AUTOS Comes of Age

By Chris Gianios, IRM

This winter the Office of Information Resources Management (IRM) is celebrating the completion of the first year of the Agency Upgrade of Technology for Office Systems (AUTOS) program. AUTOS is an agency-wide program that will provide for office automation at NRC. IRM's approach to achieve this objective is to begin by replacing the Agency's aging IBM 5520 Office Automation Systems and DisplayWriters, and integrating standalone microcomputers into Local Area Networks (LANs). The LANs will be connected using a Wide Area Network (WAN) to maximize the agency's ability to

exchange information and share documents and resources.

On September 21, 1990, the AUTOS services contract was awarded to CEXEC, Inc.

The period of the contract is three years with options for two one-year extensions. CEXEC and a subcontractor, Network Solutions, Inc., have been working under a series of task orders to implement AUTOS. Within the first three years, all IBM 5520 and DisplayWriter systems will be replaced; the last two years of the project will provide LAN management, expansion, and support. The replacement of the IBM 5520s and

DisplayWriters will be a gradual process as each LAN is installed. A LAN PC installed at the secretary's location will take the place of an IBM 5520 display, and a LAN printer will take the place of a shared IBM 5520 printer. The IBM 5520 Central Processing Unit (CPU) will remain in place with one or two PCs equipped with IBM 5520 emulation and conversion software attached. These PCs will provide file conversion and document transfer capabilities to offices waiting for replacement LANs to be installed.

It is no secret that LAN-oriented networking is rapidly increasing. Until recently, group and

Chris Gianios, IRM, discussing the use of AUTOS with Mr. Taylor, EDO

departmental LANs dominated the "landscape" at NRC. In some cases, groups could send e-mail and share printers. But, with AUTOS, we are entering the world of agency-wide networking. In addition to the original shared resources concept of older LANs, AUTOS provides Enterprise computing, where workflow transcends departmental boundaries.

During FY 1991, AUTOS was installed in nine NRC offices (Figure 1). The installations in these offices took place in large part after normal working hours during the week and over the weekend, and involved more than 300 workstations. During the installations, the AUTOS team installed the necessary components to bring these offices on line.

Each office installation was tested and a comprehensive quality assurance check of workstations, hardware, software, network

components, and cabling was performed. In addition, connectivity between the newly-installed AUTOS LANs and the existing LANs in the Washington area was established.

In conjunction with the installation, new AUTOS users attended indoctrination sessions, were provided with a LAN Users Manual, and were offered comprehensive training made available by IRM's ITS Training Lab. IRM also assigned a LAN Administrator to each office to operate the network as well as provide assistance to users.

The blue menu shining on a workstation's screen is the invitation to AUTOS. The menu presents the AUTOS users with new and enhanced software options--such as WordPerfect, WordPerfect Office Appointment Calendar, Scheduler, Editor, Calculator and other Office Automation tools, as well as more familiar programs on the user's Local Menu. These helpful software options facilitate preparation, editing, manipulation, transfer, and storage of work in both data and word-processing modes. AUTOS software programs are readily available, easily accessible, and "user friendly."

In order to move forward technologically, positive change is an important revitalizing factor. One goal of

AUTOS is to make network interaction effortless. The user-friendly changes brought about by AUTOS will allow NRC users to sit down and put the system to work. The effort to upgrade and replace NRC's existing office and word-processing systems will continue over the next two years. AUTOS will help streamline office systems, encourage the sharing of NRC information and resources, speed up the transmission of information, increase user capabilities, and increase user awareness of available office technology and training.

The AUTOS architecture will embrace all office systems' environments at NRC's Headquarters Offices, Regional Offices, the Technical Training Center (Chattanooga), and the Field Recovery Office (D   as well as Resident Inspector Offices. It will provide a platform for interfacing with certain laboratories and high performance UNIX operating-system-based computers. Agency-wide connectivity, the linking of NRC offices, reactor sites and laboratories to establish the seamless integration of LANs in a WAN is another sought-after goal of the AUTOS project. Total connectivity will speed the pulse and strengthen the efficiency and effectiveness of NRC's office systems.

ITS NEWS CREDITS

AUTOS FY 91 - FY 93 Implementation Schedule

FY 1991	FY 1992	FY 1993
ITS Training Lab	NRR	IRM
OGC	NMSS	ADM
OCM	OI	RES
EDO	Region I	OP
SECY	Region II & TTC	ACRS
SECY/PDR	Region III	OSDBU
GPA	Region IV	ASLBP
CON	URFO	ASLAP
OE	Region V	IG
		LSS
		OC
		AEOD

Figure 1

It has been an exciting year. The staff of the initial offices where AUTOS has been installed in FY 91 (Figure 1) have contributed greatly to the success of the program. Through their cooperation and willingness to be the initial users, they have been instrumental in helping to fine tune the system and make AUTOS work well in the "real world" at NRC.

Happy first birthday, AUTOS, you have arrived! ∎

Protect Against A Computer Virus

by Louis H. Grosman, IRM

Computer viruses are the most widely recognized example of a class of programs written to cause some form of intentional damage to computer systems or networks. A computer virus performs two basic functions: it copies itself to other programs, thereby infecting them, and it executes the instructions the author has included in it. Depending on the author's motives, a program infected with a virus may cause damage immediately upon its execution, or it may wait until a certain event has occurred, such as a particular date and time. The damage can vary widely, and can be so extensive as to require the complete rebuilding of all system software and data. Because viruses can spread rapidly to other programs and systems, the damage can multiply geometrically.

Within the last year there have been a substantial number of incidents regarding computer virus infections on NRC personal computers and networks. Recently, a computer virus was even found on software purchased from another Federal agency. There are no known ways to make a computer system totally immune from virus attacks, however, the following is a set of measures that you can implement to

decrease your risks and safeguard your system from computer viruses. Most of these measures are commonsense ways of avoiding danger, while others will help minimize your exposure if a virus does infect your system.

• Use only software provided by IRM or obtain IRM approval before using software obtained from an outside source.

• Know your computer and the software you use. Be able to distinguish between normal and abnormal system activity.

• Check diskettes obtained from other NRC staff for viruses prior to use on your computer. Check diskettes that you may have used on other agency computers prior to using them on your computer. If you must use a disk received from an outside source, have it scanned by IRM, or scan it yourself with a virus checking program provided by IRM, before using it. Call **492-9974** for a copy of the IBM virus detection program, **VIRSCAN**.

• Check your own diskettes for viruses prior to making copies for yourself or others.

• Write-protect new software immediately. Make a backup copy if necessary and retain the original distribution diskette(s) in a safe location.

• Don't let others use your computer without your consent. Log Off and Lock Up your computer when not in use.

• Make frequent backups of your data and keep several versions.

• When restoring data from a backup copy, check the backup diskette for viruses prior to using it.

• Obtain IRM approval prior to allowing contractors, vendors, or other visitors to use NRC equipment

NRC PC Super Sleuth

for demonstrations or other purposes.

