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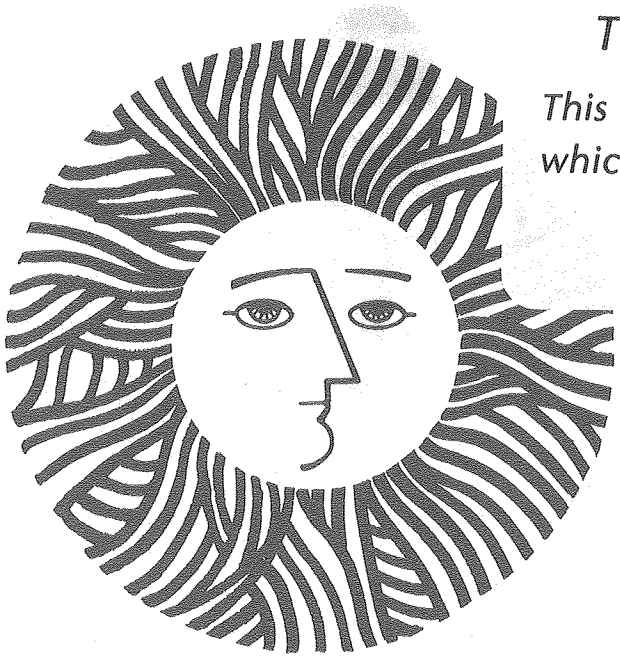
Lawrence Berkeley Laboratory
UNIVERSITY OF CALIFORNIA

ENERGY & ENVIRONMENT
DIVISION

USING DOE-2.1 AT LAWRENCE BERKELEY LABORATORY

Building Energy Analysis Group

September 1980



Prepared for the U.S. Department of Energy under Contract W-7405-ENG-48

DISCLAIMER

USING DOE-2.1

AT

LAWRENCE BERKELEY LABORATORY

Building Energy Analysis Group*
Energy Efficient Buildings Program
Energy and Environment Division
Lawrence Berkeley Laboratory
University of California
Berkeley, California 94720

September, 1980

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Division of Buildings and Community Systems

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BEFORE YOU BEGIN...

STRUCTURE OF THIS MANUAL

The purpose of this manual is to assist the DOE-2 user to run DOE-2* and its utility programs at Lawrence Berkeley Laboratory (LBL). It is organized to reflect the facts that every DOE-2 job run at LBL requires certain steps, and that there are options related to DOE-2 job runs available to any DOE-2 user.

The standard steps for running a DOE-2 job are as follows:

1. Prepare a job deck
2. Process a job deck
3. Obtain standard output reports

These steps, along with an overview of job runs and an explanation of certain initial preparations, are covered in Section 1.

The new DOE-2 user can learn all he/she needs to know for running a basic DOE-2 job by reading Section 1 and the references mentioned therein. Advanced users should read the other sections of this manual that deal with the options desired.

The options consist of the following:

1. Store and retrieve DOE-2 data for re-use (Section 2)
2. Use interactive terminals (Section 3)
3. Prepare your own weather file for DOE-2 use (Section 4)
4. Create your own construction and weighting factor library (Section 4)
5. Specify output media other than the default output medium (Appendix A)

DOE-2 users located away from the LBL Computing Center can make arrangements for assistance through the Expediter Service as explained in Appendix B.

Appendix C shows how to access a bug file (BUGS), a documentation update file (UPDOC), and a file containing the input decks for the Sample Run Book (SAMP21).

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*DOE-2 refers to the official version of the program. As of this writing, the official version is DOE-2.1 and all references to DOE-2 are to that version.

All formats of the CALL control card used in DOE-2 job decks are explained in appropriate sections of this manual, and these formats are summarized in Appendix D.

In Appendix F the computer files used and generated by DOE-2 are described.

The procedure file used by the various options of the CALL control card is listed in Appendix G.

Finally, the LBL writeup, EDITING, a manual for using the interactive text editor, is reproduced in Appendix H.

SUPPLEMENTAL DOCUMENTS

As you may or may not be aware, there are other DOE-2 and LBL Computer Center documents that supplement this manual. You should familiarize yourself with all of them. Certain DOE-2 steps are covered only briefly in this manual, because they are fully described in these other documents. Where these steps appear, an external reference is made to the appropriate document that describes them. This external reference gives the title of the document, underlined, and its category (manual, handbook subset, writeup subset, guide, etc.). All external references appearing throughout this manual — plus other useful documents — are listed in Appendix E, along with directions on how to obtain them.

CONVENTIONS REGARDING CONTROL CARDS

To clarify the contents and syntax of the DOE-2 job card and control cards discussed in this manual, the following conventions are used:

a. Actual characters to be punched are shown in upper case.

b. Variable information that must be supplied by you is shown in lower case.

c. All punctuation marks shown are to be punched.

d When a control card extends over 80 columns, a plus sign (+) is used in the first column of the following card(s) to indicate a continuation.

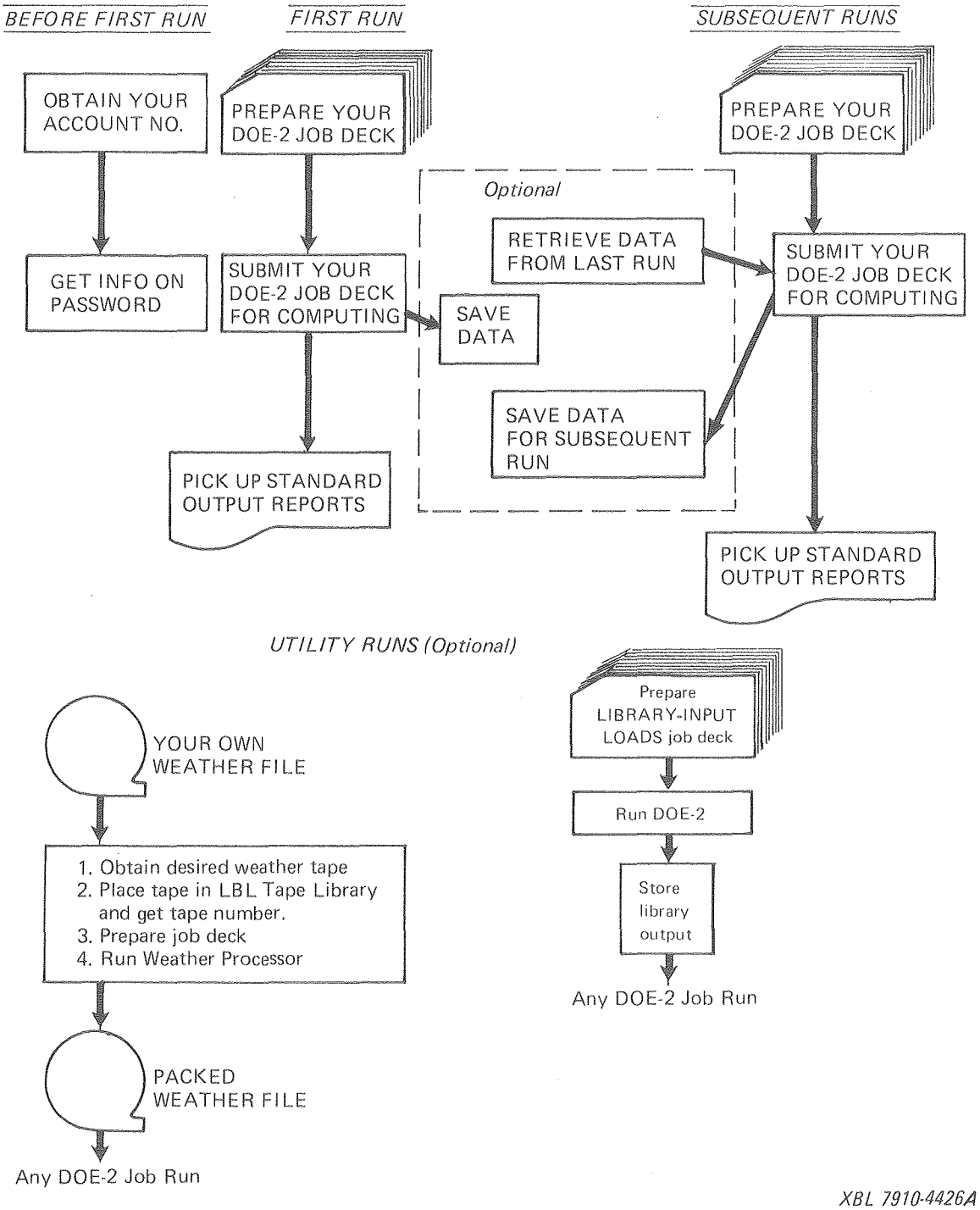
e. When an element of a control card allows two or more options, one of which must be punched, those options are shown in upper case surrounded by braces. For example:

$$\text{CALL,DOE2/}\left\{\begin{matrix}\text{STORE}\\\text{RETRIEVE}\end{matrix}\right\},$$

means the user should specify either CALL,DOE2/STORE or CALL,DOE2/RETRIEVE.

