ITS NEWS

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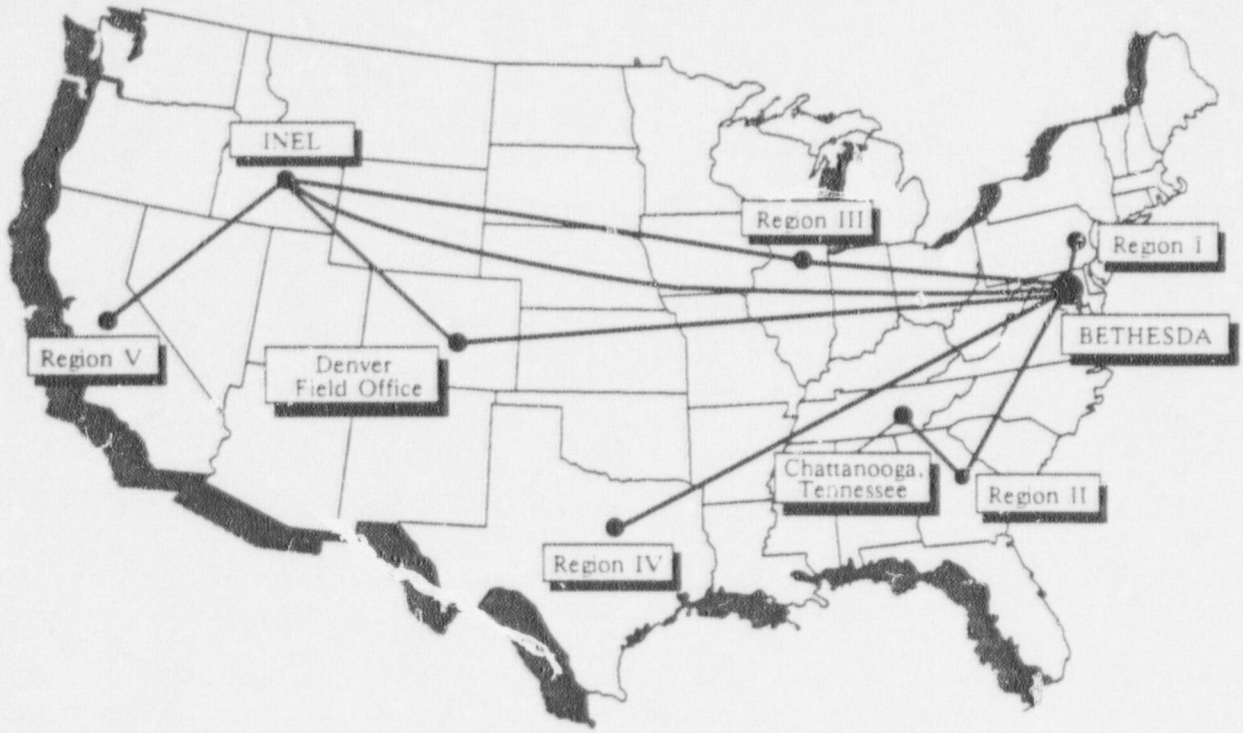
Information Technology Services Support Center and Training Laboratory

U.S. Nuclear Regulatory Commission

Division of Information Support Services

Office of Personnel



Still Using a Dialup Modem? Try ANS!

By Brian Brownell

Within the NRC a significant number of dialup modems are used to satisfy data communications requirements. In the past, dialup modems were the only affordable means of simple, convenient access to remote computers. Poor line quality, slow transmission, garbled data, and periodic disconnects were accepted trade-offs for convenient access. In response to the shortcomings of dialup access, the NRC has installed a data communications system called the Autodialing Network System (ANS). A product of several years of evolutionary growth, the ANS relies on state-of-the-art packet switching and statistical multiplexing technology to provide the high quality data communications services needed in today's information intensive environment.

The ANS consists of a nationwide system of leased lines connecting switching nodes located in nearly every NRC location. Attached to the ANS by simple in-building wiring, terminals or PCs can access other PCs, NRC computer systems, the NRC Document Control System (DCS), and a variety of other computers at the National Institutes of Health (NIH), the Department of Justice, the Idaho National Engineering Laboratory (INEL), and Lawrence Livermore Laboratory (LLL). Both traditional interactive communication and the newer file transfer applications used by PCs are supported by the ANS. In contrast to commonly used dialup

THE ISSUE AT HAND

modems, whose data rates are limited in order to achieve acceptable error rates, the ANS handles error control internally and delivers error-free data at 9600 baud. For users with specialized requirements, dialup access to the ANS is available, as is dialout from the ANS. Dialup entry and exit points, using newer modems capable of 2400 baud operation, are located nationwide at the ANS switching nodes. Due to the modular and flexible design of the ANS, adding new services can be accomplished without major redesign or disruption to existing services.

Equal in importance to the technical capabilities of the ANS is the support structure set up to assure continued high quality service. Local coordinators handle day-to-day inquiries and problem reporting; local contractors provide equipment maintenance; network monitoring, hot line staffing, and technical assistance are provided by INEL personnel; and overall network management is provided by the Telecommunications Branch.

Further information on the ANS, including an ANS pocket guide, can be obtained from the personnel listed below. Pocket guides are also available at the Information Technology Services Support Center.

ANS Contacts:

RI	Charlie Bitting FTS 346-5162
RII	Judy Coleman FTS 242-5548
RIII	Marie Stahulak FTS 388-5534
RIV	Jeana Higgins FTS 728-8181
RV	Bess Fleming FTS 463-3799

Headquarters Telecommunications Branch
Brian Brownell
FTS 492-8000

ANS Hot Line
INEL FTS 583-2666

MOVING LESSONS

By John Voglewede

Our move to One White Flint North is nearly finished. The members of the Information Technology Services Branch have learned a number of ADP lessons from our participation in the first phase of the NRC consolidation process. We would like to share these lessons with you.

Backup! Backup! Backup!

The move has been our chance to learn the value of backing up computer files. Our move was filled with opportunities for valuable files to become lost or damaged. We've also discovered that the fixed disk of a microcomputer should never contain the only copy of any critical file.

ITS NEWS Credits

The ITS NEWS is a quarterly publication providing information of interest to users of computer technology at the NRC. It is produced by the staff of the NRC Information Technology Services Support Center and Training Laboratory in conjunction with the NRC's Office of Personnel.

Your articles, ideas, questions and comments are welcomed. Please forward them to the ITS staff by:

Phone: 492-4160
Mail or In Person: P-808 Phillips Bldg.

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The backup process is fairly simple. It usually requires no more than a few blank diskettes and frequent use of the DOS COPY command. Only user files need to be backed up. Documents should be copied, not DisplayWrite software. Spreadsheets, not LOTUS 1-2-3. With user responsibility limited to user files, more sophisticated DOS commands such as BACKUP and RESTORE, or magnetic tape units, are usually not required. The backup disks are easy to protect, store and transport.

A Marriage Made in Heaven

The Hardware and Software Acquisition Branch assigns software to specific computers. This marriage between hardware and software has suffered from the move. Some software was lost in the shuffle. Other software, thought to be lost, was found during the packing process. Users who ended up with more or less software than expected should contact your office ADP coordinator. Missing software can be replaced. Extra software can be reassigned to other users.

Teaching An Old Dog

We've found that the move is no time to learn new ADP tricks. If you expected a new personal computer, a replacement for the IBM 5520 word processing system, or total connectivity for existing equipment, a little patience is in order. For the first cut, what you had before the move is what you got after the move. More and better equipment is on the way.

Ergonomically Speaking

The new ergonomic furniture at White Flint has a lot to offer for comfortable, long-duration seating. Everyone should take the time to learn how to adjust their chair and keyboard pad. We've found it very pleasant to use a computer keyboard that is not sitting on a table top. On the other hand, the ITSB staff is still waiting for the first user to lose diskette files to the magnetized shelf dividers

in White Flint flipper-door unit furniture. Enjoy your new workstation, but don't risk your data to a hungry file cabinet.

