BNL-21839
INFORMAL REPORT

ACCESS TO THE ENERGY SYSTEM NETWORK SIMULATOR (ESNS) VIA REMOTE COMPUTER TERMINALS

Ann W. Reisman

August 15, 1976

Energy Model Data Base
Department of Applied Science

BROOKHAVEN NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES, INC.
UPTON, NEW YORK 11973

Under Contract No. E(30-1)-16 with the
UNITED STATES ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

DISCLAIMER

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The Energy System Network Simulator (ESNS) flow model is installed on the Brookhaven National Laboratory (BNL) CDC 7600/6600 computer facility for access by offsite users. The method of access available to outside users is through a system called CDC-INTERCOM which allows communication between the BNL machines and remote teletype terminals. This writeup gives a brief description of INTERCOM for users unfamiliar with this system[1], and a step-by-step guide to using INTERCOM in order to access ESNS.

To access the Brookhaven computer facilities via INTERCOM, first set the controls on the teletype terminal to HALF DUPLEX, and the SPEED to 30 [10] characters per second. Dial 516-345-2635 [516-345-2651] and connect the telephone receiver to the terminal. The teletype should respond:

```
tty :  CONTROL DATA INTERCOM
       DATE today's date.
       TIME Current time.

       PLEASE LOGIN
```

If the teletype does not respond, the system may be "down" (not operative). Hang up and try again later.

---

[1] A more detailed description of INTERCOM may be found in the following INTERCOM Manuals. Control Data Corporation, "Intercom Reference Manual, Revision E," Publication no. 60307100, Sept. 13, 1974.

Control Data Corporation "Intercom Interactive Guide for Users of Fortran Extended, Revision B", Publication no. 60359700, May 10, 1974.

Now enter the following command:

User: LOGIN, user name, user password user account number[1] ®[2]
tty : COMMAND

The user is now in the command mode.

[Note: Totally capitalized words are INTERCOM commands. Lower case words in a command example are user supplied]

The Brookhaven computer system is a file-oriented system. A program or a data set is called a file. A file is stored in the computer with a "file name" and "file-id".

To retrieve a file from computer storage and make it available for use at the terminal, enter

User: FETCH, file name, file-id ®

or

User: ATTACH (file name, ID=file-id)

The retrieved file is now "attached" to the terminal and available for access by the user.

The EDITOR command allows the user to enter the EDITOR mode and utilize the "editing commands". Through use of the editing commands, some of which are described below, the user can create new files and modify existing ones. The editing commands can only be used in the EDITOR mode.

---

[1]The user name, user password and user account number are assigned to outside users on an individual basis. Contact Ann Reisman 516-345-2085 for information, or write:

Ann Reisman
Bldg. 475
Brookhaven National Laboratory
Upton, New York 11973

[2]® = carriage return

To enter the EDITOR mode, type

```
User: EDITOR                                          ®
tty : ..
User: F,CH=80                                         ®
      This format command allows the user
      to create or modify files with 80
      characters per line, i.e. card image.
tty : ..
```

[NOTE: Most INTERCOM commands - LOGOUT is an exception- may be entered while in the EDITOR mode]

To edit an existing file, enter

```
User: EDIT,file name                                  ®
tty : ..
```

This command copies your file to a separate "edit" file. All modifications are done to the "edit" file, not to your original file. When editing is finished this "edit" file can be saved. (See page 4).

When an attempt is made to edit a file without "sequence numbers" (numbers supplied by the editor in a previous edit) the teletype will respond with:

```
tty : ERR, LINE NUMBERS OUT OF SEQUENCE
```

The response by the user should be:

```
User: EDIT,file name,S                                ®
```

This command will add sequence numbers to an unsequenced file when it is copied to the edit file.

```
tty : ..
```

If an attempt is made to edit a file with more characters per line than specified in the format command (see above) or if no format command has been entered and the number of characters in any line is greater than the default of 72 characters per line, the teletype will respond with

```
tty : LINES>CH-YES=TRUNCATE LINES,NO=
      ABORT EDIT
```

The user's response should be

```
User: NO                                          ®
tty : ..
User: F,CH=nc                                     ®
```

where nc is equal to or greater than the number of characters per line in the file to be edited.

```
tty : ..
```

A YES answer will cut off the last characters in each line which extend beyond the cut off point specified by the format statement.