• If you suspect your system contains a virus, STOP using it and get assistance from a knowledgeable individual. Call the IRM Hotline at **504-2353** or **492-4160**.

To have a disk scanned, call **504-3490** in White Flint, or **492-9974** in Bethesda. If you have a computer security question, call **Louis Grosman** at **492-5019**. Remember, only you can immunize your system against a computer virus infection. ∎

A new version of IBM VIRSCAN (2.1.5) has just been released. If you would like a free copy, please contact Dara Gordon on 492-9974. If you have already obtained a copy of IBM VIRSCAN from IRM, the new version will automatically be sent to you.

Automating the Office of Personnel With WordPerfect Office

by Bob Loach and Nick Monaco, OP

The Office of Personnel (OP) has implemented WordPerfect Office on its wide-area network ("VAN) which operates from a Data General, MV/9600, computer. This WAN serves more than a hundred OP users in five regional offices, five satellite offices, and the headquarters office in Bethesda.

The system is menu driven and "user friendly." With a few keystrokes, WordPerfect Office will allow you to: access your appointment calendar, update their schedule, send e-mail to a regional office, receive telephone messages, enter information into your electronic notebook, check a telephone number from the NRC telephone directory, and look up information on employment applications.

E-Mail

Perhaps the most utilized function in the WordPerfect Office is the e-mail which allows you to send and receive messages and files to anyone on the network. This is a great method for avoiding telephone tag and getting your message to the individual more quickly. When an employee turns on the PC, the mail message appears on the screen or, if you wish, a beep will sound to tell you that a message is waiting. In addition to sending and receiving mail messages, OP uses this feature to send files to the regions. For example, you have the option of bringing a document into e-mail and sending it for review to anyone on the network. By using e-mail, you are not only able to confirm that the recipient has been notified that the document is in, but can also tell when he or she opened it.

Calendar

The Calendar function allows you to create your own calendar(s). The system displays a 7-week calendar on the screen along with three windows: appointments, memos, and a "to-do" list. You may select any of these activities and record information for reference at a later time. Calendar searches by date can be performed. For example, you can check which meetings you are to attend on August 15. You can set the alarm (an asterisk by the appointment time) for a future date on your calendar (a meeting at 10:00). At the appointed time, your computer will beep and open a window on the screen to remind you of the appointment. The "to-do" list will continue to remind you of tasks not yet completed, since they remain on the list until you delete them.

NRC Telephone Book

The NRC telephone book has been added to the OP WordPerfect Office menu. This allows for quick reference to current telephone numbers. An updated version of telephone listings is loaded onto the Data General every two weeks. To retrieve a number, you simply type in a name and the system provides a screen that has a listing of names and phone numbers. This method is quick, easy, and more current than using the telephone book.

Word Processing

WordPerfect Office on the Data General uses WordPerfect version 5.0. The beauty of the word processing in the shared environment of a WAN is exactly that—the shared environment. Documents can be moved to other people's directories for informational purposes, concurrences, or editorializing without the messy situation of multiple diskettes. Documents can be sent through the e-mail system or simply by saving them into another person's directory. You can read documents in another person's directory if they do not have password protection on them, but you cannot save a document in another person's directory under the same name that he or she used, thereby ensuring the integrity of original documents. The system supports laser printers in all remote locations and adds to the professional appearance of OP documents.

OP Databases

WordPerfect Office provides easy menu-driven access to several OP databases: Employee Appraisal System, Employee Profile System, Automated Personnel System, Thrift Savings Plan, Applicant Review System, Agency Training System, Employee Personnel Profile, and the Vacancy Announcement System. Any of these databases can be accessed and reviewed. In addition, the Vacancy Announcement System allows each satellite and regional personnel office to enter its office's vacancy information remotely. These data are collected and then automatically executed at 11:00 a.m. each Friday to produce the vacancy announcement report for distribution on Monday to NRC employees. This process has the advantage of eliminating extra work and coordination, improves timeliness, and ensures that everyone has the same opportunity to know about vacancies.

Spreadsheet

WordPerfect Office supports PlanPerfect which is a spreadsheet very similar to Lotus 1-2-3. Using a

spreadsheet in a shared environment has the same benefits as the use of word processing in the shared environment, and the same protection. Examples of uses of the spreadsheet are simple retirement calculations spreadsheets and attrition rates for each office for the last 5 years, both of which can be accessed by any member of the OP staff through the use of the public directory.

Overall Assessment

By providing a menu-driven environment, WordPerfect Office has allowed OP to accelerate the use of new applications in managing personnel information. Because the commands are embedded in the menus, there is no need for training in their use. The menu environment also allows OP staff to use the familiar Data General menus and environment to access systems at the National Institutes of Health (NIH) mainframe computer and use the remote printer in the Woodmont Building for their reports.

WordPerfect Office has been readily accepted by the OP staff. As a measure of staff acceptance, OP, in conjunction with IRM, has had to upgrade the number of slots for available users, system memory, and system speed just to keep pace with the increasing staff demands for access and speed. This technology has added to the staff's productivity, enhanced communication, delivered messages in a timely manner, and allowed staff an easy access to information with a few keystrokes. ∎

Do you have an idea for an article?

Call and let us know -- 492-8309

My PC Is Broken -- What Should I Do ?

by Karen McElyea, IRM

If you use a personal computer (PC) at NRC, chances are very good that at some time in the life of that PC, it will experience an equipment failure. The Information Technology Support Section (ITSS) receives an average of 14 calls each day for major component failures in NRC Headquarters, and 8 additional calls of minor nature (requiring no parts and only 20 minutes or less to repair). The NRC headquarters' inventory contains more than 7,000 microcomputer workstations (including common-use stations and classrooms). There are multiple brands and models, with impressive capabilities. Because you rely on the computer to accomplish your daily workload, a personal relationship may develop between you and this equipment. Thus the term "Personal" Computer or PC. Nothing can be more frustrating, or stop the flow of your workday activity, than the failure of your PC or its peripheral components, regardless of the source of the problem. There are usually three reasons why a PC or a peripheral component fails. One reason is the software. This means that the software has not been configured (or the software configuration has been altered). This can result in many types of failures such as lost data, a printer failing to print, or a modem that does not receive or transmit data.

The second reason for failure is "warmwear," the person using the PC. This means that you have experienced a problem that results from unfamiliarity with the software or hardware (such as a new PC or new software package). The IRM Hotline was established to assist NRC staff with these types of problems. We have telephone support, and upon request, will send technical staff to your worksite to assist you with any problem you are

experiencing with either the software or the hardware.

The third (most costly and most time consuming) problem is hardware failure. If you suspect this is the problem, you should place a call to the IRM Hotline (492-4160), or the appropriate help number listed on the back page of this newsletter, which will alert the correct staff to respond.