SECTION 1. HOW TO RUN A BASIC DOE-2 JOB

The following diagram will give you an overall view of the possible operations in running a basic DOE-2 job.



XBL 7910-4426A

OBTAINING AN ACCOUNT NUMBER

There are three client categories authorized to obtain an account number and to use DOE-2 at LBL:

1. Federal Agencies

2. Contractors of Federal Agencies

3. Grantees of Federal Agencies

If you are in one of these categories, obtain an account number by submitting an approved purchase order from your employer, and a letter of credit from your sponsoring Government agency to:

Gerald Moore
Lawrence Berkeley Laboratory Business Services
Building 930, Room 413
Berkeley, CA 94720
Phone: (415) 486-5214

For detailed instructions on the purchase order and letter of credit, contact the LBL Business Services as described above. When your purchase order and letter of credit have been processed, you will be sent your account number along with an information package on the LBL Computing Center services. The account number contains six digits and must be shown on every job you run on the LBL computer.

If your project is not Department of Energy-related, you may still obtain an LBL account; however, interactive use of the computer is restricted to the hours of 6:01 PM to 8:59 AM PST weekdays. If you are working in the last 15 minutes before 9:00 AM, PST, you will receive notice to logout. If you do not terminate your job at that time, you will be automatically logged off, and your work will be lost. Weekends and holidays are unrestricted as is remote batch entry.

USING A PASSWORD

In connection with running DOE-2 jobs, you should be aware of passwords. A password can protect your account number from being used by someone else. To put a password into effect at your site or to learn more about its use, contact the manager of the batch unit at your site. At LBL, contact Eric Beals, in Building 50B, Room 2232D, phone (415) 486-5351. (For interactive terminal users, passwords are covered briefly in Section 3.)

Terminal users who desire a password should contact Fran Permar, in Building 50B, Room 2258, Berkeley, CA 94720, phone (415) 486-6310.

JOB DECK FUNCTION AND ELEMENTS

All the data and instructions needed to run a DOE-2 job are contained in a sequential collection of punched computer cards, called a job deck. Preparation of the DOE-2 job deck is the user's responsibility. Every job deck consists of the elements shown in Figure 1-2. These elements are covered in the following paragraphs.

Once your job deck has been prepared, it can be re-used with no changes (or with only a few changes in the DOE-2 input deck) in any subsequent DOE-2 job run. This applies to the two control cards as well, although one of them must be modified when any of the options described in this manual are desired.

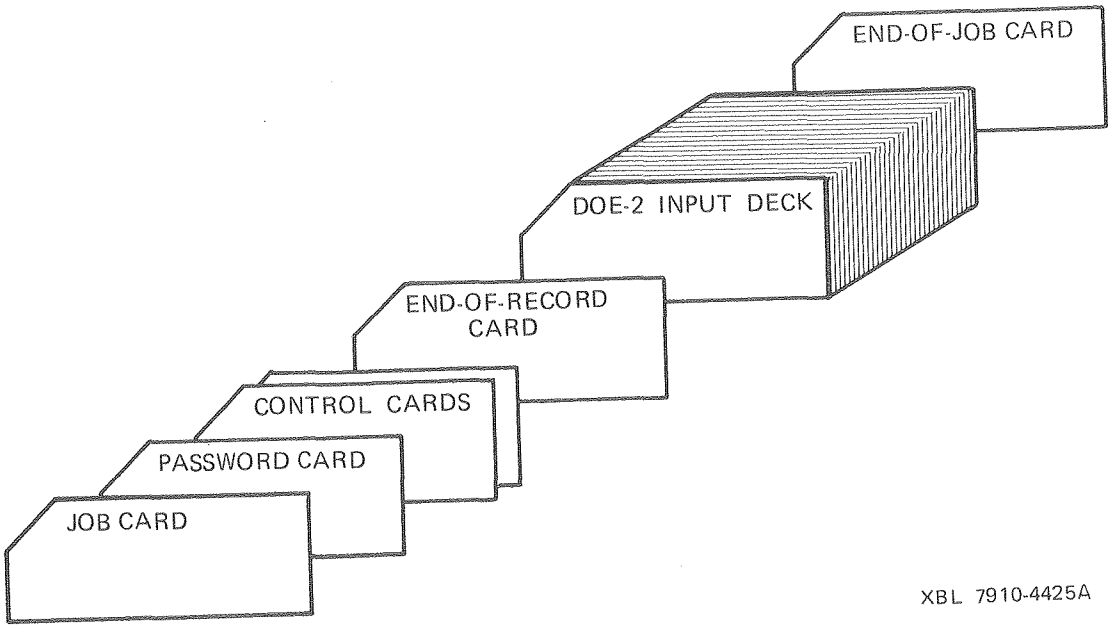


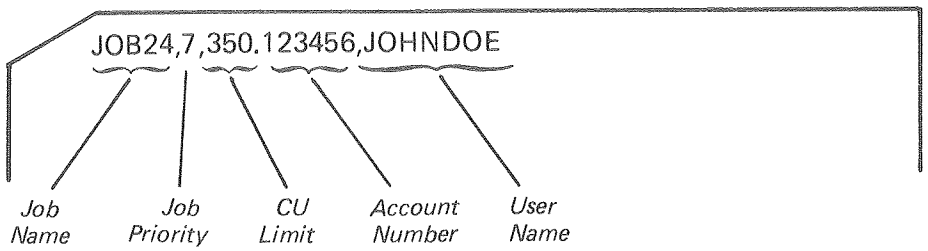
Figure 1-2. DOE-2 Job Deck

PREPARING A JOB CARD

The first instruction to the computer is always the job card. The job card contains the following, in the order shown:

job name
job priority (default is 7, i.e., normal)
computing unit (CU) limit (default is 68)
account number
user name

A typical job card would appear as follows:



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Jobname

The job name must begin in column 1 and may contain up to seven characters. The first character must be a letter, but the remainder can be any mix of letters and numbers. Follow the job name with a comma.

Job Priority

This parameter assigns a priority to the turnaround time for your job, and affects the charges made against your account. It is followed by a comma. You can specify a value from 2 through 16; however, you should use the following as a guideline: 12 for Rush, 7 for Normal (the default), and 3 for Deferred. The priority specified in this parameter becomes a factor in the calculation of computer charges made against your account. For example, a Deferred DOE-2 job during the week is charged at 3/4 the Normal rate, while a Rush job is charged twice the Normal rate. Complete information on job priority is contained in the MONEY handbook subset (see Appendix E for directions on how to obtain a copy of this reference).

Computing Unit Limit

This parameter specifies the maximum number of computing units the job may use. It is followed by a period. You should specify 300 to 350 CUs for a complete run of your DOE-2 job for a 10-zone building (see the NOTE below). The number of CUs required will depend on the number of zones in your building, and as many as 700 CUs may be required for a 20-zone building.

Please also note that the LBL computer's small core memory is not large enough to model a building above approximately 20 zones.

NOTE for Computing Unit Limit: You must be careful to specify a limit high enough to allow your job to complete processing, but low enough to ensure prompt handling by the computer.

Account Number

Your six-digit account number must begin in the first column after the period, and be followed by a comma.

User Name

Your choice of identification (called "programmer name" in other documents) must begin in the first column after the account number comma. It can contain up to 22 letters. This name will appear on the first page of printed output and on microfilm labels.

PREPARING PASSWORD CARD

If your account has a password, the first card after the job card must be the password card. This card has the form:

```
$ID=password
```

PREPARING END-OF-RECORD CARD

The two control cards must be followed by an End-of-Record card. This card contains a multiple 7-8-9 punch in column 1.

PREPARING DOE-2 INPUT DECK

Your DOE-2 input deck, sometimes called the "data deck" in LBL documentation, must follow the End-of-Record card. Prepare the input deck as described in the DOE-2 Reference Manual (see Appendix E for directions on how to obtain a copy of this reference).

PREPARING END-OF-JOB CARD

The DOE-2 input deck must be followed by an End-of-Job card. This card contains 6, 7, 8, and 9 multiple punches in column 1. This must be the last card in your DOE-2 job deck. These cards are usually pre-punched and available at the card readers on the I/O Room (Room 1232) in Building 50B of the LBL Computing Center, but may be constructed by the user.

PREPARING BASIC DOE-2 CONTROL CARDS

The job card (or password card, if present) must be followed immediately by two control cards. These control cards for running DOE-2 consist of the following:

```
FETCHPS,DOE2,DOE2,RUNDO21.
CALL,DOE2,weather.
```

In the CALL control card, you must supply the code for the weather file desired. There are 75 weather files available in DOE-2, representing the 60 Test Record Year (TRY) weather stations and 15 California climate zones. A complete list of available weather file codes is contained in Chapter VIII of the DOE-2 Reference Manual. The following examples show typical formats of the basic CALL control card:

```
CALL,DOE2,SEATTLE.

CALL,DOE2.          (The default weather file is Chicago;
                     this format automatically specifies
                     Chicago)
```

(See also the NOTE FOR PROCESSING OPTIONS below).