Call In The Cavalry

The move to White Flint has pointed out the value of support services for your computer. The ITS Auxiliary Support Center is located at 3C-12 and can be reached at 492-0353. A little exploration will show you where the common-use computer stations, IBM 5520 printers and other equipment are located on your floor. The Remote Job Entry station is located at 2G-18 and the supply room (P1-36) can be visited for computer paper, printer ribbons and diskettes. If you already haven't done so, take the time to learn where these valuable services are located.

Pat Smith working on Division of Contract's IBM System 36 with Harold McClendon and Ed Halman looking on

An Ounce Of Prevention

The White Flint move has taught us the value of planning. Services such as telephone data lines are easier to obtain by preplanning than as a result of a postmove discovery of missing equipment. Generally, it is easier to find a missing diskette before the move than after it.

We hope you've found something useful in our lessons learned from the White Flint move. If you have more computer-related observations from your move, please call us at 492-0353.

CONTRIBUTIONS SOLICITED

Do you have an application you have created on your PC? We want to let the rest of NRC's PC users know about it. Send a brief description, including software used and results accomplished, and your name and organization, to:

ITS NEWS Editor P-808

OOPS - WE GOOFED!

By Gerald Paulsen

ITS News announced the November, 1987 installation of the IBM 9370 computer, calling it the first NRC-owned IBM mainframe. We were wrong! The Division of Contracts' IBM System 36 has been in operation since September, 1986. It supports the Automated Contracting System (ACS), designed for EPA and presently in use by 30 federal agencies.

The ACS is a knowledge based system which assists the contract negotiator in the preparation of contract documents through a question and answer dialogue. The response to each question is the basis for the software's selection of the next question. The appropriate contract clauses are selected from the computer's library and incorporated into the document along with text prepared by the negotiator using the system's word processing capability.

The final document emerges in a standardized format, containing all the appropriate clauses and the text specific to the procurement action.

Harold McClendon, Division of Contracts, is responsible for the NRC implementation of the system. He says the System 36 and the ACS are the first step in Contracts' use of computer technology to improve its capability to do its job. Already there has been an improvement in the quality of contract documents, especially in the selection of appropriate contract clauses, and a reduction in the time it takes to prepare a document. Documents are more readable because of the standardization that went into development of the system and the uniformity of their content and format.

The system provides an audit trail for each document and ensures that each document will contain the most up-to-date clauses through central storage and selection of the contract clauses.

The System 36 communicates with NRC's IBM 5520 network, allowing documents such as the Statement of Work to be shared. Mr. McClendon plans to incorporate the use of Lotus 1-2-3 spreadsheets into the system in the near future to assist the staff in evaluating vendors' cost proposals. He also plans to activate asynchronous communication to provide access to the LEXIS data base and Western Union communications network.

The System 36 is proving to be a valuable precedent for NRC's growing family of computer resources.

Emily Robinson, Pat Bell, Cliff Parrott and Sharon Root at Support Center at White Flint North

ITS CREATES ITS CLONE - Well ... *Almost!*

By Emily Robinson

The Information Technology Services Branch has become two distinct ITS Support Centers to serve the diverse NRC user communities. The new auxiliary center opened the end of January at One White Flint North, in station 3C-12 and six adjoining workstations.

The ITSB staff and equipment has been distributed as follows:

Phillips Support Center

Staff: Helen Clem
Linda Harmon
Karen VanDuser
Gerald Paulsen
John Voglewede
two contractors.

PC HOT LINE: X2-4160

Software installation: X2-4162

Other questions: X2-4162

User area with two workstations:

1) IBM PS/2 Model 30 with external 5 1/4" floppy drive unit, math coprocessor, ASYNC and BI-SYNC modems, and Epson printer.

2) Dual floppy PC graphics station, with monochrome and color monitors, math coprocessor, 640K memory, Epson printer, HP 7475A plotter, and NO modem.

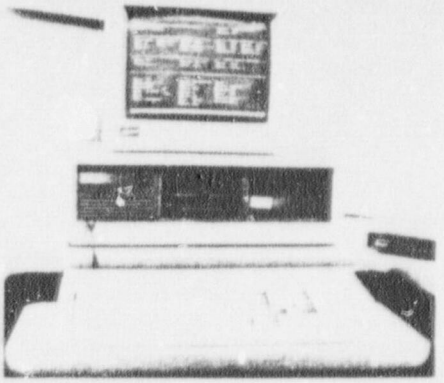
The complete computer reference library and the majority of the self-paced hardware/software user tutorials will remain at this location. You will find the Software Locator at this location along with a printout from INEL/DG/NIH of importance to every user of external machines.

White Flint Center

Staff: Pat Bell
Emily Robinson
Sharon Root
John Voglewede
one contractor.

PC HOT LINE: X2-0353

INEL help: X2-3490/3491



COMPAQ 286

DG help: X2-3490/3491

Code Implementation: X2-3490

Code Documentation and Distribution: X2-3491

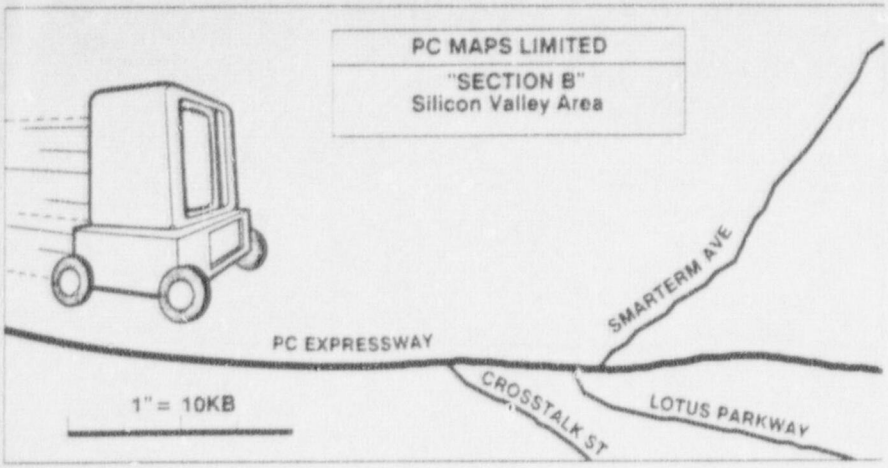
The new user area is equipped with two workstations. The first workstation includes a powerful COMPAQ 286, with an 80286 processor, comparable to an IBM AT. This station includes both an ASYNC and a BI-SYNC modem plus an Epson wide carriage printer.

The second workstation, used primarily for producing graphics, contains an IBM dual floppy system with color

Support Center Reference Library

and monochrome monitors, math coprocessor, 640K memory, Epson printer, ASYNC modem and the HP7475A plotter. The INEL/DG/NIH manual library and the Software Locator are at this site.

(See Tech Notes for each site for information regarding printing at White Flint.)



TRAVELOG CONTINUED

By Karen VanDuser

In the last issue of ITS NEWS, we discussed the use of hazard signs when using NRC Supported Software. That issue addressed DOS and dBASE. This issue will present more road warning signs, but the focus will be LOTUS, CROSSTALK, and SMARTERM 400.

WARNING: LOTUS 1-2-3 Graph Options

The options of NAME and SAVE on the LOTUS 1-2-3 Graph Menu may be confusing. When the SAVE option is selected, a snap-shot of your graph is taken and saved, but your graph parameters are not saved to your spreadsheet. To save your graph parameters, two steps are needed. First, on the Graph Menu select the option Name and provide a name for these graph parameters. Next, exit the Graph Menu, and on the Worksheet Menu select the File option. Select SAVE on the File option and your graph parameters will be saved to your spreadsheet as your spreadsheet is saved to disk.

WARNING: Proper Cell Erasure

The proper way to erase the contents of a cell on your spreadsheet is with the /RangeErase. Using the spacebar to blank out a cell can cause problems if a spreadsheet is very large, because memory allocation is made for any cell which is not empty. A blanked out cell is not empty - it is filled with blank spaces.

