour session. No formal registration is required. Sign in when you arrive. Then follow up by taking the QuickTour (on the AUTOS network) or the PDC's 3-hour course that will help you function as efficiently as you do in the DOS environment. *

Turn in the Toner

Returning used and defective toner cartridges to the OWFN supply store for recycling saves the NRC approximately half the cost of new cartridges. Defective cartridges have been a problem, so please help us—

1. Place the defective cartridge in its box.
2. Enter on the box label the specific problems you encountered.
3. Drop off or mail the cartridge to P-1 36 in OWFN.

For specific information concerning the handling of laser printer cartridges, please contact the **IRM Customer Support Center** at **415-1234** or by e-mail (CSC). *

Plastic Rules

The Office of Administration and IRM have joint responsibility to ensure that the agency's property database correctly reflects all current taggable equipment. In order to assure that a valid property database entry is created for all newly acquired taggable equipment, the agency's Bankcard procedures explicitly prohibit the purchase of taggable equipment with office Bankcards. If you have a question about what is taggable, or wish to acquire taggable equipment, direct your request to your IT Coordinator or to Dawn Oliver at 415-5657 in IRM. Following the purchase and receipt of the equipment, we will assign an NRC tag number and enter it in the property database.



The Bankcard Program allows offices at Headquarters and in the Regions to acquire Federal Information Processing (FIP) resources with credit cards. But before you say "Charge it, please!" remember some of the "fine print":

- ❖ Limit your FIP acquisitions to \$2,500 per purchase.
- ❖ Hardware that costs more than \$100 must be purchased for installation within existing equipment. Minor peripherals, such as mice and trackballs, and internal components, such as video boards, memory, hard disks, and CD-ROM drives, for installation in existing equipment are allowed (even if they cost more than \$100).

Consult your office's Senior Information Resource Management Officer, if you would like additional information. *

When Are Computer Viruses NOT Computer Viruses? When They Are Good Times!

By Louis M. Numkin

"Return with us to yesteryear...." Way back at the end of 1994, computer security professionals were informed of the "Good Times" virus, a talented new scourge (defined in *Webster's II New Riverside University Dictionary* as "a cause of severe and widespread affliction"). Concerned correspondence was rampant from all parts of the community, computer cops, to novice users. Was it true? Could there really be such a virus? Or could it be a cleverly conceived ruse? The brain trusts of our industry set to work separating the seeds (of truth) from the chaff. The following were widely reported—

- ❖ A new form of computer virus was making the rounds.
- ❖ Its name was "Good Times."
- ❖ The mode of infection was through the Internet and e-mail.
- ❖ Hypothetically, you would receive an e-mail message with the subject "Good Times."
- ❖ The attached sender's name would probably be someone with whom you corresponded.
- ❖ Upon opening the e-mail, you would innocently release a virus that would—
 - ▶ destroy your hard disk
 - ▶ determine the addresses of others with whom you correspond
 - ▶ send a copy of itself to all the addresses it found
 - ▶ include your user ID as the new message originator

Staff in the Computer Security and Oversight Section posed inquiries to the leaders of virus detection/protection organizations and to leaders in industry, but to date no reputable

responses have validated the existence of "Good Times."

CIAC says it is not very likely that malicious code (or malware), buried in the body of an e-mail, would be capable of infecting your computer. In general, virus-laden software must be executed in order to infect a PC, and this is not the case in e-mail transmissions.

However, we will continue to follow up on all inquiries and notices, even though the latest information states that "'Good Times' is a hoax."

In closing, a really good time will be had if you—

- ❖ Scan program diskettes (used for working at home; received from licensees, vendors, or contractors; or shared with stand-alone PCs) before using them.
- ❖ Report all suspected viruses (even if you successfully clean them up) or erratic computer behavior to the **IRM Customer Support Center (415-1234)**.
- ❖ Don't attempt to load shareware, freeware, or other "bootlegged" software onto your workstation without approval and scanning.
- ❖ Forward any computer security questions/comments by e-mail (LMN).