PROCESSING A JOB DECK

The following directions cover users who are at LBL. For users at batch sites away from LBL, see your local site representative. At LBL you are responsible for reading your own job deck into the computer.

Submit Job Deck

When your job deck has been prepared as described in the previous sections, take it to the I/O Room (Room 1232) in Building 50B of the Computer Center. You can read the cards in on one of the self-service card readers provided there for your use. Information on the use of the equipment in this room is available in the subset IOGUIDE in the write-ups library (See Appendix E).

Record Modified Job Name

As your deck is being read in, the computer automatically modifies the job name you assigned on the job card. The modification consists of two digits appearing as the sixth and seventh characters of your original job name. For example, the first time a job named YOURSA is submitted, the computer would display the job name modified as YOURSØØ. Make a note of this modified job name and use it (rather than the job name on the job card) for any job status inquiries.

Obtain Output Reports

You may pick up the output reports in the I/O Room in a bin under your account number.

If you wish to pick up the printout directly from one of the user printers in the I/O Room, insert the following control card immediately

after the password card (or immediately after the job card, if you have no password):

```
*USERPR
```

NOTE FOR PROCESSING OPTIONS

To run the DOE-2 program only through the Building Description Language Processor (BDL) portion, but no farther, use the following CALL control card:

```
CALL,DOE2/BDL.
```

It is possible to run your DOE-2 job or just BDL using the developmental version of DOE-2. To run this version, use a CALL control card as follows:

```
CALL,DOE2,weather,VER=DOE21DEV.
or
CALL,DOE2/BDL,VER=DOE21DEV.
```

for CHICAGO weather. You should be aware, however, that this is an everchanging version, that no documentation is available, and that you use this version at your own risk. This manual and all the others referenced herein are based on the official version of DOE-2. As of this writing, the official version is DOE-2.1.

GETTING ASSISTANCE

DOE-2 Run Assistance

Assistance is available from the DOE-2 User Coordination Office, when you have questions or problems regarding a particular DOE-2 run of your job. To obtain assistance:

a. Direct a copy of your job automatically to the DOE-2 User Coordination Office at LBL by appending to your original CALL control card the following:

```
CALL,DOE2 < your original parameters >,HELP=YES.
```

b. Re-run the DOE-2 job in question.

c. Follow up this output copy with a phone call to the User Coordination Office at (415) 486-5711, FTS 451-5711.

This assistance is available ONLY to Department of Energy facilities personnel and their contractors.

General Computer Center Assistance

To get general assistance on problems with the LBL Computing System, contact the consultants in Room 1237 of Building 50B (phone (415) 486-5981) or call Joan Franz at (415) 486-6204. If your questions regard problems with DOE-2.1 itself, call the number above.

SECTION 2. HOW TO STORE AND RETRIEVE

GOOD REASONS FOR STORING

As a DOE-2 program user, you will typically be dealing with long DOE-2 job decks, and you will probably be making re-runs for the same building with only slight changes from run to run. In this situation, you will find it valuable to store and to retrieve information for these main reasons:

1. To save LOADS output when you plan to make a series of runs through various systems and plants in the same building for which the loads remain unchanged. The LOADS output need not be recomputed, thus reducing processing time and, of course, computer charges. The same savings applies to SYSTEMS output, when only the plant or the economic analysis is to be changed.

2. For interactive terminal users, to keep your input intact between sessions at the terminal. This gives the user convenience and flexibility at an insignificant cost. Procedures for storing and retrieving at an interactive terminal are given in Section 3.

3. To create your own weather file, to save output from the a construction library creation run, or to use this construction library in a DOE-2 job run. This also gives the user the convenience and flexibility at insignificant cost. More information on using your own weather file and library creation is given in Section 4.

STORAGE FACILITIES AT LBL

All of a job deck, parts of a job deck, and output from the processing of a job deck can be stored and subsequently retrieved at LBL.

Space is available on the LBL computer through the Program Storage System (PSS) or on magnetic tapes which are available through the GETTAPE/STOTAPE System (GSS).

PROCEDURE FOR STORING AND RETRIEVING

For storing LOADS or SYSTEMS output, you must obtain PSS space, or a GSS tape assignment and prime the tape assigned, and then use certain control cards and input deck cards. For retrieving LOADS or SYSTEMS output, you must modify certain control cards and remove portions of the input deck. These steps are explained in this Section.

Procedures for storing and retrieving your own weather files and construction library are covered in Section 4.

In all following sections of this manual, it is assumed that you have had a tape assigned and prepared, or PSS space assigned, as described in this Section.

OBTAINING PSS SPACE AND GSS TAPE ASSIGNMENT

To obtain PSS Space

1. Contact Patricia Gillenwater of the Operations Programming Support Group at the LBL Computer Center (Building 50B, Room 2276, phone (415) 486-5234). You will be assigned a (user) group name and (user) group number. The group number must be used in all subsequent storing operations. The group name is needed only when you create a library.

2. Create a PSS library by running the following job:

```
jobcard
$ID=password
*B
COPY,INPUT,IN.
LIBRITE,library name,IN,subset name,group number,
                                        G=group name,W=owner name.
7-8-9
any data deck, e.g., your DOE-2 input deck
6-7-8-9
```

where library name must be unique in the entire LBL system. It can be up to ten characters.

subset name can be up to any 7 characters of your choice, starting with a letter.

owner name can be the user name specified for this job. If it is not this user name, be sure you record it for future use. All subsequent storage in this library will require this owner name.

3. For further information on PSS, see the STORAGE writeup (see Appendix E for directions on how to obtain a copy of this reference).

To obtain GSS Tape Assignment

1. Inform the Tape Librarian (Building 50B, Room 2249, phone (415) 486-6219) that you want a tape. A unique owner name will be assigned at this time. This only need be done once; for future tapes use the same name.

2. Run the following job:

```
jobcard
$ID=password
LIBTAPE,T=IT,N=1,ACT=account number,OWN=[owner name].
6-7-8-9
```

where the brackets are necessary only if non-alphanumeric characters exist in the owner name.

An example would be:

```
LIBTAPE,T=IT,N=1,ACT=444401,OWN=[JOE/JANE].
```

3. Pick up the output of this job to examine the Dayfile. The Dayfile is a listing of all the steps taken by the computer to carry out your commands. The Dayfile shows your tape number (5 digits) and the owner name you specified in step 2 above.

4. If you do not have a password, ignore the card that asks for one.

5. Prime the tape assigned to you in step 2 above by running the following job:

```
jobcard
$ID=password
*B
COPY,INPUT,IN.
STOTAPE,IN=/owner name/DOE2/deckname,tapenumber,T=C.
7-8-9
any data deck, e.g., your DOE-2 input deck
6-7-8-9
```

where

owner name is the owner name of the GSS tape. It need not be the same as the name given in the LIBTAPE control card in step 2, and cannot be, if that name contained non-alphanumeric characters.

deckname is the name you call your DOE-2 job.

tape number is the number assigned to your tape in step 3.

The example might then be:

```
STOTAPE,INPUT=/JOEUSER/DOE2/MYDECK,12345,T=C.
```

6. For further information on GSS, see the GSS writeup as explained in Appendix E.

SAVING AND RETRIEVING LOADS OR SYSTEMS OUTPUT

To Save on GSS

1. In your DOE-2 input deck, insert the SAVE-FILES command between the COMPUTE LOADS command and the INPUT SYSTEMS command, or between COMPUTE SYSTEMS and INPUT PLANT, if you are saving SYSTEMS.

2. Make sure that you have already received a GSS tape assignment and have primed the tape as previously described.

3. Once your tape has been readied, prepare the CALL card in your DOE-2 job deck as follows (for the official version of DOE-2; for the developmental version, add VER=DOE21DEV):

CALL,DOE2/STORE,weather, SF=$\left\{\begin{matrix}\text{LDS}\\\text{SYS}\end{matrix}\right\}$, SD=output directory name,
STN=output tape number,SOW=owner name.

where weather is the code-name of the pre-packaged DOE-2 weather file desired, or the file name of your own packed weather file. (See Section 4.)

SF saves either LOADS (LDS) or SYSTEMS (SYS) output. Specify this argument, if you will not subsequently be changing the LOADS or SYSTEMS input, respectively. LDS is the default.

SD is the user-supplied name of the directory into which the files will be saved. Different directory names should be used for different DOE-2 jobs.

STN is the 5-digit number of the tape assigned to you in step 3 for obtaining a tape assignment.

SOW is the owner name used in step 5 for priming the GSS tape.

4. Run your DOE-2 job deck as explained in Section 1 under "Processing A Job Deck".

To Retrieve from GSS

Keep in mind that you can retrieve only what has been stored, as described in the preceding steps. In this discussion on retrieving, it is assumed that your LOADS or SYSTEMS output has already been saved. To retrieve and use this output in a subsequent DOE-2 run, proceed as follows:

1. Remove the LOADS and/or SYSTEMS input portions — as appropriate — from your DOE-2 input deck.

2. Remove the SAVE-FILES command from your DOE-2 input deck.

3. Prepare the CALL control card in your DOE-2 job deck as follows:

CALL,DOE2/RETRIEVE,weather, RF=$\left\{\begin{matrix}\text{LDS}\\\text{SYS}\end{matrix}\right\}$,RD=input directory name,
RTN=input tape number.

where RF retrieves either the LOADS (LDS) or SYSTEMS (SYS) output previously saved (LDS is the default).

