



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

APR 01 1986

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Jeffrey Pehle  
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MEMORANDUM FOR: Branch Chiefs and Above  
Account Coordinators  
Project Managers on the Attached List

FROM: James A. Shields, Chief  
Systems Support Branch  
Division of Automated Information Services  
Office of Resource Management

SUBJECT: USE OF NRC ACCESSIBLE TIMESHARING FACILITIES BY CONTRACTORS

RM/DSS is reviewing all computer accounts used by contractors at this time.

Project Managers - please review the information on the Contractor Information Review form attached, make corrections if necessary, sign and return to E. Robinson, P-808.

Because of recent increases in requests for use of NRC-accessible computers by contractors, I would also like to take this opportunity to remind NRC project managers of their responsibilities with respect to requesting and monitoring the use of timesharing accounts when contractors are involved.

Requesting Accounts for Contractors

YOUR CONTRACT  
BEING  
MODIFIED  
ACCORDINGLY

1. The contract or DOE laboratory agreement must state that NRC will provide computer access. In future, all requests for contractor accounts must be accompanied by a copy of the contract showing the FIN number, completion date and clause where computer access is authorized. It must clearly state that the NRC is furnishing and paying for computer access. Estimated timesharing expenditures must be provided on the NRC form 380 when timesharing accounts are requested. //
2. Each contractor who will be using the computer must have his or her own separate account. The NRC project manager should complete and submit NRC form 380 and any necessary attachments for each contractor staff member who will require access. Sharing accounts is a security violation. In future, when an account is requested for a contractor, the form 380 must be signed by the project manager's division director as well as the branch chief. //
3. Timesharing accounts are routinely available and can generally be processed within 10-15 working days for NIH/DCRT, BNL, INEL and on the NRC MV/8000. Accounts at other facilities may require special arrangements such as interagency agreements and require longer lead times. Plan to submit requests well in advance to

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avoid unnecessary delay of your projects. Also be aware that INEL users must, in general, be U.S. citizens because of security regulations.

Monitoring Contractor Usage of Timesharing Accounts

1. It is the responsibility of the NRC project manager to monitor the contractor's usage to assure that costs charged to the government are reasonable and within the original estimates supplied on the form 380. If charges will exceed the estimates originally submitted on the form 380, an explanation should be provided to RM/D in writing. Substantial unanticipated cost overruns may require funding by your office. RM/D sends monthly bills to each office for authorization before payments are made. These should be filtered down to branch chiefs and project managers. If the project manager is not receiving copies for review, the program office computer account coordinator should be contacted. If the project manager needs assistance in interpreting the bills or if charges seem excessive, particularly storage charges, please contact Emily Robinson on extension 2-4160 for clarification.
2. The project manager must forward all announcements regarding system usage to the appropriate contractor staff. RM/D sends copies of all announcements to contractor users via the NRC project manager. It is vital that the project manager assure that these messages reach the account user.
3. Project managers are responsible for assuring that contractors are aware of NRC and timesharing installation security rules and procedures. (See attached letter to new users for NRC rules. Consult facility guides for installation rules.)
4. Attached for your information are two copies of "Software Development, Submittal, Distribution and Documentation Requirements for NRC Contractors." There were several changes to this document recently. Adherence to these requirements will facilitate future distribution and implementation of contractor-developed software on NRC-accessible computers. I strongly urge you to inform your contractors of these standards and to make them part of all future contracts and DOE laboratory agreements.

YOUR CONTRACT  
MODIFIED TO  
INCORPORATE  
THESE  
REQUIREMENTS

*James A. Shields*  
 James A. Shields, Chief  
 Systems Support Branch  
 Division of Automated Information Services  
 Office of Resource Management

Attachments:  
As stated



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

MEMORANDUM FOR: New Computer User

FROM: James A. Shields, Chief  
Systems Support Branch  
Division of Automated Information Services  
Office of Resource Management

SUBJECT: COMPUTER FACILITY ACCESS PARAMETERS

Your recent request for access (or change in ownership of existing access parameters) has been processed. Please read the following list of responsibilities carefully, sign and date the attached affidavit, and return to Jean Caldwell. If you do not check line one, your computer facility access request will be cancelled.