To create a new file, enter

```
User: CREATE                                      ®
tty : 100 =     User: Your text                   ®
tty : 110 =     User: Your text                   ®
tty : 120 =           etc.
```

Enter the desired data or lines of code. The teletype will respond with new line numbers in increments of ten. When there is no more information to add to the file, enter

```
User: =                                           ®
```

To modify the edit file, use the commands ADD, DELETE, and a character string substitution command /old text/=/new text/. These commands add lines, delete lines, and modify text within a given line or set of lines. For details, see the Command Summary Sheet (Appendix A) and the INTERCOM manuals.

To save the edit file for future access, enter

```
User: SAVE, local file name                       ®
tty : ..
```

```
User: CATALOG (local file name, permanent file
name, ID=your file-id,RP=999,AC=373)[1]
tty : INITIAL CATALOG
      PF CYCLE = 001
```

The local file name (lfn) is the name by which the file is known to the teletype terminal. However the file is catalogued on the computer under its permanent file name (pfn). For a given file, the local file name and the permanent file name may be the same, or different. In the FETCH command (see page 2), the local file name is the permanent file name. The ATTACH command allows the user to assign a separate local file name, as follows:

```
ATTACH (lfn,pfn,ID=file-id)
```

When the contents of an edit file are saved, the local file name used in the SAVE command may not be the same local file name that was used when the original file was copied into the edit file.

If the new edit file is a modified version of a permanent file, and if that same permanent file name is desired for the modified version now in the edit file, enter

```
User: SAVE,new local file name
tty : ..
User: CATALOG (new local file name, old
      permanent file name, ID=file-id,
      RP=999,AC=373
tty : NEWCYCLE CATALOG
      PF CYCLE NO. = next higher cycle
      number
```

[1] RP=999 and AC=373 must be entered on all CATALOG commands by ESNS users.

The file will be known to the teletype by the new local file name, but it will be catalogued on the computer as a new cycle (version) of the old permanent file. When the current INTERCOM session ends with a LOGOUT command, or if the file is detached from the terminal (see Page 7), the local file name will be lost and the file will be known to the computer only by the permanent file name.

To leave the EDITOR mode, enter

```
User: BYE                                                    ®
```

If the edit file has been modified and not saved with a SAVE command, the teletype will respond with

```
tty : WARNING-- EDIT FILE NOT SAVED
```

If the edit file is to be discarded, enter

```
USER: BYE                                                    ®
```

If the edit file is to be saved, save the file with a SAVE command (see Page 5), and then enter

```
User: BYE                                                    ®
```

The teletype will now respond by entering the command mode

```
tty : COMMAND-
```

To see which files are attached to your teletype terminal, enter

```
User: FILES                                                  ®
tty : LOCAL FILES
*file A     file B
```

In the list of local files, those local files which are also permanent files are prefixed with an asterisk(*). If a file was catalogued during the current session with a local file name which is different from the permanent file name, the

local name will be shown, not the permanent name, but an asterisk will appear before the local name.

To detach a file from the teletype, enter

User: RETURN, file name

This will return a permanent file to computer storage, and will destroy a non-permanent local file.

To run a job on the computer via INTERCOM, at least three files are required;[1]

1. A program file - a set of computer language instructions (i.e Fortran) to be executed by the computer.

2. A data file(s) - the data which are utilized by the program.

3. A control card file - the set of instructions which tells the computer the names of the program file and the data file(s) and how to process the job.