RD is the name of the directory in which the file was stored.

RTN is the 5-digit number of the tape on which you stored the output.

4. Run your DOE-2 job deck as explained in Section 1 under "Processing A Job Deck".

To Restore on GSS

You may combine the two options, storing and retrieving, with the RESTORE CALL card. The purpose here is to store the SYSTEMS output in a run which uses already stored LOADS output.

1. Make sure the SAVE-FILES command follows the COMPUTE SYSTEMS command.

2. Remove the LOADS portion from your DOE-2 input deck.

3. Prepare the following CALL control card as follows:

CALL,DOE2/RESTORE,weather,RD=input directory name,RTN=input tape number,
SD=output directory name,STN=output tape number,SOW=owner name.

where RD is the name of the directory on which LOADS output was previously stored.

RTN is the tape number on which LOADS output was previously stored.

SD is the directory on which the SYSTEMS output is to be stored.

STN is the tape number on which SYSTEMS output is to be stored.

SOW is the name of the owner of the tape on which SYSTEMS output is to be stored.

To Save on PSS

Users may choose to store their LOADS and SYSTEMS output on PSS rather than GSS. It is important to realize, however, that PSS space is comparatively limited and costly, and that the output from LOADS and SYSTEMS can be massive. For example, storing a LOADS output on a 60-bit CDC computer requires 4 words per zone per hour, plus 3 words per hour for each BUILDING-RESOURCE, one word for the record mark, times the sum of the number of days in all RUN-PERIODs and 3 times the number of THRUs (for the 3-day intialization period), or:

$$\text{number of words} = [24(4N_z + 3N_{BL}) + 1]\ (N_{days} + 3N_{run\text{-}periods}).$$

Therefore, a typical run of a 10-zone building with one BUILDING-RESOURCE for one year would result in:

$$380{,}144 \text{ words} = (4 \times 10 \times 24 + 72 + 1) \times (365 + 3 \times 1).$$

Magnetic tapes can store approximately 14,000,000 words whereas PSS libraries are limited to 5500 words per allocation unit. The current monthly charge for PSS storage is $1.75 per allocation unit (the maximun au assigned, not simply those used), while the storage charge for GSS is $.75 per tape, plus staging fees whenever you access the tape. See handbook subset MONEY for details (see Appendix E for directions on how to obtain a copy of this reference).

Therefore, it is strongly recommended that you save your LOADS and SYSTEMS output on GSS. If you still choose to store on PSS, however, follow the procedure given below.

1. In your DOE-2 input deck, insert the SAVE-FILES command between the COMPUTE LOADS command and the INPUT SYSTEMS command, or between COMPUTE SYSTEMS and INPUT PLANT, if you are saving SYSTEMS.

2. Make sure that you have already received PSS space and have created a library as previously described.

3. Prepare the CALL card in your DOE-2 job deck as follows (for the official version of DOE-2; for the developmental version, add VER=DOE21DEV):

CALL,DOE2/STORE,weather,PSS,SF=$\begin{Bmatrix}\text{LDS}\\ \text{SYS}\end{Bmatrix}$,SD=output library name,

STN=group number,SOW=owner name.

where weather is the code-name of the pre-packaged DOE-2 weather file desired, or the file name of your own packed weather file. (See Section 4.)

PSS indicates that the output file is to be stored on PSS rather than the default GSS.

SF saves either LOADS (LDS) or SYSTEMS (SYS) output. Specify this argument, if you will not be changing either LOADS or SYSTEMS input. LDS is the default.

SD is the user-supplied name of the library into which the files will be saved. Different library names should be used for different DOE-2 jobs.

STN is the 3-digit number of the library assigned to you in step 3 for obtaining PSS space.

SOW is the name used in step 3 for obtaining PSS space.

4. Run your DOE-2 job deck as explained in Section 1 under "Processing A Job Deck".

To Retrieve from PSS

Keep in mind that you can retrieve only what has been stored, as described in the preceding steps. In this discussion on retrieving, it is assumed that your LOADS or SYSTEMS output has already been saved. To retrieve and use this output in a subsequent DOE-2 run, proceed as follows:

1. Remove the LOADS and/or SYSTEMS input portions — as appropriate — from your DOE-2 input deck.

2. Remove the SAVE-FILES command from your DOE-2 input deck.

3. Prepare the CALL control card in your DOE-2 job deck as follows:

CALL,DOE2/RETRIEVE,weather,PSS,RF=$\left\{\begin{matrix}\text{LDS}\\\text{SYS}\end{matrix}\right\}$, RD=input library name.

where RF retrieves either the LOADS (LDS) or SYSTEMS (SYS) output previously saved (LDS is the default).

RD is the name of the library in which the file was stored.

4. Run your DOE-2 job deck as explained in Section 1 under "Processing A Job Deck"

To Restore on PSS

You may combine the two options, storing and retreiving, with the RESTORE CALL card. Remember that, in order to retrieve your LOADS output, use it to produce a new SYSTEMS output and store the resulting SYSTEMS output, you must have already stored the LOADS output.

1. Make sure the SAVE-FILES command follows the COMPUTE SYSTEMS command.

2. Remove the LOADS portion from your DOE-2 input deck.

3. Prepare the following CALL control card as follows:

CALL,DOE2/RESTORE,weather,PSS,RD=input library name,

SD=output library name,STN=group number,SOW=owner name.

where RD is the name of the library in which LOADS output was previously stored.

SD is the library in which the SYSTEMS output is to be stored.

STN is the group number of the library in which SYSTEMS output is to be stored.

SOW is the name of the owner of the library in which SYSTEMS output is to be stored.

SECTION 3. HOW TO USE INTERACTIVE TERMINALS

A typical session at an interactive terminal involves a sequence of six operations, as follows:

Connecting to the computer
Obtaining status and priority information
Logging in
Entering DOE-2 job deck
Logging off
Disconnecting from the computer

These operations are covered in this Section, along with directions for resuming a terminal session once you have logged off. For details on these operations, see TTY handbook subset (see Appendix E for directions on how to obtain a copy of this reference).

For advice on what kind of terminal to use, get in touch with

Eric Beals
Building 50B, Room 2232D
Lawrence Berkeley Laboratory
1 Cyclotron Road
Berkeley, CA 94720
Phone: (415) 486-5351

Your "dialogue" with the LBL computer — via the terminal — is described in this Section by showing the commands you enter at the terminal and the terminal responses on the left of the page, with explanations of these commands and responses on the right side of the page. To make your dialogue with the computer even clearer, everything that you are to enter is boxed. The symbol ← indicates the Carriage Return key is to be pressed.

When discussing the use of interactive terminals, we use the term "command" instead of "card" because what you punch on a card for the card reader is exactly what you type as a command on the interactive terminal. For example, if you are instructed in this Section to enter a job-card at your terminal, you would type on your terminal keyboard exactly what you would type on a job card, in the same format as shown for a job card in Section 1.

CONNECTING TO THE COMPUTER

1. Set switches as appropriate for your particular terminal and network. Detailed directions for doing this are contained in the TTY handbook subset.

2. For hardwired terminals, log in.

3. For dial-up terminals, dial the appropriate number listed in Table 3-1. Once you hear the carrier tone, put the phone in place in the acoustic coupler, and log in.

Table 3-1. Commonly Called Network Numbers

LINE SPEED (BAUD)	PHONE NO.	ACCESS	TYPE OF MODEM
110	x6351	INTERNAL TO LBL ONLY	
110	415-549-2820	COMMERCIAL	
150	415-549-2845	COMMERCIAL	
300	x5752	INTERNAL TO LBL ONLY	
300	415-549-2824	COMMERCIAL	
300	x6661	IF DIALED AT LBL	
300	415-486-6661	COMMERCIAL	
300	451-6661	ON THE FTS NETWORK	
300	642-9850	ON THE INTER-CAMPUS TIE LINES	
1200/150	415-548-7108	COMMERCIAL	PRENTICE MODEM
1200/150	x6311	IF DIALED AT LBL	PRENTICE MODEM
1200/150	415-486-6311	COMMERCIAL	PRENTICE MODEM
1200/150	451-6311	ON THE FTS NETWORK	PRENTICE MODEM
1200	415-548-9877	COMMERCIAL	VADIC 3400 MODEM
1200	642-9899	ON THE INTER-CAMPUS TIE LINES	VADIC 3400 MODEM
1200	415-841-1532	COMMERCIAL	BELL 212A MODEM
1200	642-5801	ON THE INTER-CAMPUS TIE LINES	BELL 212A MODEM

LOGGING IN

Enter:

>>←

This evokes a usage table that gives queue information and processing status, as shown in the sample response to this command.