CAUTION: Old Versions of CROSSTALK

The latest version of CROSSTALK XVI in the Agency is 3.61. Some of the earlier versions of this package are difficult to read when displayed on AMDEK monitors. These same versions time out prior to dialing when installed on the 286 PC's. Use of Version 3.61 solves both of these problems.

WARNING: CROSSTALK Script Files and Function Keys - SMARTERM Software

Some mainframe users have developed automatic logon procedures on their PC's, allowing them to log onto a mainframe automatically via their PC's communication packages. Some users have their mainframe passwords coded into these procedures.

NRC security requirements state that the user is responsible for protecting password confidentiality. Therefore, users who have such procedures on their PC's are in violation of these rules.

ITS recommends that any user having such a procedure either eliminate it entirely or modify it to eliminate the automatic password entry and have the mainframe prompt for it.

The ITS is available to assist you with questions from commands to techniques at both the Phillips Building P-808 (X-24160) and White Flint 3C12 (X-20353).

PC PRINTERS

By Karen VanDuser

Printers at the NRC come in many models with various capabilities. Presently, the Agency has line printers and page printers. Among the line printers are IBM Graphics Printers and EPSON printers, which are subdivided into DRAFT, Near Letter Quality (NLQ) and Letter Quality (LQ). Line printers, so called because they print one line at a time, come in wide-carriage with a platen wider than 9 inches, and narrow carriage. The Agency has HP Laser Jet and HP Laser Jet Series II printers. These printers print a page at a time.

The proper instructions for each printer must be sent by the software being used. These instructions are called driver sets because they drive the printer to perform specific tasks. These driver sets are installed with the software provided by the vendor.

Both line printers and page printers are capable of printing text and graphics if provided with the correct instructions from the software. Driver sets and format requirements for agency printers are continually being reviewed.

Some printers limit the ways that data and text must be presented to them for printing. Printer driver sets cannot provide for all printing requirements. Some software packages (such as Sign-Master) handle these format requirements for you. They adjust text size, etc. Some packages, like word processing software, require that you prepare your document in a format that will meet the printer's requirements.

This is why the alternate format, which has margins of 15 and 75 and typestyle of 10 pitch (10 characters per inch), is provided with your DW4 software. The primary format is set to satisfy the 5520's format requirements. The 5520 allows for a typestyle of 12 pitch causing the right margin to pass 80. If you attempt to print a document formatted for the 5520 on a line printer, the text which exceeds the 80th column will wrap around to the next line. The primary format is compatible with the 5520's format re-

quirements when the document is converted to RFT.

The ITS has been able to print many multi-page documents successfully using the HP Laser Jet Printer format requirements. We are prepared to assist any HP user to set up a profile that will enable them to create documents in DW4 and print them successfully on the HP Laser Printer. We also can assist in revising existing documents so that they will print on the HP Laser Jet.

It is important to remember that when moving among the various printer environments, some software, such as dBASE, will expect you to address the format requirements of the printer you will use to print your report.

DisplayWrite document format requirements are:

IBM 5520 ....

RFT document created in DisplayWrite with margins of 12 and 90, typestyle of 87 (12 pitch), header location line 3, footer line 63, first typing line 7, last typing line 60, and page size 8.5 X 11.

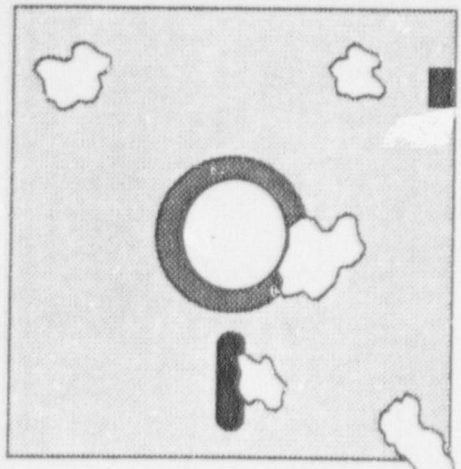
EPSON and IBM Graphics Line Printers ....

DisplayWrite document (.TXT or .DOC) with margins of 10 and 75, typestyle of 26 (10 pitch), header location line 3, footer line 63, first typing line 7, last typing line 60, and page size 8.5 X 11.

HP LASER JET and LASER JET Series II Printers ....

DisplayWrite document (.TXT or .DOC) with margins of 12 and 90, typestyle of 87 (this is a compressed 10 pitch rather than a true 12 pitch), header location line 3, footer location line 63, first typing line of 7, last typing line of 60, and page size is 8.5 x 11.

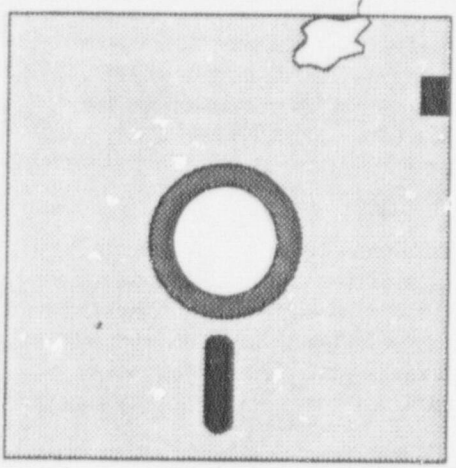
NOTE: *Any adjustment to the format of a document will not be fully reflected until the document is paginated and saved.*



Danger! Virus on the Loose

We are indebted to Kenneth R. van Wyk, User Services Senior Consultant at Lehigh University Computing Center, Bethlehem, PA. for the following.

Last week, some of our student consultants discovered a virus program that has been spreading rapidly throughout Lehigh University and altering our public site disks. This program has the chance of spreading much further than just our university. We have no idea where the virus started, but some users have told me that other universities have recently faced similar problems.

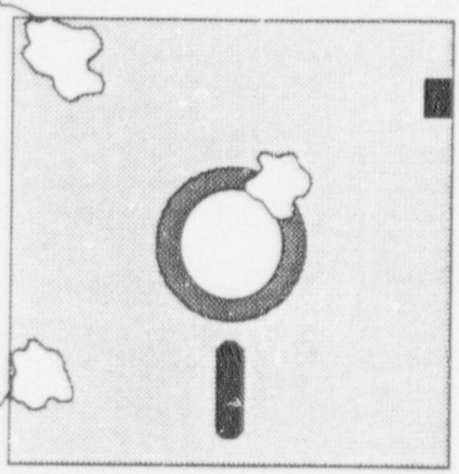


The virus itself is contained within the stack space of COMMAND.COM. When a PC is booted from an infected disk, all a user need do to spread the virus is to access another disk via TYPE, COPY, DIR or similar commands. If the other disk contains COMMAND.COM, the virus code is copied to it. Then, a counter is incremented on the parent. When this counter reaches a value of 4, all disks in the PC, including hard and floppy disks, are erased thoroughly. The boot tracks are nulled, as are the FAT tables.

All Norton's horses couldn't put it back together again. Meanwhile, the four children that were created go on to tell four friends, and then they tell four more friends, and so on and so on.

Detection

Although this virus appears to be very well written, the author did leave a



couple of footprints. First, the write date of the COMMAND.COM file changes. Second, if there is a write protect tab on the uninfected disk, you will get a WRITE PROTECT error. So, boot up from a suspected virus disk and access a write-protected disk. If an error comes up, then you are sure you have an infected disk. Note that the length of COMMAND.COM is not altered.

PC users who come in contact with publicly accessible disks are urged to check their own disks periodically. Also, practice safe computing - always use a write protect tab.

NRC users can protect themselves from this problem by using only NRC approved software and equipment.

Editor's Note: *This item was brought to our attention by Lou Grossman, IRM Sr. System Security Specialist.*

PUBLISHING A NEWSLETTER

By Charles Kelber (RES)

When the Office of Research decided to publish a quarterly report as a newsletter, I thought it was a matter of gathering articles for publication, and stringing them together on the 5520. That was only the tip of the iceberg. First, you have to dig up the news. For some reason, many people are afraid to let their light shine from under the bushel. Then I discovered that many people do not understand how written material is transformed into printed words. I would hold their manuscript up to the word processing screen to show them the words didn't just transfer: somebody has to enter the words! It wasn't going to be me.