Placing The Call

In order for the ITSS staff to respond efficiently and in a timely manner, BEFORE you place the call, record as much of the following information that is available to you: (1) the building and room number where the equipment is located, (2) the tag number of the equipment (the blue barcoded NRC 6-digit number), (3) the make and model of the equipment (this information is located clearly on the front or top of the equipment), (4) a brief description of the problem (including any number-coded error messages visible on your monitor when you first experienced the failure), (5) the software package you were using at the time the problem occurred, (6) the name and phone number of a contact (this person should be present when the technician responds, and should be aware of the problem), and (7) the name of an alternate contact in the event the contact person is not there when the technician arrives. You may be asked to provide other appropriate information, such as whether you are on a LAN, have an AUTOS menu or are using IBM 5520 system emulation.

There are, in addition, several checks of the PC or peripheral components that you can perform before calling for help.

1. **Check the power.** This is the first thing to do if nothing happens when the PC power switch is turned on. Check the lights on the front panel. Are they lighting up? Do you hear the usual sounds emitting from the computer? This may seem too simple, but it happens. A cleaning crew could (without your knowledge) accidentally unplug a PC. If the computer is plugged in properly but the PC doesn't respond, try plugging a lamp or other small electrical item into the outlet or power strip. If they, too, do not work, then you have determined that the problem is the power and not the equipment component itself.

2. **Do not, for any reason, remove the system cover!** This action alone can invalidate any warranty provided by a vendor to the NRC, including maintenance agreements. The removal of the system cover by an unauthorized technician can create an electrical hazard. In extreme cases, it can destroy internals that are expensive and may require an extensive amount of time (possibly days or weeks) to find a vendor to supply the correct replacement board.

3. **Check the cables in the back of the PC. Do they seem to be connected firmly?** If they are connected to the PC, then check to see that they are firmly connected to such peripheral components as the monitor or printer.

4. **If you seem to have lost all access to the hard drive(s),** place your system DOS diskette in the floppy drive ("A" drive) and type "C colon"—(C:). If you get no response or if you receive an error message such as ("error reading drive C"), chances are you have an internal part which has failed. The other possibility is that you have, by some means, lost software files. These can be reloaded by the software installation process. If you see a numbered error message on the monitor, record the error message (or leave the message on the screen), and call for support immediately. This numbered error code can provide a clue to the technician indicating whether the problem involves software or hardware. A call to **492-4160** (the IRM Hotline) will start the process of resolving your problem.

If a replacement of your hard drive becomes necessary, it is important that your data has been backed up on floppy diskettes. This should be done at the close of each day because we may be unable to recover your data from a failed hard drive. It is also important that the software application packages for your computer be available to the ITS staff for reloading onto your new drive before you reload your data. The availability of this software can make the difference in how quickly your computer is restored to working order.

Basic Guidelines

As a rule, always use the operating system software provided by your manufacturer, which has been designed for use on your particular machine.

Do not use diagnostics from other sources on your PC, as these can cause damage (and could contain viruses), and, despite manufacturer claims, may give incorrect readings. Read and understand the owner's guide provided with your machine, especially the portion dealing with troubleshooting. Do not attempt to repair an NRC-owned PC or peripheral component yourself or with the help of co-workers. This may cause other failures and could interfere with the maintenance process. In addition, this action will invalidate any warranties given by the vendor, maintenance agreement, or other related contractual agreements.

The ITSS Staff is committed to making every attempt to assure timely response to microcomputer failures. If you follow these guidelines when problems arise with your microcomputer, IRM will have the mechanism to begin the process of returning your PC to working status within a shorter time frame. As with all problems, the beginning of a solution starts with good communication. If you follow these guidelines, you will provide the beginning of a timely solution. ∎

Karen McElyea evaluating microcomputer testing procedures

Computer Equipment For The Visually Impaired

by Jennifer Dumont, IRM

Personal Computers (PCs) are everywhere in the workplace at NRC. Most users communicate with their PC through the keyboard and the display unit. But what about the blind or sight-impaired employee who cannot see the keyboard or the text on the display unit? Several options are now available which can make the visually impaired as proficient on the PC as sighted persons. Two of these options, DECtalk and Key-Braille, are currently in place and being used by NRC employees.

The first option, DECtalk, is a text-to-voice unit. It is considered more than a voice synthesizer because of its unique ability to provide a more natural sounding voice that can be configured to the user's needs. The voice can be altered for quality in pitch, rate, and the type of voice-- male, female, or child. The unit has been programmed with a letter-to-sound rule library that provides clear pronunciation of over 20,000 words.

The DECtalk voice synthesizer is a simple unit connected to the PC through a serial port in the back of the PC. A small speaker is then connected to an audio output jack in the synthesizer unit. The DECtalk unit in the Office of Nuclear Regulatory Research (RES) uses Job Access With Speech (JAWS) software to translate what is being typed or displayed on the PC screen through the DECtalk unit to audio mode. Everything that is typed into the computer is then translated into an easy-to-understand voice. (Macros can be created in WordPerfect and Lotus to facilitate voice changes.) The software is loaded onto the hard drive and is activated by a one-line

command. The system works not only in DOS but in most standard software applications such as WordPerfect, Lotus and dBASE III Plus. Everything that is transmitted to the CRT is also transmitted to DECtalk.

When typing, the DECtalk user has several operating modes from which to choose. Among them is having the unit pronounce what is being typed letter-by-letter or word-by-word. When in WordPerfect, the user can retrieve a document and, by simply scrolling through it using the arrow keys, the DECtalk unit will read the full line. The DECtalk unit will also pronounce or suppress every punctuation mark if the user elects this feature. The unit can also recognize and pronounce numbers in software packages such as Lotus.

New users of DECtalk are given several audio cassette tapes (instead of a written manual) to help them execute commands and to select operating modes. These tapes contain easy-to-understand instructions for setting up the unit and for using its most advanced features.

The second option, Key-Braille, is a braille display unit (placed under the PC keyboard) that translates the screen text into braille signs. With this unit, half a line of screen text is displayed at a time on the braille unit for the user. Easy access using the braille unit allows the user to position the cursor on the screen and read the line. The braille unit itself has its own touch control help system for the user. The unit also allows the user to read underlining, blinking, intensity, and other attributes, thus reproducing completely how the line of text is being displayed on the screen. Almost all existing non-graphic software works with this type of braille display unit.

Microcomputer equipment for visually-handicapped employees has been used successfully at NRC for slightly over a year. If you would

like additional information on computer equipment for the visually impaired, call Jennifer Dumont on 504-2917. ▪

Advancement In Visual Communications at NRR

by Larry Bell, formerly of NRR

The Office of Nuclear Reactor Regulation (NRR) has a new application, "Engineering Drawing and Image Toolbox" (E.D.I.T.), on the NRR local area network (LAN). E.D.I.T. is a system that brings NRR into the graphics world and allows the user to develop visual presentations of complex technical and scientific information to be used in oral presentations or incorporated into documents.