The terminal responds with a table such as the following:

	IN	XEQ	LOG	TTY	MEM	TPE
7	384	103	-	-	54	37
B	76	49	14	40	0	3
C	9	50	0	15	19	5

There are three computers generally available at LBL, but only two of these, the B machine and the C machine, can be used for interactive work. The table shown indicates that 14 people are in the login queue for the B machine (the 6600 computer), while no one is in the login queue for the C machine (the 6400 computer). In spite of the longer queue, you should ordinarily log in on the B machine, since the C machine handles most of the 7600 (main calculational computer) utility work and is therefore slower.

Enter:

>LB←

This tells RECC, the controller computer, that you want to log in on the B machine (B is the default so >L is sufficient; the command >LC would have requested the C machine).

The terminal responds with a message such as the following:

```
15.06 NOW RANKED 15 IN B LOGIN QUEUE
```

When the queue empties, the terminal will announce:

```
LOGIN CP-52 TTY-384 15.18.37.**BKY72K* B*06/24/80
ENTER JOB CARD OR STOP
```

Enter:

jobcard←

This is your job card for logging in to your interactive job, not the DOE-2 run job card. Its format is exactly the same as that described earlier. You are recommended to use rush priority during the day.

If your account is password protected, the terminal will respond with:

PASSWORD

If your account is not password protected — or after you have entered your password (which will not be echoed on your screen) — the terminal responds with:

```
jobname LOGGED IN.  LOGIN 4.6
SESAME 4.8
OK - SESAME
```

The jobname listed here is your jobname modified as explained in Section 1 under "Processing A Job Deck". OK-SESAME is a prompt and means the computer is waiting for your next command. It does not mean necessarily that your last command was successfully executed!

You are now logged in.

There are additional commands which enquire about the status of the computers that can be entered at appropriate points throughout a typical session at a terminal. The most useful are described at the end of this section.

ENTERING DOE-2 JOB DECK

Enter:

POE,filename ←	POE and NETED are text editing programs, one of which must be used to enter your DOE-2 job deck in the LBL computer. (See Footnote). The filename is a name you choose to identify the file which will contain your job deck.

Either POE or NETED allows you to construct a job deck and to make changes, additions, and deletions to the material you enter at the terminal. POE is the recommended editor; it is 100% upwardly compatible with NETED and is the more powerful and logical of the two. However, NETED is very suitable for simple text editing and, since it requires less memory, may improve interactive response time. Information on NETED and POE is contained in the EDITING writeup; A copy of this document is included here as Appendix H.

Terminal response:

```
POE 2.15
filename NOT FOUND
INPUT.
```

POE has looked in your local file space for a file with the name filename. Not finding one, it has put you into the input mode of the editor, so that you can create one.

Enter:

```
jobcard
*SC=site code
FETCHPS,DOE2,DOE2,RUNDO21.
CALL,DOE2,etc.
EOR
DOE-2 input deck
.                          ←
```

This job card is the job card for your DOE-2 job, as described in Section 1. The site code is a two- or three-letter code word representing your site. The CALL command can be any of those described in this manual. EOR acts as an End-of-Record (7-8-9) card. The DOE-2 input deck is the deck described in the DOE-2 documentation. The computer automatically supplies an End-of-Job (6-7-8-9) card. The period switches POE (or NETED) to the EDIT mode from the INPUT mode and vice versa.

Terminal response:

```
EDIT.
```

In the EDIT mode, POE will respond to editor commands.

Enter:

```
W duplicate-file-name ←
```

Since the computer destroys any file submitted to it for processing, you must make a duplicate, if you want to save the original. The duplicate will be disposed to the input queue and the original will be preserved for storing away (see below).

Terminal response:

```
duplicate-file-name WRITTEN
```

Enter:

```
SAVE ←
```

This writes your original file to your local file space.

Terminal response:

filename WRITTEN
OK-SESAME

Enter:

```
DISPOSE,duplicate file name=IN ←
```

This places the duplicate file in the input queue to the 7600 machine.

Terminal response:

modified job name QUEUED IN

The name of your job has been modified as explained in Section 1 under "Processing A Job Deck".

Job deck entry is now complete. The preceding sequence represents the ideal session, in which no errors, problems, or interruptions were encountered. To correct errors, solve the problems that arise, and handle similar situations during a session, see the EDITING writeup in Appendix H. At this point you can store the original file containing your job deck in PSS. To do this you must already have obtained PSS space and have created a library as described in Section 2. Assuming this has been done, enter:

```
LIBRITE,library name,filename/RR,subset,group number,W=owner name ←
```

Library name,group number and owner name are those described in Section2 under "Obtaining Space or Tape Assignment". The subset is the name you choose to identify in the library the file you have just created. This name is usually the original file name; thus, as an example, suppose the library name is MYLIB, the local file name is BLDING, the group number is 123 and the owner name is JOEUSER, then the command to be entered is:

```
LIBRITE,MYLIB,BLDING/RR,BLDING,123,W=JOEUSER ←
```

Terminal response:

OK-SESAME

LOGGING OFF AND DISCONNECTING

Enter:

KILL ←	You will be logged off.

At dial up terminals, you may return your phone to the cradle and your session is finished. At hard-wired terminals, you need only turn off the switch. The DOE-2 job that you submitted to the computer for simulation will be output at the printer at your site.

RESUMING A TERMINAL SESSION

Usually, you will want to call up a job you have already entered at the terminal or to resume a session that was interrupted earlier. To do this, log in as shown earlier in this section under "Logging In", and then enter the commands shown in the following sequence:

After logging in, the terminal responds with:

OK-SESAME

Enter:

FETCHPS,library name,filename,subset ←	filename is the name you wish to give to the file, while you are working on it. Usually, it is the same as the subset name.

Terminal response:

OK-SESAME

Enter:

POE,filename ←

Terminal reponse:

POE 2.15
xx LINES.EDIT.

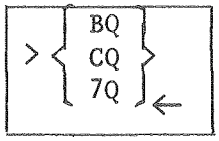
xx is the number of lines in your file.

Enter your changes, corrections, or additions to your input, as desired. See the EDITING writeup for directions on how to make changes and

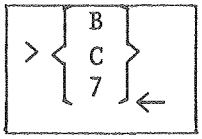
corrections. After you have finished with your changes, corrections, or input, follow the sequence described earlier under "Entering DOE-2 Job Deck" beginning with the period (.) command.

SOME USEFUL COMMANDS

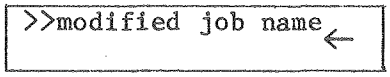
The "greater-than" (>) and "at-sign" (@) commands listed here can be used to obtain information about the computers, your job, or to stop a command.



This gives the queue status of the B, C, or 7600 computer.



This gives the general status of the B, C, or 7600 computer.



This gives the status of your DOE-2 job, once you have placed it in the processing queue with the DISPOSE command.

This interrupts any command that is currently being executed. If executed while in POE or NETED, it will drop you out of the editor and back into SESAME. Changes made that have not been SAVEd will be lost.

This sets decimal tabs on your terminal, i.e., at columns 1, 11, 21, etc. To make use of the tab facility, use CONTROL I on terminals that do not have a tab key.

This gives the latest broadcast message from the computer system.

This gives the status of your current interactive job, i. e., the status of your terminal.

SECTION 4. WEATHER FILE AND LIBRARY UTILITIES

USING YOUR OWN WEATHER FILE

If you need to use weather data that is not already available among the 75 weather tapes in the DOE-2 library, follow these steps:

1. Obtain the desired weather tapes from:

   National Climatic Center
   Federal Building
   Ashville, NC 28801
   (704) 258-2850, ext. 203
   FTS: 672-0683

   Be sure to order the data on either a 9-track ASCII or EBCDIC tape with density 1600 bpi and even parity. If you wish to order a tape of the most recent year (currently 1979), you must request the Center to convert it from CD 144 format to TDF 1440 format. Archival tapes are already in TDF 1440 format.

2. Take or send the tape to the LBL Tape Library and obtain a tape number.

3. Run the DOE-2 utility program called the Weather Processor.

The Weather Processor is run independently of a DOE-2 program, via its own job deck, in a manner similar to that for running DOE-2.

Functions

In addition to converting your own weather data into a form readable by DOE-2 (called "packing"), the Weather Processor performs these three tasks, as specified by you:

Print an hour-by-hour listing of your weather data (LIST option)

Make user-specified changes in your weather data variables (EDIT option)

Produce yearly statistical summary from your weather data (STAT option)

You can run the Weather Processor to pack only, to edit only, to list only or to combine certain of these options. These operations are explained in the DOE-2 Reference Manual.