But newsgathering is only part of the job. News publishing is where your ever-handy desk top computer comes in. I found that publishing on the 5520 wasn't satisfactory. You can't do boldface and you can't change type faces and type sizes. You can't produce justified columns unless you make two passes through the printer. Vertical rules are out of the question. And it is very difficult to decide what the printed page should look like as an entity without going through the routine of making galleys and pasting them up. I had discovered composition.

NRC RESEARCH NEWS

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HSST Wide-Plate Test on EPRI/CE Supplied Pressure Vessel Steel

by Mike Mayfield

On Monday, September 14, 1987, the 11th Heavy Section Steel Technology (HSST) Program Wide-Plate Test (identified as WP-CE-1) was performed at the National Bureau of Standards (NBS) in Gaithersburg, Maryland. The test material was A533 Gr. B pressure vessel steel and was supplied by the Electric Power Research Institute (EPRI). This test examined the crack arrest toughness of a pressure vessel steel manufactured using current practices, and provided a direct comparison with the results of an earlier EPRI funded crack arrest research program conducted by Combustion Engineering Company.

Wide-Plate Crack Arrest Test at NBS

The HSST program wide-plate tests measure crack-arrest toughness values at temperatures near or above Charpy upper-shelf conditions and with the crack propagating into a rising crack driving force (KI) field, and provide insight into the mechanisms controlling crack run and arrest events. The wide-plate test results serve as benchmarks for the crack-arrest curves in Section XI of the ASME code, and have extended the range of those curves to crack-arrest toughness values that are much larger than those in the code. These large values of crack-arrest toughness are needed in safety analyses of pressure vessels subjected to pressurized thermal shock (PTS) loadings. The test results also have shown that cracks propagating by cleavage must arrest (stop) before they can continue propagating by ductile tearing. This result shows that these two crack propagation mechanisms can be evaluated as separate events, greatly simplifying pressure vessel analyses.

The wide-plate specimen is a 1 m by 1 m block either 0.1 m or 0.15 m thick, and welded to long pull-tabs used to adapt the specimen to the NBS test machine. The resulting 10 m long specimen is needed to prevent reflected stress waves from arresting the crack which would result in an artificially low crack-arrest toughness value. Figure 1 shows a completed test specimen installed in the NBS test machine.

An initial crack starter notch is machined on one edge of the block. The notched edge of the specimen is cooled and the other edge is heated to establish an increasing temperature gradient across the specimen. Once the desired temperature gradient is established, the applied load and, consequently, the crack driving force at the tip of the machined notch are increased very slowly. Once a critical level of crack driving force is reached, the crack extends rapidly. The tensile load on the specimen and the specimen geometry result in an increasing KI field as the crack extends. However, since the fracture toughness of the material increases as the temperature increases across the specimen width, there is an increasing resistance to crack propagation. If the material is sufficiently tough, the propagating crack will slow and eventually stop or arrest. The fracture toughness at the arrested crack tip is termed the crack-arrest toughness. While the tests are simple in principle, the instrumentation is very complex, and evaluating the results requires dynamic finite element analysis.

The WP-CE-1 test required a 2.25 million pound load to initiate the rapid propagation. The crack propagated approximately 20 cm beyond the initial notch, and the temperature at the arrest location was approximately 80° C. Preliminary review of the results suggest that the crack-arrest toughness will be similar to the values obtained from earlier tests that used a different piece of A533 Gr. B material.

NRC Research News produced on a dot matrix printer

Clearly, if an image could be displayed on a PC screen and manipulated there until it was right, then it could be printed as it appeared, and the composition problem would be solved. This is the key to desk top publishing: it won't gather news for you, and it won't type it up, but once you have the elements in a form where the PC can manipulate them, it is a wonderful tool for composing them into an informative graphic image. But to do this well requires a machine with significant capacity.

Each element of your PC screen is a block called a pixel, and at least one byte, more commonly two, is needed to describe the pixel just for black and white images. If you want shades of gray, or color, much more is needed. Thus, most satisfactory desk top publishing systems require a machine with an 80286 or 80386 chip (or the corresponding Motorola chip) and have 1 or 2 megabytes aboveboard memory. A mouse is used to provide rapid access to elements of the image, saving wear and tear on the fingers. And a laser printer is used to provide high quality text in a variety of fonts and sizes.

None of the above is readily available in the NRC without going through a process considerably less entertaining than root canal therapy.

The software I am testing works with my XT and an Epson printer. It doesn't require a mouse. It is derived from an "Apple" application, but readily accommodates the limitations of the IBM PC. I have a few fonts and type sizes available. The output is produced on a dot matrix printer and does not reproduce well. I hope to upgrade this setup to something more powerful and flexible, such as PageMaker.

Editor's Note: *The agency presently is testing two copies of PageMaker; one in ARM's Policy and Publications Management Branch and one in NRR. The Printing and Graphics Branch has an Interleaf graphics system which is substantially more powerful and sophisticated. This issue of ITS News was prepared on PageMaker.*

NRC ITS TRAINING CALENDAR

MAY

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
2 DISPLAYWRITE 3 PART 1 DISPLAYWRITE 4 PART 1	3 DBASE III PLUS USERS GROUP 1:30, W-102 DISPLAYWRITE 3 PART 2 DISPLAYWRITE 4 PART 2	4 INTRO FOR NOVICES PART 1 INTRO TO COMMUNICATIONS AND CROSSTALK	5 INTRO FOR NOVICES PART 2 INTRO TO PC DOS	6
9 INTRO TO dBASE III PLUS PART 1	10 INTRO TO dBASE III PLUS PART 2	11 DISSPLA GRAPHICS PART 1 DISPLAYWRITE 4 PART 1	12 DISSPLA GRAPHICS PART 2 DISPLAYWRITE 4 PART 2	13
16 PROGRAMMING IN dBASE III PLUS PART 1 INTRO TO SUPERPROJECT PLUS PART 1	17 PROGRAMMING IN dBASE III PLUS PART 2 INTRO TO SUPERPROJECT PLUS PART 2	18 INTRO TO LOTUS 1-2-3 PART 1 DISPLAYWRITE 4 PART 1	19 INTRO TO LOTUS 1-2-3 PART 2 DISPLAYWRITE 4 PART 2	20
23 GRAPHICS USING SIGN-MASTER & CHART-MASTER DISPLAYWRITE 4 PART 1	24 INTERMEDIATE PC-DOS DISPLAYWRITE 4 PART 2	25 INTRO TO dBASE III PLUS PART 1 INTERMEDIATE LOTUS 1-2-3 PART 1	26 INTRO TO dBASE III PLUS PART 2 INTERMEDIATE LOTUS 1-2-3 PART 2	27
30 MEMORIAL DAY HOLIDAY	31 AI USERS GROUP 1:30, W-102 INTERMEDIATE PC-DOS INTRO TO COMMUNICATIONS AND CROSSTALK	1 INTRO FOR NOVICES PART 1	2 INTRO FOR NOVICES PART 2	

What's New At the ITS Lab

By Kathy Beckman

New Course Announcement

All NRC Headquarters and regional personnel received copies of the ITS Training Lab bimonthly course announcement beginning with the April/May session. The course announcement has been completely redesigned into a self-contained registration package. It now includes:

- the training class schedule
- a step-by-step guide to registration procedures
- complete descriptions of each course's contents and skill objectives
- an ITS course registration form.

The new course announcement will be distributed one month prior to each training session (on May 1 for the June/July session, for example). Additional copies of course announcements are available at the ITS Support Center (P-808 and WF 3C-12) or by calling the ITS Lab, X24744.