We in IRM's Computer Security and Oversight Section thank you for using your computer resources in a responsible and ethical manner and promptly reporting any and all computer security problems. Now we can all relax and let the good times roll. *

Input, Output



Help! My PC Is Broken... Or Is It?

If you use a personal computer in your daily NRC duties, chances are that at some time there will be an equipment failure. **IRM's Customer Support Center** will come to the rescue, but there is one step you might want to try first—and two that you must never attempt.

1. Check the power. Are the lights on the front panel lit? Is your PC emitting its usual sounds? If not, there could be a simple explanation—it may be that the plug was dislodged inadvertently. Try plugging some other electrical item into the outlet or power strip. If it, too, does not work, then you need to call the Office of Administration's Fixit line at 415-7553 to report an electrical problem.
2. Don't use diagnostics from other sources in an attempt to spot the problem. You risk not only further damage to the equipment but also introduction of a computer virus into agency operations.
3. Never remove the system cover. Doing so could invalidate any vendor warranty or maintenance agreement, create an electrical hazard, and, in extreme cases, destroy internal components, all of which could prove expensive or require extensive service time.

Please leave repair of NRC property to the experts. For PC problems, call the **IRM Customer Support Center** at **415-1234** and report the relevant information, such as any error message received prior to the failure. A CSC representative will apply professional TLC and get you up and running promptly. *

Agency Information Technology Program

By Ivan Selin

Many of you who read this newsletter, like me, have spent at least a part of your careers in bringing the benefits of information technology into the workplace. Whether you are a computer specialist by profession or one of the many informed and highly involved non-professional computer buffs scattered widely throughout the NRC, you probably have at one time or another advocated the application of information technology in your particular workplace and perhaps have

been responsible for the development and use of particular programs or systems to make your own job, or someone else's, a little easier. As computer enthusiasts, we have largely seen our vision of a technological revolution in the workplace come to pass. Even a cursory comparison of the NRC today with the NRC of just a few years ago would clearly show the pervasive expansion of information technology (IT) in the agency and the extent to which NRC employees must rely on IT to get their individual jobs done.

We would, I think, also have to admit that the transition to the IT-dominated workplace has not been accomplished as simply as it once seemed possible. Information technology, it turns out, is costly, especially as the technology changes at a pace that few organizations can readily absorb or afford. Moreover, hardware and soft-

ware often lose some of their luster whenever systems must accommodate workplace processes and procedures rather than vice versa. The failure of IT to deliver on some of its early promise (the "paperless office" comes readily to mind here) has forced specialists in the computer fields to recognize that the technological revolution in the workplace

has to be planned, coordinated, and implemented carefully if it is to deliver as promised.

That is why I believe the most important development in the

use of IT at the NRC during my tenure as Chairman has been the determined efforts of the Office of Information Resources Management to apply the principles of strategic planning and agencywide involvement to the coordination and implementation of computing technologies that support program office objectives.

IRM has restructured its planning and budgeting process to expand participation of Headquarters and Regional offices to achieve more effective agencywide solutions and to allocate resources to the projects with the greatest benefit to the agency. Under this approach, IRM focuses on planning and budgeting for IT infrastructure while offices take more responsibility for their own specific applications, which is surely a step in the right direction.

Although much of the focus of Commission guidance and IRM activi-

"...hardware and software ...lose some of their luster whenever systems must accommodate workplace processes and procedures..."



For the past 4 years, Ivan Selin has been Chairman of the Nuclear Regulatory Commission. Prior to this appointment, Chairman Selin served for 2 years as Under Secretary of State. Chairman Selin will leave July 1 to return to the private sector.

ties during my tenure as Chairman had to do with planning and controlling the cost of IT activities—implying entrenchment, refinement, and maintenance of systems and data, I would argue that there has been ample opportunity for creative initiatives and expansion of IT at the NRC, particularly in establishing linkages to systems serving the public. These initiatives include high-performance computing programs, Internet access, and the Memorandum of Understanding with the National Science Foundation to support Mosaic. The NRC is also actively pursuing projects that will ultimately lead to automation of administrative business practices, such as the IRM/NRR pilot electronic information exchange plant program and the AEOD on-line plant information books.