Placing An Unpacked Weather Tape in the LBL Tape Library

1. Arrange with the Tape Librarian or Tape Technician in the LBL Computer Center to place your unpacked weather tape in the LBL Tape Library. The Tape Librarian can be contacted at:

   Tape Services, Room 2249, Bldg. 50B
   (415) 486-6218 or 6219

2. The LBL Computer Center will assign a number and your specified owner name to the tape.

Transferring Unpacked Tape to GSS Tape

Assuming that you have ordered the tape according to the specifications given at the beginning of this section, run the following job:

For EBCDIC Tapes

```
jobcard   (cu should be set to 1000.)
$ID=password
*B
REQUEST,IN,input tape number,QT,PD.
FETCHPS,BKYLGOB,CODE9,CODE9.
CODE9,F=IN,B=WFILE,RL=record length,BL=blocking factor.
RETURN,IN.
STOTAPE,WFILE=/owner name/directory name/file name,GSS tape number.
ENTERGS,WFILE=/owner name/directory name/file name,GSS tape number.
END.
6-7-8-9
```

For ASCII Tapes

```
jobcard   (cu should be set to 1000.)
$ID=password
*B
REQUEST,IN,input tape number,QT,PD.
FETCHPS,BKYLGOB,CODE9,CODE9.
CODE9,F=IN,B=WFILE,M=ASCII,RL=record length,BL=blocking factor.
RETURN,IN.
STOTAPE,WFILE=/owner name/directory name/file name,GSS tape number.
ENTERGS,WFILE=/owner name/directory name/file name,GSS tape number.
END.
6-7-8-9
```

where

input tape number is the tape number assigned in step 2. above to the NCC tape.

For 1440 tapes, record length = 495, blocking factor = 1.
For TRY tapes, record length = 80, blocking factor = 24.
For TMY tapes, record length = 132, blocking factor = 24.

owner name and GSS tape number are the owner name and tape number of your primed GSS tape, described in Section 2 under "Obtaining PSS Space and GSS Tape Assignment". {For use in further examples, let these be JOEUSER and 12345, respectively}

directory name is a user-defined name for the directory into which you want to store your unpacked weather files in the GSS system. {Let this be TRYWEATH}.

file name is the name by which you want to refer to unpacked weather file(s). {Let this be UNPACK}.

Job Deck Structure

The Weather Processor job deck has the structure shown in Figure 4-1, regardless of the options being specified.

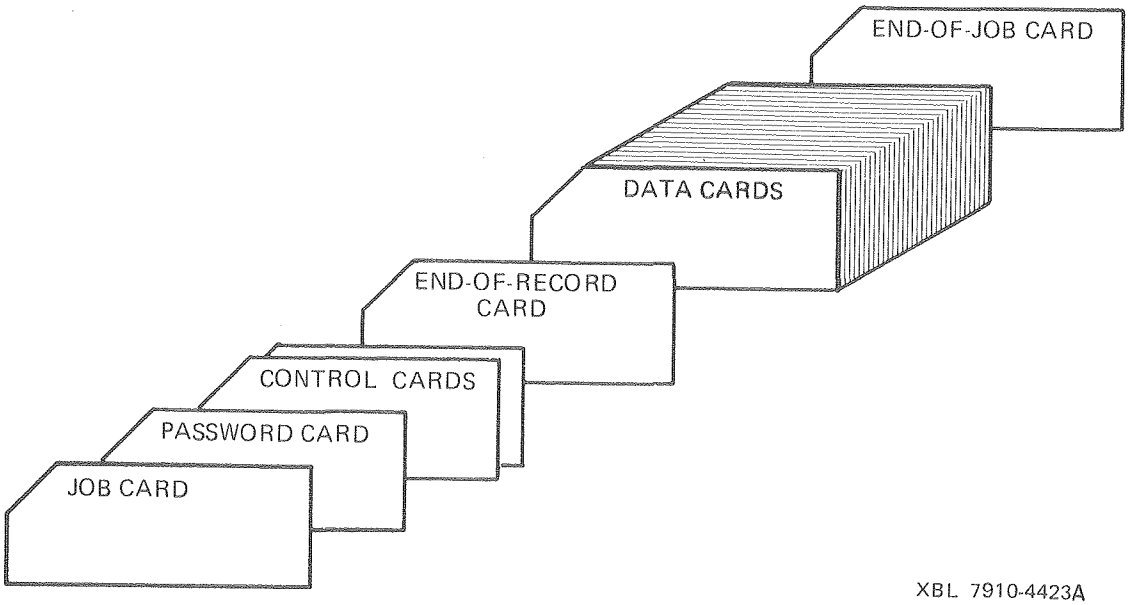


Figure 4-1. Job Deck Structure for Weather Processor

Job Card and Control Card Preparation

Prepare a job card as described in Section 1 under "Preparing a Job Card". The job card format is always the same, regardless of the option(s) specified.

Prepare the first control card as follows:

```
FETCHPS,DOE2,DOE2,RUNDO21.
```

where FETCHPS begins in column 1.

Prepare the second control card as follows:

To List Unpacked

CALL,DOE2/LIST,input file name,ID=input directory name,ITN=input tape number.

where input file name is the file name designated by you in the step above labeled "Transferring Unpacked Tape to GSS Tape".

ID is the name of the GSS directory in which you have stored the unpacked weather file.

ITN is the number of the GSS tape assigned to you on which the unpacked weather file is stored.

Using the example values given above, this would be:

```
CALL,DOE2/LIST,UNPACK,ID=TRYWEATH,ITN=12345.
```

To Pack

You may choose to store your weather files on either GSS tape or in a PSS library.

CALL,DOE2/PACK,input file name,,{GSS / PSS},ID=input directory name,

ITN=input tape number,OF=output file name,OD=output PSS library name,

OTN=output{GSS tape number / PSS group number},OW=owner name.

where input file name is the file name designated by you in the step above labeled "Transferring Unpacked Tape to GSS Tape".

GSS (the default) indicates that the output weather file is to be placed on GSS. Note that, if this argument is specified, there must be two commas preceeding it.

PSS indicates that the output weather file is to be placed on PSS. Note that there must be two commas preceeding this argument.

ID is the name of GSS directory containing the input weather data. {Let this be again TRYWEATH}.

ITN is the number of the GSS tape containing the input weather data.

OF is a name you must specify for your packed weather tape file. {Let this be GPACK for GSS and PPACK for PSS}.

OD is the name of the PSS library on which the packed weather data are to be stored. For GSS, no directory name is required. It will automatically be named WEATHFILE, to be compatible with the DOE-2 weather files. {Let this be PSWEATH}.

OTN is the number of the GSS tape, or the group number of the PSS library, that will contain your packed weather file. {For GSS, let this be 54321, for PSS, 666}.

OW is the name of the owner of the GSS tape or the PSS library on which the output is to go. This is the name you used in priming your GSS tape, or creating a PSS library, in Section 2 under "Obtaining PSS Space and GSS Tape Assignment". Note that if your PSS owner name contains commas the name must be enclosed in brackets. {Suppose we use, for both, the same owner name as before, i.e., JOEUSER}.

Using the example values, the following would pack a GSS tape and store it on GSS:

```
CALL,DOE2/PACK,UNPACK,ID=TRYWEATH,ITN=12345,OF=GPACK,
+OTN=54321,OW=JOEUSER.
```

Note the use of the plus sign (+) at the beginning of the second line. This notation is used to indicate a continuation of a single control card when it exceeds 80 columns.

The following would pack a weather file on GSS tape and store it on PSS:

```
CALL,DOE2/PACK,UNPACK,,PSS,ID=TRYWEATH,ITN=12345,OF=PPACK,
+OD=PSWEATH,OTN=666,OW=JOEUSER.
```

To List Packed

CALL,DOE2/LIST,packed file name,{GSS / PSS} ,ID={WEATHFILE / input PSS library name} ,

ITN=input tape number.

where packed file name is the file name, either the GSS file name or the PSS file name designated by you as the output file name in the packing process.

GSS (the default) indicates that the packed input weather file is on GSS.

PSS indicates that the packed input weather file is on PSS.

ID is WEATHFILE for GSS files or the PSS library containing the packed input weather data.

ITN is the number of the GSS tape containing the input packed weather data. There is no corresponding input for PSS weather files.

An example of listing a PSS packed tape would be:

CALL,DOE2/LIST,PPACK,PSS,ID=PSWEATH.

The example for a GSS tape would be:

CALL,DOE2/LIST,GPACK,ID=WEATHFILE,ITN=54321.

To Edit

CALL,DOE2/EDIT,packed file name,{GSS / PSS} ,{GSS / PSS} ,ID=input PSS library name,

ITN=packed tape number,OF=output file name,OD=output PSS library name,

OTN=output{GSS tape number / PSS group number} ,OW=owner name.

where packed file name is the name you specified for your packed weather tape file.

the first GSS indicates that the packed input weather file is on GSS. (GSS is the default.)

the first PSS indicates that the packed input weather file is on PSS.

the second GSS indicates that the output edit file is to be stored on GSS.(This is the default)

the second PSS indicates that the output edit file is to be stored on PSS.

ID is the PSS library containing the packed input weather file. {This will be, as a result of the packing process above, PSWEATH}.

ITN is the number of the GSS tape containing your packed weather tape file. There is no corresponding input for PSS weather files. {This will be 54321 as a result of the packing process.}

OF is the name you specify for the file that will contain the edited GSS or PSS weather file. {Let it be GEDIT for GSS and PEDIT for PSS}.