Regional Training Update

Two on-site regional training trips were scheduled this spring. Region I requested that one week of hands-on training be presented April 25-29 for approximately 20-25 regional staff. The curriculum consisted of:

- Introduction to End-user Computing for Novices
- Introduction to DisplayWrite 4
- Introduction to dBase III Plus

A week of on-site training will be presented in Region V May 2-6 as a follow-up to a training presentation in that region in August, 1987. Three courses will be conducted:

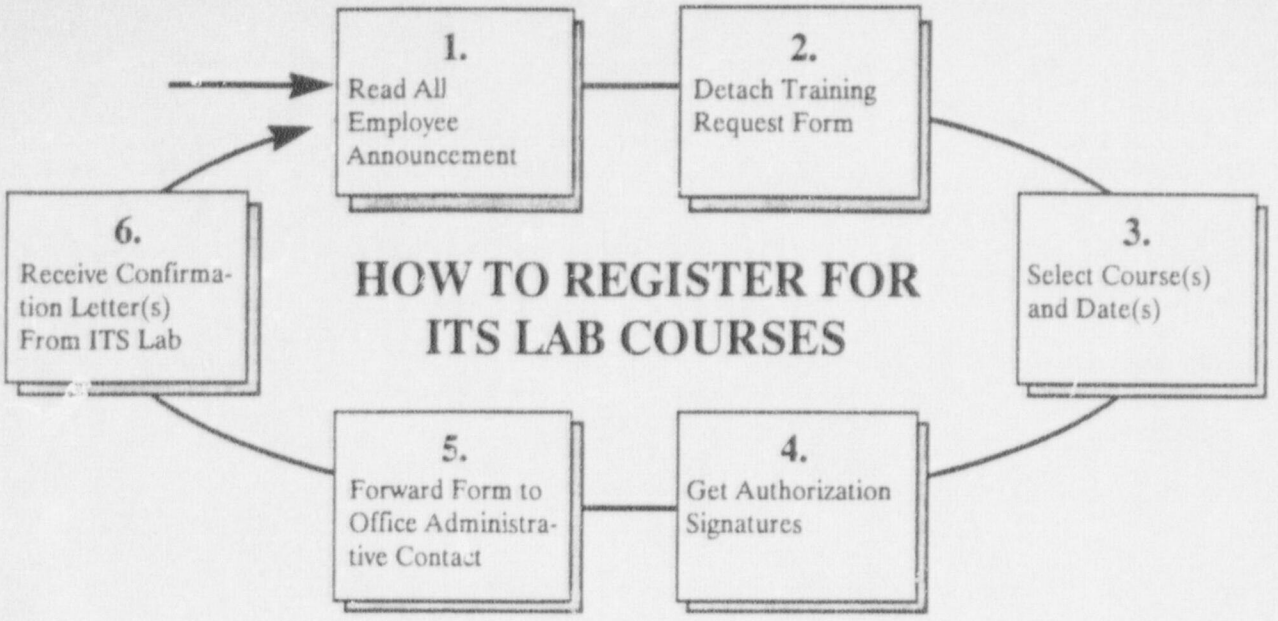
- Advanced PC-DOS Commands
- Intermediate LOTUS 1-2-3
- Intermediate dBASE III Plus.

To arrange for on-site regional training, contact Banks Mitchum, Project Manager, X27934.

Streamlined Registration Procedures at ITS Lab

The registration procedure for ITS Lab courses has been streamlined to make it quicker and easier.

First, registration for ITS Lab microcomputer courses is now on a first-come, first-served basis so that employees can receive training as soon as possible after they identify their training needs.



Second, the process of signing up for courses has been greatly simplified. The basic steps in the new process are shown above.

Registration processing has also been modified to ensure timely access to microcomputer training. There are now three major milestones in the ITS Lab registration process, as described below.

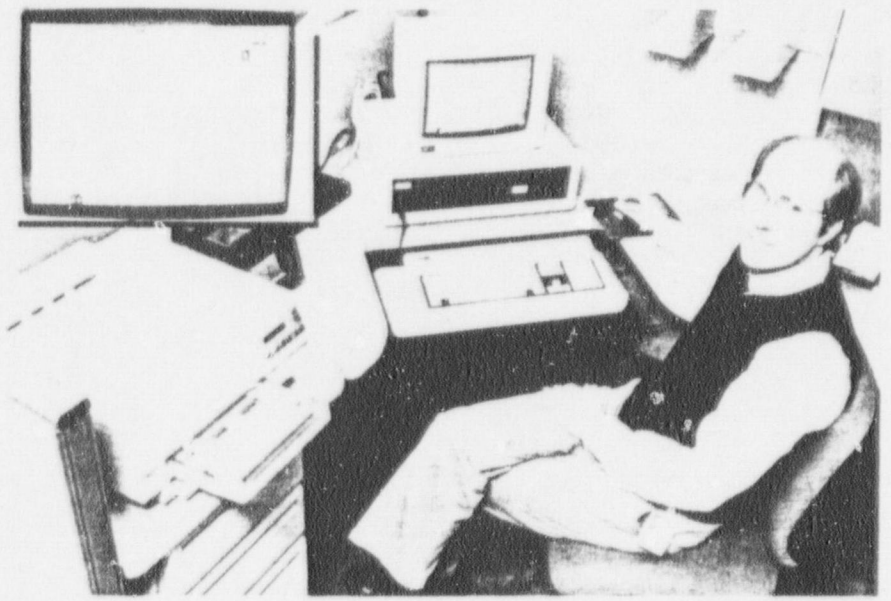
Milestone I. Initial Registration. All training requests received in the ITS Lab two weeks prior to the beginning of a new two-month session will be processed together, e.g., all applications for June/July classes received by May 15. In the majority of cases, applicants will be assigned to their requested class dates. All employees assigned a class date during initial registration processing will receive written confirmation one week before the beginning of the new session.

Milestone II. Ongoing Registration. After initial registration processing is completed, registration for ITS Lab courses will continue throughout the session. Training requests will be processed daily as they are received at the Lab. Class seats will be assigned whenever a space is available.

If all seats for a particular class are filled, registrants are notified by mail that they are alternates and will be phoned in case of a cancellation.

Milestone III. Automatic "Rollover" to Next Session. If no seats become available during the current session, alternates are automatically "rolled over," that is, re-registered for the first class date in the next bimonthly session. Their requests are processed at the beginning of the next session *without* being resubmitted.

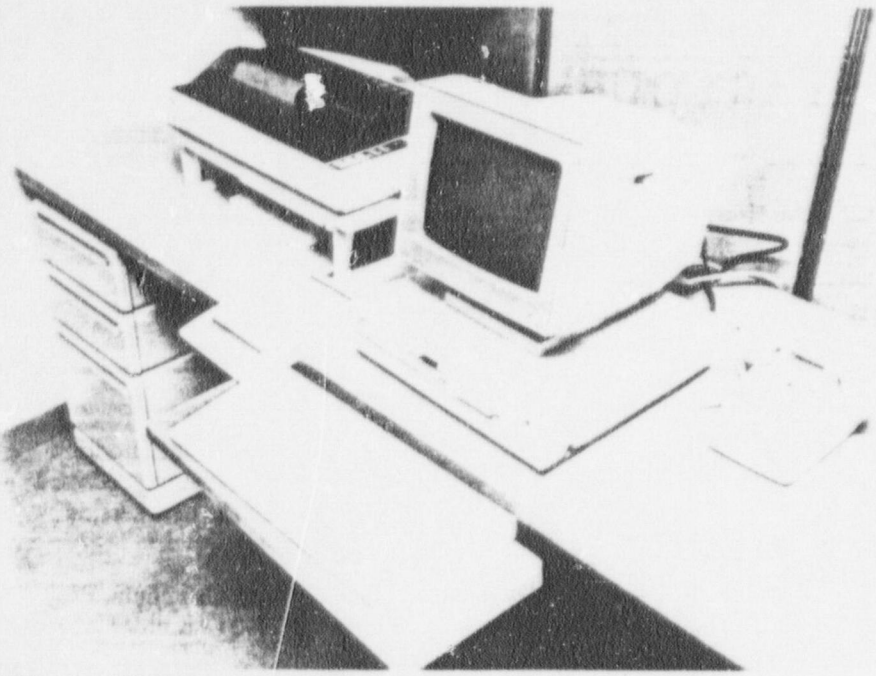
Please contact Banks Mitchum, Project Manager, X27934 for more information.