E.D.I.T. was developed to allow the NRR staff to enhance oral and written communications presented to the commission, utilities, industry, and professional groups. A system schematic or picture cutaway will give an audience a better perception of complex technical subjects. It also serves to minimize the need for long, descriptive text and, at the same time, visually communicates messages more accurately and quickly.

How Is The System Constructed?

The system was developed by Idaho National Engineering Laboratory (INEL) under the guidance of the NRR staff. It consists of three major components. The components are (1) drawing databases, (2) drawing tools, and (3) drawing library.

The drawing database allows the user to select drawings from the drawing library for development of pictorial representations of a complex technical or scientific topic (Figure 1). The user has the option to look at each drawing before selecting what is needed for the download process. Once the user has selected the library drawings to be used in a presentation, the drawing is downloaded to the user's workstation (the files are downloaded to the user's hard disk) for modification, saving, and printing.

The second drawing tool selected was the Piping and Instrumentation Drawings (P&ID) Editor developed for the SARA and IRRAS programs. See ITS NEWS (Spring 1989) for previous article. This program allows the user to develop simple schematics of nuclear power plant systems (Figure 2). The drawing tool symbol library has been expanded to include up to 246 standard nuclear industry drawing symbols (e.g., valves, tanks, and piping).

The drawings developed in the P&ID Editor can be converted into a
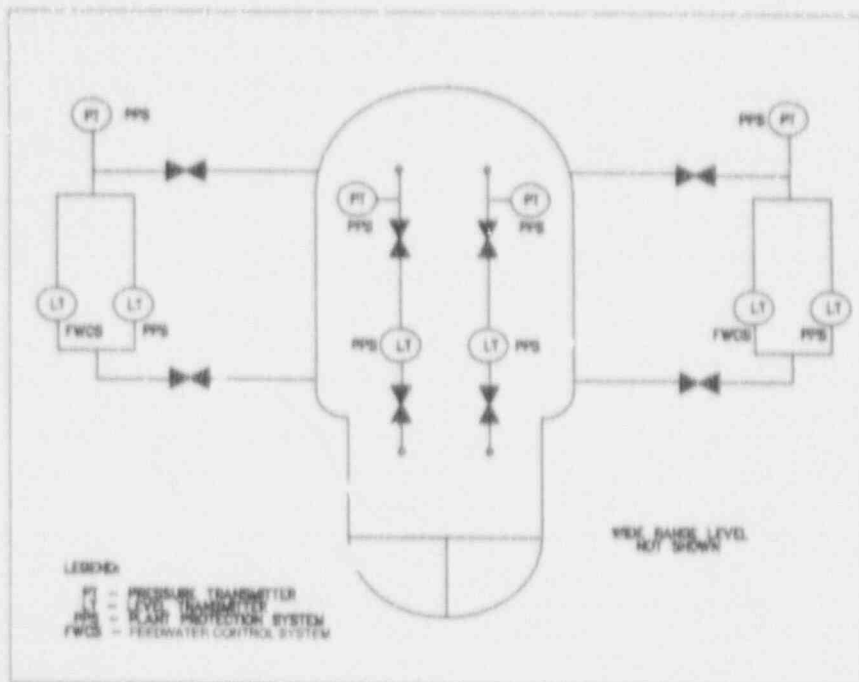

Figure 2. Simple schematic of nuclear power plant system

file format which will be accepted by the DrawPerfect package (the converted file format is a Hewlett Packard Graphics Language (HPGL) format). This way, drawings developed in the P&ID Editor can be mixed with drawings developed using the DrawPerfect package (Figure 3). Therefore, schematics and scanned images (such as

photographs and cutaways) can be incorporated into one pictorial representation.

The drawing library which is resident on the file server consists of schematics, photographs, and scanned images of nuclear power plant sites and systems. The graphic
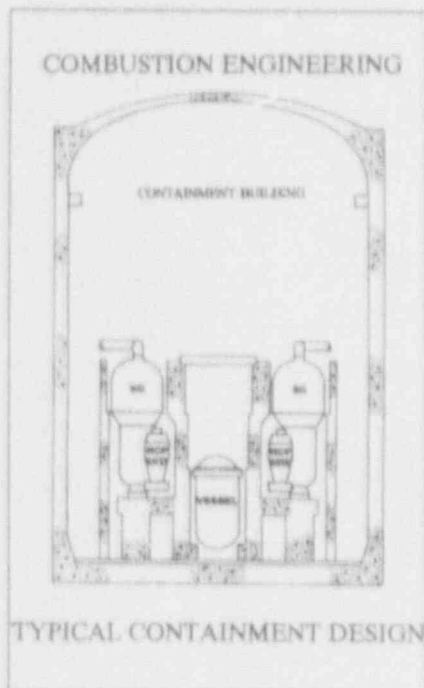
Figure 1. Example from drawing library
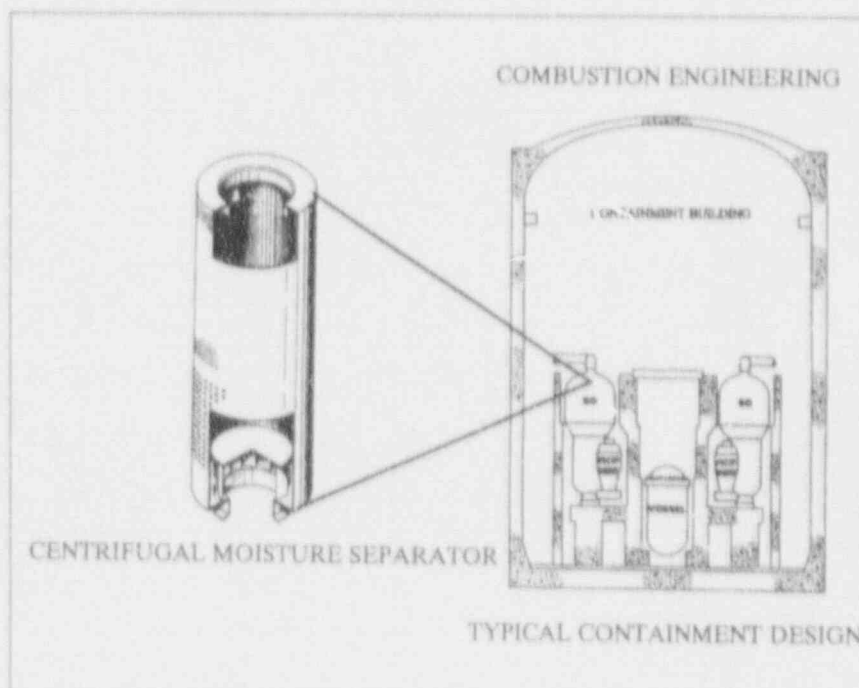

Figure 3. Combination of two scanned images using E.D.I.T

files in the library can be accessed and downloaded to the user's workstation for modification. However, the user cannot change the files in the library or store files into the library. At present, the library files consist of all the drawings and cutaways that were contained in the system's manuals used by the Technical Training Center to teach reactor technology courses. These plants are listed as the generic plants in the database. At this writing, the drawings used in the source books and published as SAIC 89/1538 are being converted to the DrawPerfect format for incorporation into the library. These drawings will be stored in the system by specific plant names. In addition, plans are being developed to include site data such as site maps and emergency planning maps and photographs of plant sites. All of this information will allow a user to address complex safety issues in a simple pictorial presentation.