OD is the PSS library in which your edited weather file will reside. It could be the same as your input library name as long as the file name is different. {Let us assume that it is the same}.

OTN is the number of the GSS tape, or the PSS group number of the library, onto which you want the edited weather tape to be placed. It could be, again, the same GSS tape or PSS group number. {Let us assume it is the same tape, and the same group number in the case of PSS}.

OW is the name of the owner of the GSS tape or PSS library to hold the edited file. {Thus it remains JOEUSER}.

Our first example will take a GSS packed tape and create a edited GSS file:

```
CALL,DOE2/EDIT,GPACK,ITN=54321,OF=GEDIT,OTN=54321,OW=JOEUSER.
```

Our second example will create an edited file on PSS from PSS:

```
CALL,DOE2/EDIT,PSS,PSS,PPACK,ID=PSWEATH,OF=PEDIT,
+OD=PSWEATH,OTN=666,OW=JOEUSER.
```

Our third example will take a GSS packed tape and put it on PSS:

```
CALL,DOE2/EDIT,,PSS,GPACK,OF=PEDIT,OD=PSWEATH,OTN=666,
+OW=JOEUSER.
```

Lastly we will create a edited GSS file from a PSS packed file.

```
CALL,DOE2/EDIT,PSS,PPACK,ID=PSWEATH,OF=GEDIT,OTN=54321,
+OW=JOEUSER.
```

To Stat

The STAT option can be exercized with any packed file, and thus can be entered into the data deck as explained in the DOE-2 Reference Manual, and used with the last three options listed above.

Data Card Preparation

See the DOE-2 Reference Manual.

End-of Record and End-of-Job Card Preparation

These cards are prepared as described in Section 1.

Processing Weather Processor Job Deck

Submit your job deck as described in Section 1 under "Processing a Job Deck". When your job is completed, the packed weather file will be on magnetic tape or in PSS as specified in your control cards, and your LIST and/or STAT reports will be disposed to the printer.

Using Packed Weather File in DOE-2 Run

Once your own weather tape has been packed and placed in a file as described earlier in this section under "To Pack" or "To Edit", prepare the following CALL control card in your DOE-2 job deck:

CALL,DOE2/XXXX,packed file name,<all other parameters>,{ WTN=GSS tape number / WTHL=PSS library name } .

where XXXX stands for any one of the CALL options.

packed file name is the output weather file name described earlier in this section under "To Pack" or "To Edit".

WTN is the GSS tape number containing the packed file. This is not appropriate for the pre-packaged DOE-2 weather files, listed in the Reference Manual.

WTHL is the name of the PSS library containing the packed file. This is not appropriate for the pre-packaged DOE-2 weather files, listed in the Reference Manual.

CONSTRUCTION LIBRARY CREATION

In DOE2.1 the user can create his/her own PSS library of materials,wall and roof response factors and space weighting factors, or add to the standard DOE-2 library. This is accomplished by preparing the new construction or weighting factor data in the LOADS input deck, and then, using the DOE-2 command:

LIBRARY-INPUT LOADS ..

in place of the regular INPUT LOADS command, submit a DOE-2 job using the control card format described below. The results can be stored for later use in DOE-2 runs.

Job Deck Structure

The job deck has the same structure as described for a DOE-2 job deck in Section 1.

Job Card and Control Card Preparation

Prepare a job card as described for a DOE-2 job deck in Section 1. Prepare two control cards as follows:

FETCHPS,DOE2,DOE2,RUNDO21.

CALL,DOE2/LIBRARY,{NO} ,LL=output library name,

LF=output file name,LGN=PSS group number,LOW=owner name.

where NO indicates that the DOE-2 preassembled construction library is not to be used in creating the library. The default is to use it.

LL is the name of the PSS library in which your construction library data are to be stored. {Let this be CONLIB}.

LF is the name of the file in your PSS library that will contain your construction library data. {Let this be CONFILE}.

LGN is the group number of the PSS library that will contain your construction library data. {Again, we will use 666}.

LOW is the name of the owner of the PSS library that will contain your construction library data. {This remains JOEUSER}.

Our example of a wholly user-created library is:

```
CALL,DOE2/LIBRARY,NO,LL=CONLIB,LF=CONFILE,LGN=666,LOW=JOEUSER.
```

An example in which the standard DOE-2 library is augmented by user-created library data would be:

```
CALL,DOE2/LIBRARY,LL=CONLIB,LF=CONFILE,LGN=666,LOW=JOEUSER.
```

Using Your Construction Library in DOE-2 Job Run

Once you have created a construction library, you can use it in a regular DOE-2 job run by preparing the following CALL control card for the DOE-2 job deck:

```
CALL,DOE2,weather,{ WTN=GSS tape number  } ,L=input library name,
                  {WTHL=PSS library name }
  LS=input file name.
```

where weather is the code-name of the pre-packaged DOE-2 weather file desired, or the PSS or GSS file name of your own packed weather file. {Let this be SANFRA, a DOE-2 weather file}.

WTN is the GSS tape number containing your packed weather file if you are using your own, stored on GSS, rather than a DOE-2 weather file. This is not appropriate for the pre-packaged DOE-2 weather files, listed in the Reference Manual.

WTHL is the name of the PSS library containing the packed weather file if you are using your own, stored on PSS, rather than a DOE-2 weather file. This is not appropriate for the pre-packaged DOE-2 weather files, listed in the Reference Manual.

L is the name of the library containing your construction library data.

LS is the name of the file in the library which contains your construction library data.

An example using a DOE-2 pre-packaged weather file would be:

```
CALL,DOE2,SANFRA,L=CONLIB,LS=CONFILE.
```

An example using a user-prepared PSS weather file would be:

```
CALL,DOE2,PPACK,WTHL=PSWEATH,L=CONLIB,LS=CONFILE.
```

It is possible to add to your construction library during a DOE-2 job run in whose data deck a LIBRARY-INPUT LOADS deck is followed by INPUT LOADS:

```
[control cards]
7-8-9
LIBRARY-INPUT LOADS    ..
        .
        .
        .
        .
END

INPUT LOADS            ..
        .
        .
        .
        .
COMPUTE LOADS          ..
      etc.
```

Prepare the following control card:

CALL,DOE2,weather,{WTN=GSS tape number / WTHL=PSS library name},L=input library name,
LS=input file name,LL=output library name,LF=output file name,
LGN=group number,LOW=owner name.

where

L / LS } if not used, will get the standard DOE-2 library.

LL is the name of the library where the new construction library data is to be stored. Normally, this would be the same as the input library.

LF is the name of the file in the library containing the new construction library data. Ordinarily, this would be the same as the input file name.

LGN is the group number of the library in which the construction library is stored.

LOW is the name of the owner of the library in which the construction library is stored.

Our example would now read:

```
CALL,DOE2,SANFRA,L=CONLIB,LS=CONFILE,LL=CONLIB,LF=CONFILE,LGN=666,LOW=JOEUSER.
```

An example using the standard DOE-2 library as input is:

```
CALL,DOE2,SANFRA,LL=CONLIB,LF=CONFILE,LGN=666,LOW=JOEUSER.
```

APPENDIX A. OUTPUT MEDIA AND REPORTS

MEDIA AVAILABLE

Output can be placed on the following:

Line Printer (the default)
Video Display
Magnetic Tape
Microfilm
Remote Terminal

DEFAULT MEDIUM

Output from a basic run of a DOE-2 program will, by default, be printed on a line printer at the LBL Computer Center in Building 50B. The following paragraphs explain how to specify output other than this default output.

TO SPECIFY ALTERNATIVE MEDIUM

Batch Stations

For printout of output at the user printers in the I/O Room, add the following control card immediately after your password identification (or your job card if you have no password):

*USERPR

Interactive Terminals

For printout at a local site, when submitting the job from an interactive terminal, enter:

*SC=aa←

This command must be entered immediately after the DOE-2 job card. aa is the two-letter code assigned to your site.

For display at an interactive display terminal, do the following:

1. Include the NARROW option in the DIAGNOSTIC command in your DOE-2 input deck.

2. Following your DOE-2 job card, enter:

```
*HOLDOUT ←
```

3. If you are stilled logged on when your output has been placed in the output queue, you will receive a message like the following:

   (modified file name) OUTPUT QUEUED PR 21 HO

   Enter:

```
CLAIM,modified job name ←
```

   modified job name is the name of your job modified as explained in Section 1 under "Processing A Job Deck". The file has now been attached to your terminal and is no longer in the output queue.

4. When the terminal responds with OK-SESAME, enter:

```
LST,modified job name,SS ←
```

   This allows you to examine your job's output.

5. Once your output begins to display, press Carriage Return to get the next screenful.
   Other LST commands:

   to skip ahead a given number of lines, enter number of lines to skip to;
   to skip back, enter a negative number;
   to advance one logical record forward, enter RF;
   to back up to the beginning of the logical record, enter RB;
   to skip one file forward, enter FF;
   to skip one file backward, enter FB;
   to rewind the file, enter RE;
   to inquire about valid commands, press ?;
   to quit, press Q.