- Assigned access parameters are solely for use by the account owner. They must be protected from unauthorized use at all times. Unauthorized use includes use by anyone other than the account owner including use by other NRC staff members and NRC contractors. All users must have their own individual set of access parameters. NIH users should be aware that there are several data security options available which are designed to eliminate any need for keyword sharing. Specifically, if several NIH users need to know the keyword for a particular account/initials combination for data access, project or storage initials (see NIH User's Guide) should be acquired as a more secure method of sharing data.
- Should you lose or forget your password or other access parameters, you should send a password recovery request, using NRC Form 380, to the Information Technology Services Support Center, Mail Stop P-808 or call Jean Caldwell on 492-8918 if there is a need for expedited recovery. Under no circumstances should you attempt to guess a password or discover it by trial and error. Such activity is interpreted as an attempt to obtain unauthorized access to the computer facility and may result in suspension or cancellation of access privileges.
- As registered owner of the access parameters you are responsible for all charges incurred by their use.
- Use of the computer via the assigned access parameters is restricted to official NRC work only. No personal use can or will be authorized at any time.

- All work performed using the computer at the requested facility must conform to the applicable federal regulations, including the Privacy Act of 1974, and must follow all of the procedures of the requested facility as outlined in the NRC ADP Services Guide and any applicable facility user's guides.
- All data files stored at the requested computer facility must receive proper maintenance by the user. Old or inactive files should be deleted or copied to tape as soon as possible. If, at any time in the future, the decision is made to invalidate your access parameters, you must delete all data sets and release all tapes which are related to those access parameters prior to their invalidation.
- If you believe that your password has been compromised you should immediately take action to change it. For most computer facilities you must request a new password using NRC Form 380, Computer Facility Access/Change Request. For NIH/DCRT accounts, the user may change his or her password by using the SET KEYWORD command. It is a good security practice to change your keyword frequently.

Your assigned access parameters as well as some basic information to help you get started are attached. Reference materials on the software and services available at NRC-accessible computer facilities can be found in the user areas located in P-808 and 054-SS. If you have any questions, please call the ITS Support Center on extension 2-4160 (FTS 492-4160).

James A. Shields, Chief  
Systems Support Branch  
Division of Automated Information Services  
Office of Resource Management

Attachments:  
As stated

Please check line 1 or 2, print your name, sign, date and return to Jean Caldwell, mail stop P-808.

I have read, understand, and agree to abide by the computer facility access rules.

I wish to cancel my computer facility access request.

**SAMPLE ONLY**

Last Name (please print)	First	MI
Signature	Date	
Organization		
Facility (DG, BNL, INEL, NIH, ORNL)		

February 20, 1986

Office of Resource Management  
Division of Automated Information Services

Software Development, Submittal, Distribution and Documentation Requirements for  
NRC Contractors

This document provides requirements for contractors developing software, data or other machine-readable deliverables for the Nuclear Regulatory Commission (NRC). Its purpose is to assure that any such deliverables can be readily implemented and used on NRC equipment and can, if required, be easily disseminated or transferred to other data processing sites. This implies the use of standard software packages, programming languages, and compilers as well as adherence to good programming and documentation practices.

All computer codes, and associated data developed under contract to the NRC are the property of the NRC unless stated otherwise in the contract or DOE laboratory agreement. These items must be submitted to the NRC project manager in machine-readable form at or before contract completion. Microcomputer software and data deliverables should be supplied on diskette and conform to the criteria stated in section 1 below. Mainframe or minicomputer software and data deliverables should be submitted on tape and conform to the criteria in section 2 below.

All machine-readable deliverables must be accompanied by appropriate documentation as specified in sections 1, 2, and 4 below. Conversely, contractor reports citing the use of computer codes must be accompanied by said computer codes.

1. Deliverables Intended for Use on Microcomputers

All deliverables developed for use on microcomputers must meet the following criteria unless a written waiver is obtained in advance from the NRC project manager and approved by the Division of Automated Information Services (RM/D):

- a. Deliverables should be submitted on diskettes.
- b. All diskettes should be capable of use on an IBM PC using one of the software packages supported by the NRC Division of Automated Information Services (see Table 1, attached). All programs developed for the NRC must be written using one of the standard software packages.
- c. In particular, documents (e.g., reports) submitted in machine-readable form should be produced with IBM DisplayWrite word processing software. This will allow them to be used both on NRC microcomputers and word processing equipment.
- d. Failing criteria b or c above, data or text only may be provided as ASCII files in standard IBM PC diskette format.