Before the job is submitted to the computer, the program file and the data file(s) must be returned to computer storage. The control card file must remain attached to the teletype terminal. The commands to submit a job are:

User: BATCH,control card file name,INPUT, destination

If no destination is given, the output from the job will print at the central site. If the destination is MINE, the output file will return to the user's teletype, and the job will be classified as a "Remote" job.

---

[1] The names of the files needed to run the ESNS program are listed in Appendix B. These files are available to all users.

To determine the status of a remote job, the FILES command is useful:

```
User: FILES
tty : REMOTE INPUT FILES
                or
      REMOTE EXECUTING FILES
                or
      REMOTE OUTPUT FILES
```

The remote job will appear as a remote output file when it has finished execution. The name of the job (job name) is assigned by the computer, using the first 5 letters of the job's name as it appears in the control card file and adding two additional characters (resulting in a seven letter job name).

To attach the job's remote output file to the teletype terminal, enter

```
BATCH,job name,LOCAL
```

The output file will then appear as a non-permanent local file with the job name as the local file name.

To examine a file (e.g. the job output file) at the teletype, either the PAGE command or the editing command LIST may be used.

To use the PAGE command, enter

```
User: PAGE,file name
tty : READY
User: F,=$word string from desired text$
tty : The line containing the first
      occurence of the word string in
      the file along with the following
      9 lines are printed.
```

To continue printing the file, enter

```
User: +
tty : the next 10 lines
```

To search forward or backward in the file, enter

```
User:  +=$ text $  or                    ®
User:  -=$ text $                        ®
```

Additional uses of the PAGE command are found in the INTERCOM manuals.

To exit from this PAGE command, enter

```
User:  Q
tty :  COMMAND-
          or
tty:   . .
```

To use the editing command LIST, enter

```
User:  EDITOR                            ®
Use this command only if in the COMMAND
mode.
tty:   . .

User:  F,CH=80                           ®
If the number of characters per line in
the file is greater than 80, enter the
correct number in place of 80.

tty: . .
User: EDIT,file name,S,                  ®
(see previous description of the EDIT
command Page 3)
tty : . .
User: L,A,/desired text/                 ®
This will list all lines containing this
text.
          or

User: L,A                                ®
This will list the entire file.
tty : . .
[Note: L abbreviates LIST and A abbreviates
ALL]
```

Other forms of the LIST command allow specific lines and/or specific columns to be searched for a word string and then listed. Details of the LIST command can be found in the

Command Summary Sheet (Appendix A) and the Intercom Manuals.

To abort (exit from) a command at any time, enter

```
User: (ESC button)%A                                    ®
The %A command may have to be entered
several time in order to abort a command.
tty : COMMAND ABORTED
                or
tty : FORMAT ERROR
tty : . . or COMMAND-
```

To print a file at the BNL central site, enter

```
User: BATCH, file name,PRINT,job-id                     ®
tty : . . or COMMAND
```

where job-id is a 4 letter identification which will appear on the banner page of the printed output.

If the file to be printed has characters in the first column, enter the following command string or the 1st column of the file will be lost.

```
User: REWIND,file name                                  ®
tty : . . or COMMAND-
User: COPYSBF,file name, dummy name                     ®
tty : . . or COMMAND-
```

Then use the BATCH command:

```
User: BATCH, dummy name, PRINT,job-id.                  ®
tty : . . or COMMAND
```

To punch a file on cards at the BNL central site, enter the following command string:

```
User: EDITOR                                            ®
(Use this command if you are not in EDITOR
mode)
tty : . .
User: F,CH=80                                           ®
tty : . .
User: EDIT,file name                                    ®
tty : . .
```

```
User: SAVE,dummy name, N                                    R
tty : . .
User: BATCH,dummy name,PUNCH,job-id
tty : . .
```

To sign off the Intercom System, enter

```
tty : COMMAND-
User: LOGOUT
```

To use the LOGOUT command, the user must be in the COMMAND mode. Before entering LOGOUT, check to see that all local files to be saved are catalogued. Otherwise they will be lost after LOGOUT is completed.