Rigorous planning, creative program development, and expansion of pub-

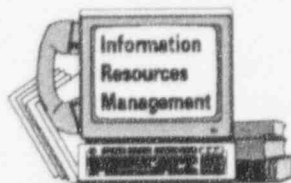
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Agency Information Technology,
continued from page 15

lic access are what I see as the key elements in the development of IT strategy at the NRC during the last four years. One of the successful applications that strategy has produced is a program with which I am quite familiar—the Commission Decision Tracking System (CDTS). For those of you unaware of this project, the idea for the CDTS, was spawned by user needs, not by computer specialists or by the availability of a particular software. In this case, the users were the Commissioners themselves, all of whom had experienced difficulty when first appointed in locating the appropriate background information necessary to understand the basis and rationale for past Commission decisions. To lead the project, the Commission chose Samuel J. Chilk, who, because of his long experience as Secretary of the Commission, understood better than anyone the Commission decision-making process and the documentation needed to support it.

In a close partnership arrangement, the Commission and the NRC staff chose the 29 topics to be included in the system, Mr. Chilk located and obtained the documents relevant to these topics and defined how the system would work, and IRM obtained the hardware, software, and contractor assistance needed to design and develop a prototype project. The prototype has been in operation since early 1995.

Although the Commission must now decide what direction to take with the prototype CDTS, I believe our experience demonstrates what can be accomplished when computer specialists and nonspecialists work together to produce a system in response to user needs. Despite the rough spots and disagreements in the course of CDTS development, I am pleased with the result and confident that we have a healthy, mature IT strategy that will continue to serve the NRC well in the years to come. *



Ask IRM

? When will the NRC upgrade the software used for dial-in access from remote PCs? The software currently used for dial-in access (PCAnywhere version 4.5) was licensed in 1991, when modem speeds were much slower than they are today. Using PCAnywhere, the maximum speed at which I can access the Headquarters LAN is at 9,600 baud, whereas many parts of industry operate at 28,800 baud, and the industry standard is 14,400 baud. Furthermore, many 14,400 modems are capable of operating at speeds of 57,600 or higher using data compression techniques that are built into current communications software. Operating at 9,600 baud is slow, requires more time logged in, and is subject to unexpected breaks in communication.

Thomas H. Boyce
Office of Nuclear Reactor Regulation

The NRC currently provides dial-in access to the network through CCITT V.32 bis modems connected to 386-based J&L Chatterbox host PCs. These modems operate at up to 14.4K bps with 57.6K bps effective throughput. This is the fastest speed the Chatterboxes support. Current PCAnywhere software can operate at speeds greater than 9,600 bps provided the remote PC modem supports such operation and PCAnywhere contains a compatible modem definition. Your assigned IT Coordinator, working with IRM, should be able to identify an appropriate modem and modem definition to permit 14.4K bps remote access.

IRM is surveying the market for an upgrade or replacement for the Chatterbox system that will support access speeds greater than 14.4K bps. Many of the leading products have integrated modems. Thus, replacing the Chatterboxes may be a costly venture. As such, it will be approached in terms of overall applications support rather than just raw remote access speed requirements. IRM plans to provide remote access at speeds greater than 14.4K bps by mid-FY 1996.

*Any NRC employee who wishes to direct a question about the Information Technology program may do so by sending an inquiry to INSIDE INFORMATION's e-mail account (NEWS). **

IRM Wants To Know

Look for our new IRM Customer Support Center survey form. When service is completed, please use the form to evaluate the service provided by our customer support technicians. If you'll take just a moment to let us know how we are doing and how we can do it better, your comments will benefit the whole customer community. *



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