- e. All diskettes must be accompanied by documentation, including a printed copy of the disk directory, a description of each file in the directory and how it is to be used and installation instructions. Refer to section 4 for software documentation requirements.

No microcomputer software or hardware may be purchased by a contractor or DOE laboratory for subsequent delivery to the NRC without written concurrence in advance by the NRC Project Manager and the Division of Automated Information Services.

Updated information about software supported for use on NRC-accessible computer facilities and microcomputers may be obtained from the NRC ITS Support Center, (301) 492-4160 (FTS 492-4160).

## 2. Deliverables Intended for Use on Mainframes or Minicomputers

These requirements apply to scientific/technical computer codes and associated data deliverables intended for use on mainframes or minicomputers. All such deliverables must meet the following criteria unless a written waiver is obtained in advance from the NRC project manager and approved by the Division of Automated Information Services.

- a. All new mainframe or minicomputer programs developed or converted for NRC shall be written in American National Standards (ANS) FORTRAN (ANSI Standard X3.9-1978).
- b. Mainframe or minicomputer programs which generate plots must do so using the Display Integrated Software System and Plotting Language (DISSPLA) or CALCOMP plot software (DISSPLA is a standard at all DOE laboratories).
- c. The recommended mathematical/statistical subroutines are the International Mathematical Statistical Libraries (IMSL).
- d. Proprietary software packages should be avoided except where standard readily available packages exist and are supported for use at NRC-accessible computer facilities by the NRC ITS Support Center (see Table 1, attached). Machine-dependent and installation-specific packages and features including assembly language should not be used.
- e. Deliverables should be submitted on tape following the attached NRC tape format requirements.
- f. All tapes must be accompanied by documentation, including a copy of the job that created the tape, a list of the files on the tape, a description of each file and how it is to be used, and installation instructions. Refer to section 4 for software documentation requirements.

g. Tapes should include the following files:

Source Code - Compiler input records

Sample Input - Test case input data. (The output generated by execution of the program using the sample input must also be provided in printed form.)

Data Libraries - External data files required for program execution (e.g., cross-section libraries, dose conversion factors, etc.).

Control Information - Operating system control language statements required for compilation and execution.

Optional files include object or load modules.

## NRC TAPE FORMAT REQUIREMENTS

1. Recording: 9-track
2. Density: 1600 BPI
3. Internal Tape Label: NO Label
4. Character Code: EBCDIC or ASCII
5. Record Size: FIXED RECORD LENGTH (80 char/record preferred for source code when possible)
6. Block Size: FIXED BLOCK LENGTH (maximum = 2048 char/block)
7. All files on one physical tape must each have the same number of char/record and char/block.
8. Tapes must not be generated using system-dependent copy routines. Tapes must be made so as to be transportable from one computer system to another. This is most easily accomplished by means of a FORTRAN READ-WRITE routine rather than a system utility; however, use of IBM IEBGENER is acceptable.

Questions concerning the above instructions should be addressed to the NRC Information Technology Services Support Center (FTS) 492-4160.

### 3. Distribution

Contractors may not distribute NRC computer codes. Public and internal distribution of machine-readable contract deliverables such as computer software and associated data is the responsibility of the NRC Division of Technical Information and Document Control (TIDC). Before release for distribution, NRC-sponsored computer codes must be appropriately reviewed, tested, documented and approved for release by the sponsoring NRC office. A machine-readable copy of the computer code and data along with appropriate documentation, distribution availability forms, and release authorization must be sent by the NRC project manager to TIDC. Copies of these forms are available from the ITS Support Center (301-492-4160 or FTS 492-4160) or the Publishing and Translation Section, TIDC (301-492-8523 or FTS 492-8523).

### 4. Documentation

All reports, including code documentation, must conform to NRC Manual Chapters 3201 and 3202. Copies of these manual chapters are available from the Division of Technical Information and Document Control (301-492-7333 or FTS 492-7333). DOE laboratory staff may obtain copies from their respective technical information offices.