APPENDIX A

1

CONTROL DATA CORPORATION

INTERCOM INTERACTIVE COMMAND SUMMARY

Pub. No. 60394600 D October 1974

CONTROL DATA® CYBER 70 COMPUTER SYSTEMS

INTERCOM Version 4.3, under the SCOPE 3.4 operating system, provides time sharing access to CONTROL DATA CYBER 70/Model 72, 73, 74, or 6000 Series computers from terminals at central or remote sites. Detailed descriptions of terminal operations, INTERCOM command statements, and SCOPE control card entries are listed in the INTERCOM reference manual, publication number 60307100.

NOTATION

Command verbs and keyword parameters are capitalized; acceptable abbreviations are underlined.

User supplied information is shown in lowercase characters.

† Indicates point where entry may terminate; INTERCOM will request required parameters interactively.

{ } Enclose required elements of alternative entries; only one alternative can be specified.

[ ] Enclose optional elements; any one may be specified or all may be omitted.

. . . Following an element indicates a variable number of similar elements may be specified.

___ Underline characters indicate allowable abbreviation of a command.

SCOPE CONTROL CARDS p. II-3-10*

Except as noted below, SCOPE control cards may be entered as INTERCOM commands:

CKP	RESTART	ADDSET	PAUSE
RFL	LABELMS	CMLOAD***	RPACK
DMPECS	LIMIT	ECLOAD***	VSN
EXECUTE**	LIBLOAD**	LOAD**	LABEL
LDSET**	REDUCE***	NOGO**	SLOAD**

*Page number references in INTERCOM 4.2 Reference Manual.
**SCOPE control cards allowed as options in the XEQ command only.
***Prohibited loader requests.

2

SYSTEM CONTROL COMMANDS

ASSETS p. II-1-6

Causes INTERCOM to list: ASSETS OF (user-id) AT (hours, minutes, seconds), equipment and port numbers, maximum number of allotted local files, number of local files in use, field length, time limit, and total elapsed CP time. Settings of sense switches, EFL,ETL, SAVEFL, REDUCE, LOCK, and MAP are shown when they differ from installation defaults.

EFL[,nnnnnn] p. II-1-7

Specifies user's program execution field length, nnnnnn = octal length.

ETL[,nnnn] p. II-1-8

Sets user's program or command time limit. nnnn = octal seconds.

LOGIN†,username†,password[,SUP] p. II-1-1

Initiates INTERCOM session. System replies consist of date, log-in time, user-id, equipment number, and message-of-the-day, unless these messages are suppressed by the SUP parameter. System responds with COMMAND- when ready to accept a command.

LOGOUT p. II-1-11

Terminates an INTERCOM session. Only permanent files are retained between a LOGOUT and subsequent LOGIN.

MAP { OFF / ON / PART } p. II-3-13

Example:
COMMAND – MAP,ON
COMMAND – DISCONT,OUTPUT
COMMAND – COBOL(I-filename)
COMMAND – MAP,OFF

Normally, no load map is produced. However, the SCOPE control card MAP,ON specifies a full load map. MAP,PART omits entry point addresses. The example sequence of SCOPE control cards and INTERCOM commands disconnects the OUTPUT file to prevent the load map from being sent to the terminal; the map is saved on the file OUTPUT for diagnostics examination. MAP,OFF should be entered upon completion. Default is OFF.

REDUCE, { OFF / ON } p. II-1-8

REDUCE,OFF inhibits automatic field length reduction when entered before program execution. After execution, REDUCE,ON should be entered to restore automatic reduction. Default is ON.