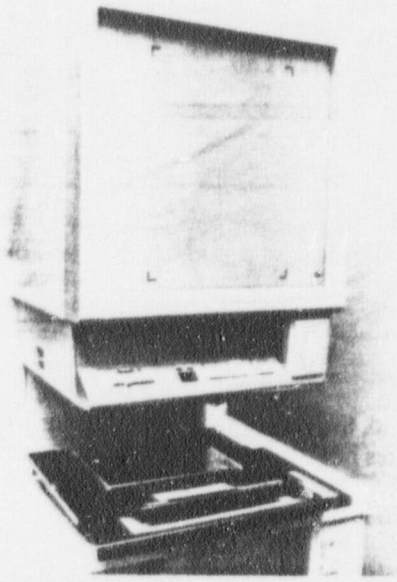
Behind The Scenes .....

The crisp new look of this issue of the newsletter and the ITS Lab course announcement were produced by Doug Vickery of the ITS Training Lab using an NRC workstation equipped with a Compaq 286, PageMaker software, and an HP Laser Jet Series II Printer.

NUDOCS NEWS
NUCLEAR DOCUMENTS SYSTEM NEWSLETTER



DCS User Workstation at White Flint



CANON Microfilm Reader/Printer

The NRC Document Control System (DCS) has been re-named Nuclear Documents System (NUDOCS). The change was made to reflect the dramatic improvements the agency's central document management system is undertaking.

NUDOCS USER WORK STATIONS AT WHITE FLINT

Sixteen enhanced NUDOCS workstations have been installed at White Flint to provide a full range of services, from simple searching to mini-to-PC downloading.

Each enhanced workstation is equipped with the following:

- IBM System 2 Personal Computer
- DOS, dBASE III Plus, and SMARTERM 400 software and all operating instructions
- Canon PC Printer 80 microfilm reader/printer
- Epson FX-286e dot matrix printer

The telecommunication link to the central data base is via the Autodialing Network System (ANS). This permits NUDOCS workstations to achieve a transmission rate of 9600 baud during work sessions. (See the ANS article Page 1)

The user workstations are located in White Flint North at the following locations: P1 WF (3 stations), 3C-20, 4C-16, 5F-20, 6C-10, 7C-24, 8C-8, 9C-8, 10C-12, 11C-12, 12C-12, 13C-12, 14C-14, and 15B-18. The fourth floor station is a combined Transitional Licensing Support System and NUDOCS workstation.

In addition to the normal document and subject search capabilities, you are now able to print search screens or download search results to the PC.

NUDOCS-to-PC Data Download

Getting tired eyes from staring at 10 consecutive search screens to find the document you seek? Had enough of a search timing out if you have to leave the terminal? The recently installed data download capability can relieve you of these inconveniences.

Simply put, data downloading allows the results of searches from the main data base on the Data General MV10000 to be downloaded to PCs and manipulated, viewed or printed using dBASE III Plus database management software. Each NUDOCS user workstation at White Flint has this software.

Standard default print formats have been developed based on the more common printout requests from NRC users. Experienced dBASE users can also design their own print formats. The standard formats include the LPDR Cumulative Accession List, the Docket Index, the Preliminary Title List Report, the Full Record Format Report (shown in the figure), and the Partial Record Format Report. The other print format (Print All Available Fields) prints all the downloaded

fields in the same format that you see when you view the records.
The first step in downloading is to determine which records to retrieve from the NUDOCS. To do this, enter the system from your workstation and conduct the search appropriate to the document(s) you would like to have. Once you have completed the search, choose Option X from the prompt line at the bottom of the screen, and hit Return. You will be prompted through various steps as the records are downloaded to your workstation. When the main screen for the NUDOCS appears on your PC, the download is complete and the records are now on your hard disk. When you are ready to view/print your downloaded documents, exit the system.

The next step is to convert the records so that dBASE III Plus can read them. Do this by choosing the Convert Downloaded Files option from your NUDOCS menu. The file names and directories are set to default, so there is nothing for you to fill in while the records are being converted. When the NUDOCS menu appears on your screen, the conversion is complete.

The final step for preparing the records is to choose the View/Print Downloaded Files option from the menu. This will put you in a dBASE III Plus program. The first step is to clear out unwanted records that are already in the database. Do this by choosing that option from the Download System Menu. Then, you must add the recently downloaded records to your database. Choose that option from the menu. When the menu reappears, you are ready to view or print the records.

Up to 400 records can be downloaded at one session. If your search has more than 400 records, the system will download the first 400 listed, a second download will handle the next 400, and so on.

Provisions have been made for those who would like to save their downloaded records on a floppy disk. You need only convert the records, then copy the file to a formatted floppy diskette, following the instructions given when first entering the view/print downloaded files procedure.

Subject Search Update

Two new data elements have been added to the subject search module. These are Document Type Code (DTC) and Document Identification Number (DIN). DTC describes various types of documents issued and received by the NRC, such as inspection reports, topical reports, and correspondence to and from different organizations. A complete DTC listing is available in hardcopy from NUDOCS or on-line via the ?-Help feature.

The DIN refers to NRC- and industry-derived document identifiers. For NRC documents, these include NUREG numbers, LER numbers, inspection report numbers, and others. The NUDOCS Pocket Guide contains a listing of DIN formats commonly used by the NRC.

The addition of DTC and DIN enables NUDOCS users to search simultaneously on as many as six different data fields: subject/term, date, author, docket, DTC, and DIN. This search scheme allows the user more leeway in data elements used to define the search criteria.

PC FORTRAN User Group

By Mort Fleishman

The February meeting of the PC FORTRAN User Group featured a presentation by Harold VanderMolen of the uses and capabilities of the Signmaster program for the preparation of overhead projection slides. Of particular interest was his discussion of a BASIC program he wrote that extends the capabilities of Signmaster by permitting ASCII files, created by any wordprocessing or editor program, to be imported into Signmaster.

The purpose of the FORTRAN User Group is to share ideas and discuss problems regarding PC FORTRAN, as well as the entire spectrum of scientific and technical uses of personal and large-scale computers. In view of its expanded scope of interests, the group is considering changing its name to one that is more descriptive.

Suggestions for a new name and requests for more information regarding the group may be directed to Mort Fleishman on x23794.

SUPPLY SERVICES RELOCATION

All supply services for Headquarters employees have been centralized at One White Flint North with a self-service supply store available for White Flint occupants. Here is a listing of the most commonly required computer supplies.

Item	NRC Supply Number	Catalog Page
Diskette, 5-1/4" Single-sided Double-density 10 per box	7430-00-NRC-0031X	19
Diskette, 5-1/4" Double-sided Double-density 10 per box	7430-00-NRC-0032X	19
Diskette, 3-1/2" Double-sided Double-density 10 per box	7430-00-NRC-0042X	19
Diskette file (50 5-1/4" disks)	7045-00-NRC-0001X	11*
Classified (Red) disk sleeves	7510-00-NRC-0053X	20
Sensitive Unclassified sleeves	7510-00-NRC-0052X	20
Pinfeed Paper 9.5 x 11"	7530-00-NRC-0058X	26
Pinfeed paper 12 x 8.5"	7530-00-NRC-0070X	26
Pinfeed letterhead 9.5 x 11"	7530-00-NRC-0057X	26
Pinfeed Labels 1 across	7530-00-082-2662	27
Pinfeed Labels 3 across	7530-01-015-6402	27
Ribbon, Matrix, for FX & MX-80, IBM-5152 printer	7510-00-NRC-0060X	16
Ribbon, Matrix, for FX & MX-100	7510-00-NRC-0061X	16
Ribbon, IBM Proprinter 4201	7510-00-NRC-0066X	16
Ribbon, IBM Quietwriter 5201	7510-00-NRC-0067X	16
Plotter Supplies	- - - - - - - - - - - - - -	16*
Copyholder, 360 adjustable	7520-00-NRC-0055X	6

* Available from Warehouse only

SINET Update

By Fran Goldberg

I will use this month's article to recap some basics and provide a status update on SINET development and training.