E.D.I.T. Hardware

The minimum hardware needed at the workstation to access the system is: (1) IBM or compatible 386/20 MHz microcomputer with a math coprocessor, at least 1MB of memory, a 40MB hard disk, (2) Hewlett Packard laser or Epson FX-80 printer; and (3) token ring and LAN hookup.

The color prints are sent to the network graphics printers. There are two high resolution Tektronix Phaser CP printers on the network. One of these printers is for hardcopy color and the other is for color transparencies.

Future Expansion

Other offices and organizations have expressed an interest in this system. In the future, the NRR LAN will be expanded to allow other organizations to access the system on the NRR LAN. In addition, a stand-alone system has been developed to allow work to continue at the NRR graphics workstation in the event that the LAN should go down for an extended period of time. This system could also be used by an organization that could not access the NRR system. It is anticipated that this system will use a CD-ROM in the future, thereby minimizing the number of disks needed to store the library.

Any inquiries about this system can be directed to Al Blunt on 504-2216. ■

WordPerfect User's Support Group

by Ilyne Miller, IRM

Did you know you can get the WordPerfect template on your screen by striking F3 twice? What's the best way to do columns? When should you use tab as opposed to indent? These and other mystifying questions were covered at the first of what have become monthly meetings of the IRM WordPerfect User's Support Group.

The secretaries in the Office of Information Resources Management (IRM) decided that the best way to tackle WordPerfect would be head-on. Who better to sing the praises of this software package than IRM secretaries? After all, the agency will be totally converted to Word-Perfect within a relatively short period of time, and it will be IRM who will hear the panic-stricken voice over the phone when the users

are sure they've erased everything they've typed, only to find out that they accidentally hit SHIFT F3 and changed screens!

Although it's a great start, it's not enough for a secretary to take a class in WordPerfect. (At least not for this one!) It's important to know that there is support among one's peers. Sure, we can call the Helpline. But sometimes, when you're so new at doing something, you can feel a bit intimidated admitting to a stranger that you don't know what you're doing. It's much easier and more comfortable to ask for help from the secretary sitting next to you. It's also a great way to feel part of a team. Working together to get a job done, feeling proud of one's accomplishments, supporting your coworkers, all make for a more effective and

efficient organization.
So those of you who are still using the IBM 5520, trust me. Given time (it truly doesn't take that long) and an honest commitment to learning (it's very user friendly), you're going to like using WordPerfect. And who knows, maybe you'll start your own WordPerfect User's Support Group! In addition, the ITS Training Lab has prepared a booklet entitled, "The IBM 5520 User's Guide To Word-Perfect 5.1." A copy can be obtained by calling Joanne DeSantis at the ITS Training Lab, 492-4744. This guide can be a valuable tool for IBM 5520 users making the transition to WordPerfect.

If you have any questions or if you would like assistance in starting a user's support group, please call Ilyne Miller on 492-7575. ■

NUDOCS NEWS
NUCLEAR DOCUMENTS SYSTEM NEWSLETTER

NUDOCS Default Settings

Have you ever used NUDOCS and wished for a way to show additional or different fields from those that normally appear on the screen? Or perhaps you have wished to see the information presented on the screen in a different order? Well, there is a way to change the screens to fit your needs. This is done by changing the default settings.

Default settings (or application system defaults) determine which screens appear when you access NUDOCS. NUDOCS is programmed to allow you to change these settings on select screens, or to display other versions of the same screens. The screens that deal with viewing search results or the Browse Screen can be changed. You can also change the date format display and set the number of screens that NUDOCS will search during a FIND operation within a Full Text document.

You can change the default settings for the following display screens:

• The Summary Record Display Screen--This screen can display either a 5-record summary or a 15-record summary. The 5-record summary is the application system default; however, there are three alternate 5-record summaries to choose from. Each displays different fields or a different field arrangement. The default 5-record summary displays the Accession Number, Docket, Author Name, Issue Date, Microfilm Address, and Title/Description. Fields available on the alternate 5-record summaries include Document Type, Text Format, and Availability. The 15-record summary

lists 15 Accession Numbers, but displays information only for the Accession aligned with the cursor. If you wish to see the information for another Accession Number, position the cursor beside it and the information for that Accession Number is displayed.

• The Search Results Document Display Screen--This screen displays most of the fields available on NUDOCS. The screen appears after you select a record from the Summary Record Display Screen. The application system default provides a Bibliographic Header Display which displays principal information about the record, including descriptions for the document type and author/recipient organization(s) instead of the codes. Two Full Data Record Displays are available which include most of the available fields. Another option is to select No Document Record Display to skip the display entirely and go directly to the text file if one is available. If no text file is available, the system will display the message, "There Are No Document Text Pages For This Accession Number."

• The Document Record Browse Screen--This screen appears when you select either Browse or Predefined search methods. There are two different versions of this display screen, the Standard Document Browse or the Full Data Record Browse which includes all data elements.

The Default Settings also allow the display format for dates to be changed. There are five different ways to display a date in NUDOCS. They are: YYMMDD, MM/DD/YY,

MM-DD-YY, DD-MON-YY, or DD/MON/YY.

Accessing The "Set Defaults" Screen

Changing the default settings is an easy process and can be done from the Main Menu or by selecting Special Options from the Control Menu on the Subject/Field/Boolean Screen. You can also reset the defaults while in the Command Mode.

To access the Set Default Screen from the Main Menu Screen, press the TAB key to move the cursor to Set Defaults in the category labeled Miscellaneous and press ENTER. The User Default Selection Screen will appear.

If you wish to change the default settings while in the Menu Mode Search method, position the cursor next to the Special Options selection on the Control Menu and press ENTER. Use the UP or DOWN arrows to move the cursor. The Special Options Menu will appear. Position the cursor beside the Set Defaults option and press ENTER. The User Default Selection Screen will appear.

If you are using the Command Mode, type the command DEF at the Value Line and press ENTER. The User Default Selection Screen will appear.

Changing The Default Settings

To change a particular default setting, use the HOME or TAB keys to position the cursor in the appropriate

SIGN ON WITH SINET

On-Line Report Viewing In SINET

In response to requests from many SINET users, IRM is implementing an application that will allow reports generated from any SINET Report Selection Menu to be loaded and viewed on-line. This application will retain up to two generations of reports, providing the capability to compare today's report with yesterday's, or even last week's, report. If necessary, a user may print any page of any generation of a report on either a system or remote printer.