3

SAVEFL, { OFF / ON } p. II-1-9

INTERCOM saves and restores the field length after execution of each command or SCOPE control card if SAVEFL,ON has been entered. This mode of operation is slower, but it is necessary with the SCOPE dump utility, DMP. SAVEFL,OFF should be entered to return to normal operation upon completion of a dump. Default is OFF.

SCREEN [,width[,length]] p. II-1-9

Selects CRT screen or TTY format other than the standard screen format for the installation.

TEACH p. II-1-4

Displays a list of INTERCOM commands and equipment. Instructive descriptions may be displayed at user request.

FILE CONTROL COMMANDS

RESEQ,filename [,startvalue[,increment]] p. II-1-31

Resequences line numbers in a BASIC file; if unspecified, defaults are 100 for startvalue, 10 for increment.

CONNECT,filename-1[,filename-2] . . . p. II-1-30

Connects named files so an executing program can receive input from the terminal and display output at the terminal. File names may be INPUT and OUTPUT, as well as any other files.

DISCARD,filename[,permanent-file-user-id] p. II-1-20

Deletes a permanent file saved with STORE or a local file. Only the file name should be specified for local files and files previously attached with FETCH. Otherwise, unless the installation assumes user-id as file id, the id from STORE must be specified. ID= is not displayed to request entries.

DISCONT,filename-1[,filename-2] . . . p. II-1-31

Disconnects named files from the terminal and assigns them to allocatable mass storage.

FETCH,filename†[,permanent-file-user-id] p. II-1-19

Retrieves a permanent file stored by a STORE command. If an id other than a user-id is required, ID= is displayed to request entries.

4

p. II-1-16

FILES

Lists names of all user's local files or attached permanent files, remote executing jobs, and remote input or output files. $ identifies each file currently connected to the terminal, and * precedes local file names of each attached permanent file.

p. II-1-21

PAGE[,filename-1] [,filename-2]

Provides terminal page-by-page display of filename-1 (OUTPUT if unspecified) and allows transfer for specified information to filename-2 (PRINT if unspecified) for subsequent printing. After response READY . . , user may enter instructions to begin paging: + displays next page; - displays previous page; nn begins paging at line nn. Other available commands may be obtained by entering HELP for the command directory, HELP 1 for general control commands, HELP 2 for display format commands, HELP 3 for line location and page searching, HELP 4 for string searching, and HELP 5 for copying to a print file.

p. II-3-15

RETURN,filename-1, . . .

SCOPE control card that releases named local files from a user's FILES list. Attached permanent files are also deleted from list but are retained as permanent files. User local files will be deleted entirely. Use DISCARD rather than RETURN to delete the file OUTPUT.

p. II-1-17

STORE,filename† [,permanent-file-user-id]

Retains a local file as permanent for single user access. If id not specified nor assigned as an installation option (user-id as the default permanent file identification), INTERCOM requests 1-9 letters and/or digits for ID= from the user.

MESSAGE CONTROL COMMANDS

p. II-1-13

LOCK, { OFF / ON }

LOCK,ON prevents other users from sending message to the user. Default if OFF.

p. II-1-15

MESSAGE,up to 58 character message

Flashes user message on the central site operator's console.

A message from the central site has the following form:

user-id, message . . .

A user-id of ** indicates a message sent to all users.

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p. II-1-13

SEND†,user name

Sends message lines of up to 149 characters to any specified user name. A user name of *** indicates all logged in users. Entering END at the beginning of a message line terminates the message.

p. II-1-12

SITUATE

Displays a list of currently logged in user names and associated user ids. Displays list of remote batch terminals by terminal id and type. Users with LOCK,ON are noted by an asterisk (*).

BATCH CONTROL COMMANDS

p. II-1-31

BATCH†,filename†, { PRINT / PUNCH [,xxxx]† / PUNCHB } **,file-id**

BATCH†,filename†, { INPUT[,xxxx] / LOCAL / RENAME†,new-filename }

Allows routing of files between remote site and central site queues: jobs may be submitted for execution at central site with optional remote output; files may be sent to central site for printing and punching. Files may be renamed also.