SINET -- *What is it?*

SINET stands for "Safety Information Network." It is the centralized database which will serve as the primary repository and definitive source for a good deal of NRC's safety-related data. SINET consists of 14 "logical databases," each of which consists of one or more related groups of data. For example, the Facility data base consists of the four data groups: Region, Site, Unit and Non-reactor Facility.

The data currently available in SINET (shown in bold type below) are from the Facility and Event databases. They include basic information about commercial nuclear power plant units and events. The data are defined and described in the SINET Data Dictionary, available from Fran Goldberg on x24978.

SINET development -- *What next?*

Based on a systematic ranking of all the SINET data by NRR, AEOD, NMSS, RES, and the five regions, a committee representing the major program offices and regions determined that the most important areas for the next phase of SINET development are the expansion of the Event database and the implementation of the Inspection database, followed by the Issues and Hardware databases.

SINET -- *Who can use it?*

The SINET logical databases are stored as one integrated physical database at the NIH computer facility. It is accessible to anyone in the agency via a standard PC equipped with a modem and communications software such as Crosstalk. Senior managers can access summary data from SINET through the Executive Safety Information System or "EXSIS", an easy to use, menu-driven data access system.

SINET -- *How to get access and training*

SINET is being pilot tested by a group of users who attended the first SINET training course last December. EXSIS has been provided to a small group of senior managers. Training will be offered through the ITS Training Lab for staff wishing to access SINET. The first course, Introduction to SINET, familiarizes users with the data available in SINET and the procedures for accessing SINET on the NIH mainframe using a series of 50 preformatted Query screens. The second course will train users in the Online Query Language, OLQ. OLQ is a menu-driven language used to query the database, select data and produce reports. A Data Download course is also being planned. The SINET introductory course will be a prerequisite for all other SINET courses.

SINET Logical Databases

ALLEGATION DATABASE
- Allegation
- Investigation

ENFORCEMENT DATABASE
- Violation
- Deviation
- Enforcement Action

EVENT DATABASE
- Event
- Event Notification
- Licensee Event Report
- Daily (Morning) Report
- Preliminary Notification
- Construction Deficiency Report
- Part 21 Report
- Release
- Exposure
- Threat

FACILITY DATABASE
- Site
- Unit
- Non-Reactor Facility

HARDWARE DATABASE
- System
- Component
- Structure
- Deficiency
- Test

INSPECTION DATABASE
- Inspection
- Inspection Module
- Inspection Program
- Outstanding Item

ISSUE DATABASE
- Bulletin
- Information Notice
- Generic Letter
- Generic/Unresolved Safety Issue
- Backfit Issue
- Issue

LICENSE DATABASE
- License
- Licensee
- License Application
- License Applicant
- Tech Spec/License Condition

LICENSING DATABASE
- Licensing Action
- Licensee Committment
- Open Item

OPERATOR DATABASE
- Reactor Operator
- Examination

ORGANIZATION DATABASE
- Employee
- Employee Role
- Organization

RADIOACTIVE MATERIALS DATABASE
- Shipment
- Package
- Fuel Assembly
- Radioactive Materials (Accountability)

RESEARCH DATABASE
- Research Program

VENDOR DATABASE
- Vendor
- Vendor Role
- Design
- Topical Report

ITS TECH NOTES

This section of the newsletter provides tips and technical information of interest to NRC computer users. If you have any questions regarding "Tech Notes" or if you wish to contribute an item, contact the ITS Support Center, 492-4160.

PERSONAL COMPUTERS

CALLING ITS SUPPORT

If you can't find the answer to your PC question in the manual, call the ITS Support Center. Because each problem is unique, the staff will ask a series of questions to determine the environment at the time the problem occurred.

You can save time by being ready with answers to a few basic questions:

- Version of DOS
- Type of equipment, e.g., IBM PC, XT, Hardcard or PS/2
- Make and model of printer if it is a printing problem
- Type of modem if it is a communications problem
- Name and version of software, e.g., CROSSTALK XVI, ver. 6.1
- Description of problem; what you were doing when the error occurred
- Error messages that appeared on the screen
- Other software in use at the time

After these questions have been answered, the consultant will walk you through the problem step by step. If possible, use a computer with a telephone within reach. As you move through each step, report all messages, changes on your screen and operation of drives.

Sometimes a problem requires further research, so you may have to wait for the answer to your question.

Finally, the consultant will make a recommendation to correct the problem and ask you to try the suggested correction. If for any reason the suggested correction does not work and we are no longer on the phone with you, please call back.

SHARING DATA USING ASCII FILES

Have you ever needed to take data which has been created in one application and use it in another software package? A good example is incorporating sections of a spreadsheet into a DisplayWrite document to take advantage of DisplayWrite's text formatting capabilities. This can be done without having to recreate the data.

To share data, you need to create an ASCII file, which uses a generic format. ASCII stands for American Standard Code for Information Interchange. Two words to notice in this acronym are Standard and Interchange. Most vendor software packages have a feature which allows you to save or retrieve a file as an ASCII file.

To incorporate part of a LOTUS spreadsheet into a DisplayWrite document, first create a print file in LOTUS. This is how LOTUS creates an ASCII file. To do this select /Print File. You will be asked to specify a file name for the print file. If you do not assign an extension to the file name LOTUS will give it an extension of .PRN. Next, specify a range to be written to the file. This is done the same way you specify a range to be printed in hardcopy. You may want to set the margins in the ASCII file to the same settings as your DisplayWrite document to simplify your final editing. Be sure, however, that these margin settings provide sufficient columns to hold the portion of the spreadsheet you are extracting. Select Options and select the Unformatted option from this menu. The final step is to select Go from the print menu, which generates the file. You will now Quit the Print menu and Exit LOTUS.

Start up DisplayWrite and bring up the document in which you will place your LOTUS data. To pull the file into your DisplayWrite document, position the cursor within the document at the location where your LOTUS data is to be inserted. Then use the GET function, CTRL-F6 in DW4 or F6 in DW3 and DW2, and supply the complete filename (EXAMPLE: myfile.prn) when prompted. If you are using DW4, select file type 2 for an ASCII file. Press the Enter key at the DisplayWrite prompt at the bottom of this menu and DisplayWrite will pull the LOTUS file into the current document. Some editing may be required depending on the final appearance desired.

GETTING LOTUS TO HELP YOU

"If only computers could talk!" Sound familiar? Well, LOTUS won't chirp "good morning" but you can send an SOS and expect a reply by pressing the F1 key. Since LOTUS has contextual help, the response depends on what feature you are using when you activate the HELP key. You can see text discussing the Range command, a list of @Functions, tips on how to write a formula or a description of Macro keyword syntax. Once in HELP, you can even select an item which describes "How to Use Help".

ITS TECH NOTES

Whatever response LOTUS makes to your request for help, you can find the information you need by selecting "HELP INDEX", an option at the bottom of each help screen. Think of the HELP INDEX as a menu of features which you can browse at will or use to answer an immediate question. For example, if you need to review how LOTUS uses the F1-F10 function keys, call up help and choose "Special Function". If the information appears especially useful, use the print screen key to print a copy.

When you call for help, if you are using an IBM PC or other dual drive system you must have the LOTUS System Disk in drive A. When you are done, press ESC to return to your work.

PRINTER ERRORS

The NRC currently uses several types of printers, including Epson, IBM Graphics and HP LaserJet. When software is installed on a computer, the printer is identified and in some cases additional files are created to ensure that all documents can be printed to meet NRC guidelines. In spite of the actions taken to maintain consistency, you may encounter problems while printing. For example, many of the Epson printers are set to Epson printer mode rather than IBM. This can cause problems with DisplayWrite software. If you are using superscripts or subscripts in DW4 and these fail to print as expected, or line spacing changes are not recognized, your Epson may have been configured to perform as an Epson rather than an IBM.