A windowing feature allows users to rearrange columns of a report and eliminate irrelevant information. Each authorized user will be capable

of uniquely windowing his or her report. Once a report is windowed, the characteristics are retained for future viewing sessions. Users may then elect to print the windowed report or optionally print the report in its original form.

Reports may be 80 or 132 characters wide. This application supports MODEL 5 terminals utilizing the full 27 x 132 screen size. Users will be notified immediately when reports are available for on-line viewing.

On-line documentation will be provided for all of the on-line report viewing functions.

Three SINET systems have been selected as pilot systems for the on-line viewing application. An on-line report viewing Quick Reference Guide will be issued to users of the Master Inspection Planning System (MIPS), Inspection Follow-up System (IFS), and Inspection Procedures Authority System (IPAS) in November 1991. On-line report viewing will be made available to these systems on or before December 2, 1991.

If you have questions concerning this subject, please call Wil Madison on **492-7781.** ∎

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category. If you wish to view the format for a setting before you make a selection, position the cursor beside the option you want to see and press F10. A template showing the arrangement of the fields included in that particular setting will appear on the screen. Press the ESC key to return to the User Default Selection Screen.

Use the UP or DOWN arrows to position the cursor beside the setting you want to select and press EN-TER. The number of the option you have selected will appear in the middle of the screen beside the category heading.

To change the number of screens NUDOCS will search during the Full

Text FIND feature, position the cursor beside the Text Search Screen Count option and enter a new number. The new number will appear beside the category heading.

After you have made your changes to the default settings, press ESC to exit the User Default Selection Screen. The following prompt will appear: ''**Do you want to commit the changes you have made?.**'' If you wish to make your changes perma-nent, leave the answer **Y** and press ENTER. If you only want those changes to affect the search session you are currently in, type **N** and press the ENTER key.

Once you have exited the User Default Selection Screen, the system will return to the screen from which

you accessed the User Default Selection Screen.

If you have any questions, please refer to the **NUDOCS User Manual** (Chapter 13) or contact the **NUDOCS Hotline at 492-8603.** ∎

Annual NUDOCS User Survey

The Annual NUDOCS User Survey will be distributed to the NRC NUDOCS user community early in calendar year 1992. The purpose of the survey is to help the Document Management Branch assess NUDOCS usage and user satisfac-tion. When you receive your copy of the survey, your cooperation and prompt response will be appreciated.
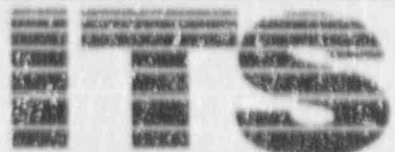
ITS TRAINING LAB NEWS

ITS Training Laboratory Meets Goal for AUTOS Program

The Agency Upgrade of Technology for Office Systems (AUTOS) has become a reality for eight offices at the NRC. NRR, the ninth office to have the network installed, is currently receiving AUTOS. The ITS Lab was first at this agency to receive the AUTOS network, and has been working with IRM and the CEXEC contractor to make sure that immediate training is available for every office as their computers and networks are installed.

The AUTOS course offerings are not included in the general announcement published by the Lab. Rather, the courses are offered to the offices as the offices become linked to the AUTOS network. Carolyn Bassin, Project Manager for the ITS Training Laboratory, has met with the Training Coordinators for each of the offices prior to AUTOS installation. Her goal has been to explain the AUTOS training program, and assist in setting up training classes on schedules that meet the needs of the offices.

Training materials for AUTOS have been developed on three levels: the LAN Orientation course offers prospective LAN users insight into how local area networks (LANs) operate and the advantages of using the LANs and the AUTOS Wide Area Network (WAN). This is a half-day survey course and is presented in Room 1 F22 of the White Flint Building.

"Using Your AUTOS Local Area Network: WordPerfect Office" gives hands-on instruction on how to log in and access the resources of the LAN

and WordPerfect Office. Participants learn how to keep files private, encrypt files with a password, share files with other users, and explore the structure of the shared disk. Interaction with WordPerfect 5.1 and the printer selection are discussed as documents are printed on both a local and network printer. Security concerns are examined in this course.

"AUTOS and WordPerfect Office" teaches the features of WordPerfect Office in depth. Notebook, Calendar, electronic Mail, Calculator, and Scheduler are explored, explained, and experienced. After an explanation of the concepts, participants are given ample time to practice their skill in workshops on the various features. The WordPerfect Office course handout also serves as a job aid. There is a quick reference section in the front of the book that just gives the keystrokes necessary to complete a task. The greatest portion of the book, however, is an in-depth reference for each of the features and how to use them. This course was developed for the AUTOS environment, but there are other LANs in the NRC that use WordPerfect Office. Anyone is welcome to take the course. Call the ITS Lab at 492-4722 for class dates and times.

There are no prerequisites for taking the AUTOS courses, but it is recommended that participants take "Introduction to Computer Resources" and "WordPerfect: The Basics." The staff at the ITS Lab is screening registrants so that, whenever possible, the courses can be presented to classes composed of all WordPerfect users or all non-WordPerfect users. Be sure to indicate if you have had experience with WordPerfect when you sign up.

New Courses And Revisions Beginning in December

New courses in Lotus and WordPerfect will have begun by the time you receive this issue of ITS NEWS. Each course is a half-day, hands-on experience in the use of macros. Now if the sound of the word, "macros," causes your heart to pound and your hands to sweat, STOP. What you learn in these courses may give you a thrill, but we guarantee no headaches.

Macros are a collection of stored keystrokes which can be played back quickly and easily. In WordPerfect, macros could be used to reformat a document, change a font, save a file, merge a list and a letter and print the results, or create an interactive memo; the list goes on and on. In Lotus 1-2-3, you can combine files, make a calendar, recalculate a spreadsheet, print a range--the choices are endless. And all of the macros get the job done quicker than we could possibly key in the commands and characters.

You don't have to be a "power user" to try the macros courses. If you are comfortable with the command line in Lotus and simple formatting commands in WordPerfect, come join the fun. The courses are given on the same day for those of you who want to learn it all at once. If you prefer to nibble on Lotus and hold back on WordPerfect a while, or have no interest in Lotus but need the WordPerfect techniques, sign up for just one course. Carefully note on your calendar the date and time given in the confirmation letter you receive from the ITS Lab.

Your Training Benefits

One of the perquisites of employment at the U.S. Nuclear Regulatory Commission is the training offered at the ITS Laboratory. The opportunity to learn new skills that will aid in your job and ease your work load is a powerful incentive. Take the time to get the training you need. In the last quarter, 621 NRC employees were trained in the ITS Lab at no direct cost to themselves.