INPUT disposition directs file to SCOPE input queue. PRINT, PUNCH, or PUNCHB specify printing, punching in Hollerith, or punching in binary of file at central site. To output file to remote site, add xxxx as HERE for user's own site or MINE for user's own user id or substitute a 2-character user or terminal id.

LOCAL retrieves named file from output queue. RENAME changes name of local file. END terminates BATCH command.

p. II-1-30

Q [[,X] [,YYY] [,OURS] / ,ID / ,SYNTAX] where X = a member of (I,O,P,E,J,A)

Allows user examination of SCOPE batch processing queues in a CDC CYBER single mainframe or CDC CYBER multi-mainframe environment. If parameter is omitted, INTERCOM replies with a count of jobs in input, output, and executing queues. Option parameters are:

I	jobs in input queue
O	jobs in output queue
P	jobs in punch queue
E	jobs in executing queue
J	jobs in JANUS queues
A	jobs in (I,O,P,E,J) queues
YYY	mainframe identifier
OURS	jobs originating in host mainframe
ID	mainframe identifiers for a multi-mainframe environment
SYNTAX	Q syntax

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DIAGNOSTICS LIST

p. II-1-43

ERRORS, { ALGOL / COBOL / COMPASS / FTN / RUN } [,SUP]

Displays compiler or assembler generated diagnostics from OUTPUT file. Line numbers appear for programs created under EDITOR. SUP suppresses listing of non-fatal and informative diagnostics.

PROGRAM EXECUTION COMMANDS

p. II-1-38

filename

Executes binary program identified by local filename.

p. II-1-30

XEQ† [,option-1 [,... [,option-n]]]

Initiates binary program loading for execution or absolute overlay construction. If no options are selected, the system responds with OPTION= and the user may begin entering some of the following options (enter EXECUTE,NOGO or filename to load, or END to exit):

EXECUTE [=entry point [,param-1 [,... [,param-n]]]]

NOGO [=filename [,entry point-1 [,... [,entry point-n]]]]

filename [param-1 [,... [,param-n]]]

LOAD=filename-1 [{ /R / /NR }] [,... [,filename-n [{ /R / /NR }]]]

LIBLOAD=libname [,entry point-1 [,... [,entry point-n]]]

SLOAD=filename [{ /R / /NR }] [,prog name-1 [,... [,prog name-n]]]

SATISFY [=libname-1 [,... [,libname-n]]]

LDSET { = / . } option-1 [,... [,option-n]]

7

Options for LDSET are as follows:

LIB [=libname-1 [/... [/libname-n]]]

MAP=p [/lfn]

p may be 0, O, S, B, E, or X

PRESET=p

p may be NONE, ZERO, ONES, INDEF, INF, NGINDEF, NGINF, ALTZERO, or ALTONES

ERR=p

p may be ALL, FATAL, or NONE

REWIND

NOREWIN

USEP=pname-1 [/... [pname-n]]

USE=entry point-1 [/... [/entry point-n]]

SUBST=pair-1 [/... [/pair-n]]

OMIT=entry point-1 [/... [/entry point-n]]

FILES=lfn-1 [/... [/lfn-n]]

OUTPUT CONTROL

p. I-2-8

Teletype terminal:

{ ESC / ALT MODE / CTRL Z } { %A / %S / RETURN }

CTRL Z, ESC, or ALT MODE are alternate keys used to stop current output activity only. %A terminates current job, discards output. %S stops output, discards output awaiting transmission to terminal, and transmits additional output, if generated. RETURN resumes activity.

p. I-2-8

Display terminal:

{ %A / %S }

%A terminates current job, discards output. %S stops output, discards output awaiting transmission to terminal.

p. II-3-2

All terminals:

%EOR
%EOF

Sends end of record or end of file signal to the executing program.