If you suspect that your printer has this problem, call the ITS Support Center with the name and model of your printer. We can resolve the problem quickly.

The ITS Support Center operates weekdays from 7:30 to 4:15. Call our Phillips Building location on 492-4160 or the White Flint location on 492-0353.

MODEM DIAL PREFIXES

Many times the Support Center receives calls that CROSSTALK or SMARTERM 400 communications software is not working properly. Upon examination by the support analyst, it becomes clear that either when the software was installed no modem was delivered, or the modem originally attached to the machine has been replaced by a different one.

Most PC modems in the NRC are Hayes or Hayes compatible. These use the ATDT command to instruct the modem to dial your phone for connection to another computer. However, the Bell AT&T 2224b modem only requires an AT command.

In CROSSTALK a profile selection, such as NIH1200, will display the profile's status screen and immediately attempt to perform the dial instructions. If you do not make a normal connection, press the appropriate ATtention key for your profile until the option Redial Y/N appears. Press N. You will now have the Command line displayed on the lower part of your screen.

On the Command line, type LI (for LIst) and press the Enter key. You will see some additional CROSSTALK parameters displayed on the lower half of your screen. One of these is DPrefix. To change the contents of this parameter type DP at the Command prompt and press the Enter key. You will be prompted to provide the Dial Prefix for your modem type. Type AT and press the Enter key if you have a Bell 2224b modem. Type ATDT and press the Enter key if you have an Anderson-Jacobson, Hayes, Racal Vadic or VenTel modem.

Save your changes permanently by typing SA (for SAve) followed by a space, then the Profile name (be sure the write protect tab is off your diskette if working from a floppy diskette) and press the Enter key. (Example: SA NIH1200.XTK) To dial, type GO and press the Enter key.

NOTE: *See ITS News, Vol. 4, No. 1, Winter, 1988, Page 4, for details of initial configuration of the Anderson-Jacobson and Racal-Vadic modems.*

In Smarterm, select the option to change your configuration (either F-9 or ALT-S depending on your version of this package). Select the profile you wish to change. Select S - Softkeys. On the first line of the Softkey screen, type the appropriate dial prefix, AT or ATDT, followed by a space and the phone number and <CR>. (EXAMPLE: ATDT 24000 <CR>) Press the END key to move you to the bottom of the screen and press the Enter key to return to the setup menu. Select the option from the menu to save your changes, if your version requires this. If working from a floppy diskette, be sure to remove the write protect tab before attempting to write out a correction to the dial prefix to your diskette.

Should you encounter any problems - call the ITS Support Center X-24160 or X-20353

NIH

Printout is produced at both Phillips and White Flint facilities. Use Box = 721 for delivery from NIH to WF; use

REM276 on LIST command for direct printing at White Flint.

REMINDER-CONVERT FILES

If you have a computer program or retrieval routine that accesses ISAM files at NIH, you need to convert your file configuration to VSAM (Virtual Storage Access Method).

NIH support for ISAM will be discontinued in July. To allow time for testing of conversions, ARM has established May as the deadline. If you need technical assistance to complete the conversion, please contact Chuck Fitzgerald at 492-8322.

NIH OFFERS NEW SERVICE

NIH has moved into the electronic age with the creation of an on-line documentation and software service called PUBWARE. PUBWARE allows you to order documentation and software, cancel and renew subscriptions and read abstracts describing available publications.

To use PUBWARE, sign on to WYLBUR, type the command: ENTER PUBWARE and press the Enter key. A menu will display the following options:

1. General Information
2. Place an Order
3. Review Profile
4. Cancel Request
5. Change ACCOUNT
6. Comment about PUBWARE
7. Return to WYLBUR

Item 3 will display a list of all publications you currently receive as well as allow you to renew or cancel subscriptions. You can enter ALL to renew your existing subscriptions.

A question mark (?) may be entered at any time to get help with a prompt.

INEL

ALL printout from INEL Machines is printed at White Flint. There is a user pickup area in room 2-G-18. Use the parameter UN=NRC on the ROUTE command. It will be helpful to you and to the system operator if you create a banner page with your user id in large print. Include the following command in the jobstream of your batch job, prior to compilation or other action which produces output:

BLOCK,OUTPUT,R,1,*USER*DATE (all on one line, NO period at the end).

INEL COMPUTER REGISTRATION FUNCTION HAS BEEN TRANSFERRED

The INEL computer registration function has been transferred to the Computer and Telephone Operations Branch (CTOB). All user ID application questions for CYBER, CRAY or the Licensing Exam Question Bank (EQB) system should be directed to David Diehl X2-7034.

Yearly renewal forms from EG&G Idaho for the CYBER, CRAY and EQB are to be returned directly to EG&G. Renewals no longer require supervisor approval. A new form is being used. It is a two part renewal letter. The first page contains the new password and effective date for the the USERID, along with User profile, system accesses and computer security statements. The second page will not show the password, but will include a line for User signature. Upon receipt of the signed second page, EG&G will implement the new password on the effective date. If the second page is not returned by the effective date, the current and new password will be deleted and the USERID deactivated.

CRAY users can access their own charge number accounting information by using the utility ACCTCOM. For details type: MAN ACCTCOM.

DG MV8000

ALL printout from DG MV8000 is produced at Phillips. You may arrange for your printout to be sent to WFN by contacting the system operator at x2-7713. Procedures to automate this process are under development.

Recent Acquisitions of Computing Related Books to the NRC Library

Data Base Directions: Information Resource Management Strategies and Tools: Proceedings.
National Bureau of Standards, 1982.

Designing the User Interface: Strategies for Effective Human-computer Interaction. Shneiderman, Ben

A Guide to Performance Evaluation of Database Systems. Yao, S. Bing.
National Bureau of Standards, 1984
QC100.U58 no. 500-118

NUCLEAR REGULATORY COMMISSION

ITS SUPPORT CENTER FACILITIES

Locations:

Phillips Building, Room P-808
7920 Norfolk Avenue,
Bethesda, MD 20814

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

Phone:

(FTS) or (301) 492-4160
NRC local 2-4160

(FTS) or (301) 492-0353
NRC local 2-0353

Center Hours:

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

Services:

User Assistance (Telephone & Walk-in), Equipment and Software for Trial Use, Demonstrations, Technical Library, Tours plus Computer/Video-based Tutorials.

TRAINING LABORATORY FACILITY

Location: Suite W-102 Woodmont Building
8120 Woodmont Avenue,
Bethesda, MD 20814

Phone: (FTS) or (301) 492-4744 NRC local 2-4744

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 including one equipped with six IBM XTs and one with eight IBM PCs. "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 END-USER COMPUTING SERVICES DIRECTORY

Hardware Acquisition/Upgrade/Relocation and Software Acquisition/Upgrade: Mike MacWilliams, P-622, X28143

Hardware Installation and Maintenance:
Microcomputers: Dawn Oliver, P-622, X28219
Word processors: Beth Williams, P-622, X24832
Other ADP Equipment: Charles Johnson, P-622, X28311

Timesharing Access/IDs: Mike King, P-622, X24974

PC & NIH Support:
ITS Support Center, Phillips Bldg., P-808, X24160
One White Flint North, 3C-12, X20353

Data General Systems Problems: Judy Seeherman, P-622, X29687

Data General and INEL Scientific Support:
Pat Bell, 3C-16, X23491
Emily Robinson, 3C-14, X23490

Scientific Code Distribution - RSIC and NESC:
Pat Bell, 3C-16, X23491

Computer Room: X27713

Computer Security: Louis Grossman, X25019

Data Communications - Modems and Data Lines:
Brian Brownell, W-331, X27927

Document Control System Hot-Line: X28603

Safety Information Network (SINET):
Fran Goldberg, MNBB-7602, X24978

Systems Development and Modification:
Chuck Fitzgerald, P-612, X27785

Operations Center: James Carter, MNBB-7602, X29860

Scheduling for ITS Training Lab Facility:
Banks Mitchum, W-500, X27934
Doug Vickery, W-102, X24873

Course Development: Banks Mitchum, W-500, X27934