ITS Lab training is designed for NRC's needs. The courses are short, organized to teach NRC computing tasks, and conducted using job aids that are excellent for use on the job. The courses are given by highly skilled and motivated instructors, most of whom have had more than 10 years of substantive experience in technical writing, instruction, and course design. We are proud of our instructors and will, from time to time, do a thumbnail sketch for you of one or more of them. ∎

Meet Peggy Bree, AUTOS LAN Instructor

Peggy earned her M.S. in computer science at The Johns Hopkins University; her engineering degree at Rensselaer Polytechnic. She has had more than 12 years of experience in course development and presentations in dBASE, Local Area Networks, and WordPerfect, just to name a few. In fact, Peggy has earned the coveted distinction of being named a WordPerfect Corporation Certified Instructor, an achievement few have realized. Under NRC's direction, Peggy has designed the LAN Orientation course, the DaVinci LAN course, and now the AUTOS LAN course. She has just completed work on the design of the WordPerfect Macros course.

Computer Wizards

Thomas Watson, born in 1874, developed into a tough businessman with a genius for selling that stemmed from an unyielding determination to build a great corporation. His success is a classic story of how the American free enterprise system works. Watson became the head of the IBM Company in 1914, when 100 shares of stock sold for $2750. When he died in 1956, the original 100 IBM shares were worth $1.6 million. The company's growth began with manufacture of scales and other digital appliances, moving into calculators and punch cards; today it is a leader in computer technology.

In 1937, Watson had the foresight to back young Howard Aiken's computer research which lead to the development of the first American electronic computer, the Mark I. (On this computer Grace Hopper did her first programming.) The Mark I, known as the Automatic Sequence Controlled Calculator, was the theoretical design for modern computers.

In the ten years preceding his death, Thomas Watson, Sr. groomed his son Tom for the top position at IBM. He schooled, tested, tempered, and exposed Tom to thinking processes and business secrets that made the man and the company successful. The elder Watson made a good choice, because Tom marched IBM into the computer business. By 1952 IBM passed the mark of $250 million a year in sales. Although IBM has had its ups and downs, the original 100 shares of stock were worth $20 million by 1971. And that was even before the personal computer explosion of the 1980s.

Howard Aiken could have been thinking of his benefactor, Watson, when he wrote: "There are limitations to a computer; it will not be able to do the thinking of a business executive, but will make work easier and more efficient." That prediction has come true in our time. We still need to do a lot of thinking.

Information for this article was based on an excerpt appearing in Fortune, June 4, 1990. Fortune's excerpt was based on the book published by Bantam, "Father, Son and Co", by Thomas Watson, Jr. ∎

Book Review

"Software Reliability" is becoming a classic in Software Quality Assurance (SQA) circles. It is authored by three men from AT&T Bell Laboratories: John Musa, Anthony Iannino, and Kazuhira Okumoto, published by McGraw Hill in 1990. Some of you, who attended the first SQA seminar sponsored by IRM in April 1990, may remember seeing a video of John Musa discussing software reliability.

Dr. Musa suggests that many people have been bombarded by ideas, techniques and tools for improving software productivity and quality, through reading journals, and attending conferences and seminars. But not much solid evidence or quantitative measures of the values of these ideas and tools have so far been exhibited. The author states that reliability and cost of a product are probably the two most important characteristics, both to the producer and the buyer. The authors describe the parameters of reliability and suggest that the reader learn more in depth by applying the techniques to an actual project. The rest of the book tells the reader how to proceed. There are a considerable amount of mathematical algorithms, graphs and tables embedded in the text. This book is available for loan from the main NRC Library. Please note: the video mentioned is also available, call Emily Robinson, 492-3490 for information. ∎

ITS TECH NOTES

Backup Reminder

Why is it that, in virtually every issue of the ITS NEWS, there is an article about backing up data?

Because...

• Experience shows that at least once, at some point or another, every user needs to restore a file that has been lost or damaged.

• Some users believe they just don't have time, but, unfortunately, they are missing bigger issues. Do they have time to reenter data or re-create files or documents a second time? Can they regenerate the creative process that led to a masterful presentation the first time? Do they have the will to do so?

• Support center team analysts are continually helping people who have lost files and have no backups. Extensive, time-consuming efforts are required to recover lost data. In many cases, nothing can be done, and all the effort is wasted. If time is taken to make a backup, much of the creative and manual processes required to generate files would be saved.

Most users assume that their data will last forever. A single mechanical, media, or software failure may justify all the time spent backing up.

You don't have to backup every minute or even every day; once a

week may be enough. The decision on how often to back up is yours. How much data are you willing to lose, reenter, or re-create to offset the possibility of a failure and the time required to perform a backup? Remember one of Murphy's Laws: When you lose a file, it is always the largest, oldest, or most important one you've worked with since the last backup. Also, if it took a week to create a file the first time, it probably will take at least that long to re-create it.

There are two problem areas that need special attention: removable hard disks and diskettes. **Handle removable hard disks very carefully; always put the disk in its protective carrying case when it is not in the PC.** Because they are removable, these disks are more susceptible to damage than other media, such as floppy diskettes and CD-ROMs. Files lost because of physical damage usually cannot be restored.

Some users keep all data on diskettes, which are the **least** reliable form of magnetic storage.

• Diskettes formatted improperly to the wrong density eventually degrade, and data integrity is jeopardized.

• Accidental reformatting of diskettes can also lead to data loss.

• Data can be lost if the user switches diskettes during a save or while editing a document. The

system becomes confused and scrambles the data.

• Diskettes are also susceptible to physical damage.

Use the hard disk as your main storage area and diskettes for temporary or backup storage. Accessing the hard disk is much faster, and, because the hard disk is much larger, you rarely have problems with storage space. In all cases, internal hard disks are much more reliable. Use diskette copies if you need to transport a file or back up data.

Remember, you don't have to use a fancy backup program to protect yourself from potential data loss. Simply copying critical files to diskette, through DOS or your software application, is usually sufficient for preserving data that is used every day.

At the NRC, each staff person is responsible for backing up his or her files maintained on local hard or floppy disk drive(s). Your Local Area Network (LAN) Administrator is responsible for backing up files maintained on the LAN file server. Practice safe computing—**BACK UP YOUR FILES.**

WordPerfect Tips and Tricks

Text Alignment In WordPerfect

Sometimes WordPerfect text that appears aligned on screen is mis-aligned when viewed (SHiFT/F7, 6) or printed (Shift/F7). This problem arises from the differences in the

ITS TECH NOTES

spacing of screen fonts (which are nonproportional) and proportional printer fonts, and the use of the "space" to align columns or indent text.

With nonproportional fonts, space and character widths are the same size. If you print using a nonproportional font (such as Prestige Elite, Courier, or Letter Gothic), text remains aligned when printed, regardless of whether spaces or tabs are used for alignment. With proportional printer fonts (such as Times Roman and Helvetica), widths vary with the size and shape of the character. For example a lowercase "m" is approximately four times the width of a lower case "i." Therefore, columns or text aligned on screen with spaces misalign when printed.

When you use spaces to indent or align text, WordPerfect translates them differently depending on the type of printer font (proportional or nonproportional) and justification style (right, left, or full justification) selected. To guarantee perfectly aligned columns or indented text regardless of the font selected, use tabs to align columns or indent text.