8

PROGRAM TEXT EDITOR

p. II-2-1

EDITOR

Initiates program editor; allows user to create, examine, and modify files. EDITOR signals readiness to receive input by displaying two periods:

..

EDITOR COMMANDS

p. II-2-12

ADD [,line[,incr]] [,SUP] [,OVERWRITE]

Inserts or adds lines to existing edit file. To exit, enter an equals sign instead of text line.

p. II-2-4

BYE [,BYE]

Causes exit from EDITOR; BYE parameter suppresses warning message.

p. II-2-9

CREATE [,line[,incr]] [,SUP]

Allows entry of text lines to create new edit file. To exit, enter an equals sign instead of text line.

p. II-2-13

DELETE, { ALL / line-1 [,line-2 / ,LAST] } [/text/ [,col-1 [,col-2]]] [,UNIT] [,VETO]

Deletes lines in edit file

p. II-2-19

EDIT,filename[,SEQUENCE]

Loads local or attached permanent file into edit file and replaces old edit file.

p. II-2-4

END

Causes exit from EDITOR.

p. II-2-5

FORMAT [,language-name / [TAB=c] [,tab-1 [,... [,tab-n]]] / ,SHOW] [,CH=nnn]

Changes installation defined format specifications for EDITOR user input.

p. II-2-23

LIST [,ALL / ,line-1 [,line-2 / ,LAST]] [,SUP] [/text/ [,col-1 [,col-2]]] [,UNIT]

Lists edit file lines at terminal.

A-3

9

p. II-2-26

RESEQ [,line[,incr]]

Resequences line numbers in the edit file.

p. II-2-25

RUN,system-name[,FILE=filename] [,NOEX] [,SUP]

Transfers edit file (or local file) to language system named for compilation and, possibly, execution.

p. II-2-20

SAVE ,filename[,NOSEQ] [,OVERWRITE] [,MERGE] [,ALL / ,line-1 / ,LAST] [,line-2 / ,LAST] [,/text/ [,col-1[,col-2]]] [,UNIT] [,VETO]

Saves edit file as local file.

p. II-2-10

[=]line=text

Replaces or inserts text at given line number. First equals sign required only when line is entered out of sequence under ADD or CREATE.

p. II-2-16

/text-1/=/text-2/ [{,ALL / ,line-1 / ,LAST} [{,line-2 / ,LAST}]] [,col-1[,col-2]] [,UNIT] [,VETO]

Replaces text strings in lines of the edit file.

Parameter Descriptions for Editor Commands

ALL	All lines in editor file are considered by command.
CH=nnn	Maximum characters to be permitted in each line.
col-1	First or only column of text search string.
col-2	Last column of text search string range.
filename	File name of local file, or, for EDIT or RUN, file name of attached permanent file.
incr	Increment value of edit file line numbers; default is installation option.
LAST	As first parameter, command considers only last line in edit file; as second parameter, affects range from line-1 to last line in edit file.

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line	First line considered by command; default is installation option.
line-1	First or only line considered.
line-2	Final line of range beginning at line-1.
MERGE	Merges successive files or parts under the same file name. NOSEQ is recommended to avoid duplication of line numbers. EOR is written at end of each file or part added.
NOEX	Compiles without execution.
NOSEQ	Saves file without line numbers.
OVERWRITE	Permits bypassing or replacing existing line numbers (ADD) or writing over existing local files (SAVE).
SEQUENCE	Assigns line numbers as file is entered into edit file.
SHOW	Displays current FORMAT conditions.
SUP	Suppresses display of line numbers at terminal (ADD, CREATE, LIST) or listing of non-fatal errors (RUN).
system-name	Compiler language ALGOL, BASIC, COBOL, COMPASS. When using FORMAT, FORTRAN identifies either FORTRAN Extended or FORTRAN (RUN). When using RUN, RUN,FTN identifies FORTRAN Extended; RUN,RUN identifies FORTRAN (RUN).
TAB=c	Identifies character that selects tab function.
tab-n	Successive tab column positions.
/text/ /text-1/	Text search string of 1 to 20 characters. Slash delimiters may be other special characters.
/text-2/	Text replacement string of 0 to 20 characters delimited by slashes or equivalent delimiters. Replaces text search string when search conditions are satisfied.
UNIT	Text search string will be recognized only if separated from surrounding text by other than letter or digit.
VETO	Displays affected lines for approval. Responding YES accepts the displayed line; CONTINUE will complete the command. Other characters reject the displayed line.