In addition, the content of all scientific/technical computer code documentation shall conform to ANSI Standard N-413, "Guidelines for Documentation of Digital Computer Programs." The major documentation requirements included in the standard are:

- a) Computer Program Abstract
- b) Application Information (User's Guide)
- c) Problem or Function Definition (Theoretical Development)
- d) Programming Information (Programmer's Guide)

A copy of this standard may be obtained for \$8.50 plus \$2.00 shipping and handling from:

The American National Standards Institute  
1430 Broadway  
New York, New York 10018  
ATTN: Sales Department

In addition to or instead of conforming to ANSI Standard N-413, documentation for large codes or complex systems may be required to conform to FIPS Pub 38 (02/12/78), "Documentation of Computer Programs and Automated Systems." Applicability of FIPS Pub 38 will be determined by the Office of Resource Management, Division of Automated Information Services in consultation with the NRC Project Manager. Specific documentation requirements under FIPS Pub 38 shall be decided at the discretion of the NRC Project Manager depending on project size and complexity.

Each program developed for the Nuclear Regulatory Commission should include the following program title block and disclaimer in the main program:

Program Title:

Developed for: U.S. Nuclear Regulatory Commission  
Office of (fill in NRC Office)  
Division of (fill in NRC Division)

Date:

NRC Contact(s):

Phone:

Code Developer:

Phone:

Title(s) of Associated Documentation and NUREG Number(s):

This program was prepared for an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for any third party's use, or the results of such use, of any portion of this program or represents that its use by such third party would not infringe privately owned rights.

Table 1. NRC Supported Software

**MAINFRAME SOFTWARE:**

**Brookhaven National Laboratory Computer System**

NOS/BE	Operating System for CDC 6600
SCOPE 2.1	Operating System for CDC 7600
INTERCOM	Text Editor/Command Language
UPDATE	Text Editor Utility
FORTRAN 5*	Programming Language
CALCOMP	Graphics
DISSPLA	Graphics
IMSL	Math/Statistical Subroutines

**Idaho National Energy Laboratories Computer System**

NOS	Operating System for CYBER 176
FSE	Text Editor
XEDIT	Text Editor
UPDATE	Text Editor Utility
FORTRAN 5*	Programming Language
DISSPLA	Graphics
IMSL	Math/Statistical Subroutines

**National Institutes of Health Computer System**

OS/MVS	Operating System for IBM 3081
TSO	Command Language
WYLBUR	Text Editor/Command Language
VS FORTRAN*	Programming Language
DISSPLA	Graphics
TELL-A-GRAF	Graphics
FOILS	Word Charts for Overhead Projection
MARK IV	File Management/Report Generator
SYSTEM 2000	Data Base Management System (Reports and Queries only)
RAMIS II	Data Base Management System (Reports and Queries only)
UCFTP	Communications (PC's)
IMSL	Math/Statistical Subroutines

**Oak Ridge National Laboratory Computer System**

OS/MVS	Operating System
FORTRAN H	Programming Language
VS FORTRAN*	Programming Language

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\* Adheres to current ANSI Standard for FORTRAN (FORTRAN77)

NRC Supported Software (continued)

MINICOMPUTER SOFTWARE:

NRC Data General MV/8000

CLI	Command Language Interface
SED	Text Editor
SPEED	Text Editor
BASIC	Programming Language
FORTRAN 77*	Programming Language
SSI*CALC	Spreadsheet
IMSL	Math/Statistical Subroutines

MICROCOMPUTER SOFTWARE:

IBM PC and Compatibles

IBM PC DOS & BASIC	Operating System, language
COMPAQ MS-DOS & BASIC	Operating System, language
IBM BASIC Compiler	Programming Language
IBM FORTRAN Compiler	Programming Language
IBM DisplayWrite	Word Processor
IBM DisplayComm	WP Communications
IBM 5520 Attachment Program	5520 Terminal Emulation
Microstuf CROSSTALK	Communications
Persoft Smarterm	DG Terminal Emulation
LOTUS 1-2-3	Spreadsheet
Ashton-Tate dBASE III	Data Base Management
Westminister Software	
Pertmaster	Project Management
Decision Resources	
Chartmaster	Graphics
Decision Resources	
Signmaster	Graphics
Borland International	
Sidekick	Multi-purpose Utility

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\* Adheres to current ANSI Standard for FORTRAN 77.