### WordPerfect Predefined Bullets and Fraction

At the Prompt, Type		To Get
Key= *.	(Asterisk period)	•
Key= **	(Asterisk Asterisk)	●
Key= *o	(Asterisk "o")	o
Key= *O	(Asterisk "O")	O
Key= /2	(Forward Slash 2)	1/2
Key= /4	(Forward Slash 4)	1/4

Predefined Bullets and Fraction

WordPerfect has four predefined bullets (two filled and two hollow) and two predefined fractions (1/2 and 1/4). To create the bullets, use **Compose** (CTRL/V) and type an asterisk (*) with the appropriate character, as shown in the table below. You can create the fractions similarly using **Compose** and a forward slash (/) and either **2** or **4**. The bullet characters and fractions may not display on the screen, but they are displayed when you view the documents (SHIFT/F7, 6). This feature is not supported by PostScript printers.

The Art of Shadow Boxes

You can create a shadow border around a box to give it a three-dimensional look.
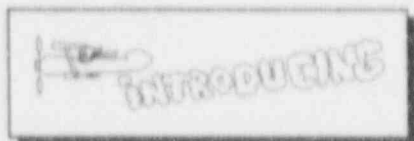
Create a box using **Graphics** (ALT/F9). To make the border, follow these steps:

1. Create your box, import the necessary graphic (one graphic per box), and exit using F7.

2. Place your cursor before the box.

3. Press **Graphics** (ALT/F9) and select the box type (figure, table, text, or user box).

4. Type 4-Options.

5. Type 1-Border Style. At the bottom of the screen, these options appear: 1 None; 2 Single; 3 Double; 4 Dashed; 5 Dotted; 6 Thick; 7 Extra Thick.

6. Use the directional keys to highlight **Right**. Select 7-Extra Thick.

7. Use the directional keys to highlight **Bottom**. Select 7-Extra Thick. Press F7 to save and exit the **Graphics** feature.

NOTE: All subsequent graphic boxes of this type are set up as selected until the option is changed.

INEL

New Cray System Software

FORWARN is a new system software tool to help FORTRAN users to enhance the reliability, portability, and documentation quality of software development. To obtain a manual, call Korby Smith on (FTS) 583-8482 and request "FORWARN User's Guide." You must have a valid CRAY ID and charge number.

A new version of MAPPER/DISSPLA interface system has been installed on the CRAY. Applicable manual pages are available on-line. Refer to June issue of "EXCHANGE," page 6 for details.

Several new file handling utilities and tools have been added to CRAY system software. Scientific finite element codes for heat transfer, TOPAZZ2D and TOPAZZ3D are also available to all users. Refer to July issue of "EXCHANGE," pages 8-10.

Graphics users will be interested in trying NCAR Graphics and Hierarchical Data Format (HDF) for transferring graphical data between platforms. Refer to September issue of "EXCHANGE," page 4. ■

NUCLEAR REGULATORY COMMISSION
Computer Services Directory

ITS SUPPORT CENTER FACILITIES

Locations:

Philips Building, Rm P-358
7920 Norfolk Avenue
Bethesda, MD 20814

One White Flint North, 3C-12
11555 Rockville Pike
Rockville, MD 20852

Phone:
(FTS) or (301) 492-4160   (301) 504-2353
(FTS) or (301) 492-4357   (FTS) 964-2353

Center Hours:

7:30 a.m. - 4:15 p.m. M-F

Services:

Microcomputer assistance (Telephone & Walk-in), Demonstrations, ADP Technical Library, and Computer/Video-based Tutorials. NRC Project Officer, Ms. Phyllis Smith(492-4098); managed under contract by Mr. Lee Taylor, Operations Manager, Analytical & Research Technology, Inc.

TRAINING LABORATORY FACILITY

Location: 3rd Floor, Woodmont Building
8120 Woodmont Avenue
Bethesda, MD 20814

Phone: (FTS) or (301)492-4744 **Mailstop:** W-306

Laboratory Hours: 7:30 a.m. - 4:30 p.m. M-F

Class Hours: 8:30 a.m. - 3:30 p.m.

Services:

Three classrooms for formal ADP training providing "hands-on" instruction in the use of microcomputers and timesharing systems.

Note: The Training Laboratory is operated by the Graduate School, USDA under contract and managed by the Office of Personnel, to provide training in end-user computing for the NRC staff. Technical guidance is provided by IRM. NRC Project Manager, Carolyn Bassin; GS/USDA Training Manager, Mary Holmes.

NRC END-USER COMPUTING SERVICES

Microcomputer Hardware/Software Acquisition, Upgrades:
Please contact your local ADP Coordinator to initiate this action.
John Burton, P-530, 492-4836

Microcomputer, Word Processor, other ADP Relocation:
Please contact your local ADP Coordinator to initiate this action.
Beth DeWoody, P-508, 492-4832

Microcomputer Hardware Installation and Maintainence:
Karen McElyea, P-500, 492-8906

Microcomputer Software Installation: P-550, 492-8317

Word Processor, Other ADP Maintainence:
Please contact your local ADP Coordinator to initiate this action.
Beth DeWoody, P-508, 492-4832

Modem and Data Line Problems: P-810, 492-4666

Modem and Data Line Acquisition:
Stan Wood, P-626, 492-7723

Computer Room: Phillips 492-7713
White Flint 504-2885

Computer Security:
Louis Grosman, MNBB-7602, 492-5019

Timesharing Access/IDs:
Herb Parcover, MNBB-7602, 492-8699

AUTOS Program: James Schaeffer, P-532, 492-9832

Data General and INEL User Support:
Emily Robinson, 3C-14, 504-3490

AUTOS Helpline: 504-1517
IRM Hotline: 492-4160
LAN Hotline: 492-4243
NUDOCS Hotline: 492-8603
SINET Hotline: 492-4222
Telecomm Help Desk: 492-4666

Data General Systems Problems:
Judy Sueherman, P-600, 492-9687

IBM 9370: Kay Moses, 492-4167, Dave Barrow, P-600, 492-8308

IBM PROFS/E-Mail Support: Sharon Root, 3C-12, 504-2256

Electronics Records Support:
Brenda Shelton, MNBB-7714, 492-8132

Automated Graphics Support: Al Blunt, 2O-40, 504-2216

Commercial Database Support: Eileen Chen, P-160, 492-8501

Scientific Code Distribution: Sharon Root, 3C-12, 504-2256

Shared Information Network (SINET) Development:
Wil Madison, P-810B, 492-7781
EXSIS: John Beatty, P-712, 492-4164

Systems Development and Modification:
Bill Usilton, P-712, 492-8322
Dick Hartfield, P-712, 492-4328

Scheduling for ITS Training Laboratory
Eduardo Cunningham, W-306, 492-4744

Post this Computer Services Directory for ready reference.