Appendix B

The following files are catalogued on the CDC 6600 for access by outside users of the ESNS flow model. These files are write-protected; that is they can be read by users, but they cannot be rewritten. If a user wishes to modify the base data or if he wants to set up a trajectory file to carry out subsystem analyses he must create and catalogue his own file. This can be accomplished by copying the file to be changed into the edit file, changing it in the desired way and then cataloguing the new file with a user-supplied file name and file-id.

The current running version of ESNS is a process-level network which uses national average, data either controlled or uncontrolled.[1] In the near future a new expanded national average activity level ESNS will be available. As new files are added to the system, a supplementary notice will be sent to those who return the back page of this write up.

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[1]See the following references for details;

W. A. Sevian, "The Energy System Network Simulator (ESNS): I. General Description and Sample Analyses", BNL Draft Report, September 1975.

W. A. Sevian, "The Energy System Network Simulator (ESNS): II. A User's Guide", BNL-20979, September 1975

Date 8/15/76

	FILE NAME	FILE ID	FILE DESCRIPTION
1.	ESNS	ESNS	The ESNS FORTRAN Code
2.	UD	ESNS	Base data for 1970, 1977, and 1985. This data is national average, uncontrolled data (UD) or national average controlled data (CD).
	CD	ESNS	
3.	BASTRAJ	ESNS	A trajectory file to perform a base case run.
4.	CCBASEU	ESNS	Control card files which will run a base case analysis using uncontrolled (CCBASEU) or controlled (CCBASEC) national average data.
	CCBASEC	ESNS	
5.	CCTRAJU	ESNS	A control card file which will run an ESNS trajectory analysis, after the permanent file name and ID of the user's Trajectory file have replaced TRAJECT AND ID= DUMMY in the file CCTRAJ. [Use CCTRAJU for uncontrolled data and CCTRAJC for controlled data.]
	CCTRAJC	ESNS	
6.	SOLAR	TEST	A sample trajectory file which will do the following,(Details are supplied in references at the bottom of page B-1) a. Add a solar supply and demand subsystem, b. Assume that 3% of natural gas demand in 1985 for space heating, water heating, and air conditioning in the residential and commercial sectors is replaced by solar energy. c. Assume that 6% of electric demand is supplied by solar generated electricity rather than gas-fired steam electric plants.

[NOTE: In order to run the analysis using SOLAR, the CCTRAJU file must be edited and a new control card file created. Wherever "TRAJECT" appears it must be replaced with "SOLAR". If the new trajectory file was catalogued with a file-id other than ESNS (here it was changed when SOLAR was catalogued from ESNS to TEST) then the file ID must be changed in the new control card file to the new trajectory file id. The ENDMAP name on the first card may be changed to the users name for easy identification of the output file when the job has run. When all changes have been made to CCTRAJU, catalogue the new control card file.]

	FILE NAME	FILE ID	FILE DESCRIPTION
7.	CCDEM	AWR	This is a sample control card file, created by editing CCTRAJU, which may be used to run the trajectory analysis using SOLAR.

REQUEST FOR INFORMATION
CONCERNING
NEW USER ACCESSIBLE ESNS FILES

8/15/76

NAME:

ADDRESS:

PHONE:

COMMENTS:

Return this form to

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