6. An alternative to steps 4 and 5 is to look at your output using POE or NETED, the advantage of which is the ability to search for strings and make corrections.

7. If you desire a hard copy of your output, enter:

```
DISPOSE,modified job name=PR,SC=aa,DT=I.←
```

This causes the ouput to be printed at your site.

If you want the output to come out at the I/O Room in Building 50B, omit the SC=aa portion.

Output On Microfiche

Add the following control card (command) after the CALL control card (command) in your DOE-2 job deck:

```
DISPOSE,OUTPUT=MF.
```

You may pick up your output from the pigeon holes next to the desk in the I/O Room in Building 50.

APPENDIX B. EXPEDITER SERVICE

The LBL Computer Center offers an Expediter Service to users not located at LBL. Services include operating the equipment, sorting, tape handling, LBL documentation, shipping, and receiving. This is only an indication of what is available; services are tailored to the user's request.

WHO MAY USE IT

To get Expediter Service, a user must have or supply the following items:

1. An active LBL Account Number.

2. A letter of agreement to the Expediter Service from the user's organization. This letter must state the user's agreement to notify the Expediter Service of labor charge account number changes.

3. A list of user's personnel who are authorized to request service or whose name might appear on any materials handled by the Expediter Service.

4. A local Site Code.

HOW TO REQUEST IT

Service is normally requested by contacting expediters in Building 50B at the LBL Computer Center, in Room 2249B. The phone extension is 6205; FTS number is 451-6205; direct dial is 415-486-6205. A request is usually specified in one contact with the expediters.

TYPE	AVAILABILITY	CHARGE
Regular	9 a.m. to 5 p.m. West Coast time, Monday - Friday.	$15 per hour
Rush	9 a.m. to 5 p.m. West Coast time, Monday - Friday. one-day advance notice.	Time to fill doubled at $15 per hour
Extended	Outside regular hours; minimum 2 hours; request no later than 3 p.m. on day needed.	$15 per hour
On-Call	Regular Service hours; one-day advance notice.	Same as for Extended Service plus transit and standby.

TAPE SERVICES

The various tape services available must be requested on a Special Expediter Form. To get 15 copies of this form, run the following job:

```
jobcard
*B
*SC=aa
LIBCOPY,EXPLIB,OUT/RR,USER.
NCOPY,OUT,OUTPUT,15.
END.
End-of-Job Card
```

To get a copy of the Expediter Service Accounting Form, which is necessary to initiate your account, replace the word OUT with OUTPUT, USER with EXPSER, and delete the NCOPY card.

SHIPPING

Incoming and outgoing shipments can be handled as long as they meet LBL and federal regulations.

More detailed information on expediter services is covered in INTRO — The User's Introduction to the Lawrence Berkeley Laboratory Computing Facility (see Appendix E for directions on how to obtain a copy of this reference).

APPENDIX C. ACCESSING BUGS, UPDOC, AND SAMPLE RUN FILES

BUGS AND UPDOC FILES

These files contain, respectively, the latest status on all known bugs in the official DOE-2 program and the latest list of suggested improvements to the documentation or to the output reports. To examine a copy of these files, enter:

```
FETCHPS,DOE21,BUGS,BUGS.
FETCHPS,DOE21,UPDOC,UPDOC.
COPY,BUGS/RX,UPDOC/RX,OUT.
DISPOSE,OUT=PR,SC=aa,DT=I,T=[BUGS AND UPDOC/AS OF/_DA].
                                                    ←
```

or submit a job deck containing these control cards after your job card, password identification, and a *B card.

SAMPLE RUN FILES

To obtain DOE-2 Sample Run input decks interactively, enter:

```
FETCHPS,DOE21SAM,SAMP21,SAMP21.
SCATTER,SAMP21.
                                ←
```

This will produce separate files for each of the Sample Run buildings.

APPENDIX D. SUMMARY OF CALL CONTROL CARD FORMATS

The DOE-2.1 control card sequence has been changed from that of DOE-2.0A in that there are only three positional arguments of the CALL control card (in place of 9 in the old one). The remaining arguments are of the form arg=value and can be placed in any order.

The control card sequence is:

```
<job card>
*HOLDOUT    (if desired)
FETCHPS,DOE2,DOE2,RUNDO21.
CALL,DOE2/XXXX,arg1,arg2,arg3,var1=value1,var2=value2,...,varn=valuen.
EOR
<DOE-2 job deck>
EOI
```

The XXXX stands for one of the following:

XXXX	DESCRIPTION
(BLANK)	This is used for the regular DOE-2 simulation. this may also be used for creating or adding to the user's construction library. This option is useful, when creating custom weighting factors in a LIBRARY-INPUT LOADS run and following it, in the same run, with a regular INPUT LOADS run.
STORE	This is used when it is desired to save the intermediate results from LOADS or SYSTEMS to be used in later runs.
RETRIEVE	This is to be used when it is desired to retrieve the stored LOADS or SYSTEMS output, saved with the STORE option, and to use it in the current run.
RESTORE	This is to be used when it is desired to retrieve a stored LOADS output, use it in the current run, and save the SYSTEMS output to be used in later runs.
BDL	This option should be used when the user desires to have the input deck run only through BDL. It is not to be used for the library creation run.
LIBRARY	This should be used whenever a library creation run is being made.
PACK	This is to be used when it is desired to pack a unpacked weather file.

EDIT — This is to be used when it is desired to edit a packed weather file.

LIST — This is to be used when it is desired only to list portions of a packed or unpacked weather file.

For the options XXXX = (BLANK), STORE, RETRIEVE, RESTORE, BDL, LIBRARY, the positional arguments are:

1. arg1 = the code-name of the weather file being used or the filename of the user's weather file. The default file is CHICAGO. For the LIBRARY option only, arg1 should be set equal to NO, if the stored construction library is not to be used in creating the library. The default for the LIBRARY option is to use the stored library.

2. If the word PSS is placed in the second argument position, it indicates that the intermediate files (see STORE or RETRIEVE above) are to be stored or found in PSS, rather than in the default GSS tape storage.

3. There is no third positional argument for these options.

The variable type arguments are defined as follows:

WTHL = The PSS library in which the user's weather file is stored. This should be used only when the user has packed his/her own weather file. It is not appropriate for the DOE-2 weather files, listed in the Reference Manual.

WTN = The GSS tape number on which the user's weather file is stored. The same comments apply here as with WTHL.

VER = The library containing the DOE-2.1 version being used. The default is DOE21, the official version. The developmental version has the codeword DOE21DEV.

L = The PSS library containing the user's library of materials, walls, and weighting factors. The default is to use the standard library.

LS = The PSS library subset containing the user's library of materials, walls, and weighting factors. There is no default, although this variable should not be defined, if L is not used.

SF = LDS or SYS, depending on whether the intermediate output of LOADS SYSTEMS, respectively, are to be stored. The default is LDS. This should be used only with the STORE option.

SD = The name of the GSS directory or the PSS library into which SF is to be stored. This is required for the STORE or the RESTORE (for which SF = SYS, automatically) options and should not be used in other options.

STN = The tape number of the GSS tape or the group number of the PSS library into which SF is to be stored. This is required for the STORE or the RESTORE (for which SF = SYS, automatically) options and should not be used in other options.

SOW = The owner name of the GSS tape or the PSS library into which SF is to be stored. This is required for the STORE or the RESTORE (for which SF = SYS, automatically) options and should not be used in other options.

RF = LDS or SYS, depending on whether the intermediate output of LOADS or SYSTEMS, respectively, are to be retrieved. The default is LDS. This should be used only with the RETRIEVE option.

RD = The name of the GSS directory or the PSS library from which RF is to be retrieved. This is required for the RETRIEVE or the RESTORE (for which RF = LDS, automatically) options and should not be used in other options.

RTN = The tape number of the GSS tape from which RF is to be retrieved. This is required for the RETRIEVE or the RESTORE (for which RF = LDS, automatically) options and should not be used in other options.

LL = The name of the PSS library to contain the construction library output of a BDL or a LIBRARY run.

LF = The PSS subset name by which the construction library output of a BDL or a LIBRARY run is to be known in LL. This variable is required, if LL is defined.

LGN = The PSS group number of the library LL. This variable is required, if LL is defined.

LOW = The owner name of the PSS library LL. This variable is required, if LL is defined.

HELP = YES will cause a copy of the output to be directed to the DOE-2 User Coordination Office. This is a useful way to send your output to LBL, when you have discovered a bug or when you need help. If you use this option, be sure to place a call to the User Coordination Office at (415) 486-5711. The default for this variable is NO.

For the options XXXX = PACK, EDIT, or LIST, the positional arguments are:

1. arg1 = the GSS dataset name or the PSS subset name of the input weather file.

2. The second positional argument is PSS, if the input weather file is on PSS. The default is GSS.

3. The third positional argument is PSS, if the output file is to be placed in PSS. The default is GSS.

The variable type arguments are defined as follows:

ID = The GSS directory or the PSS library containing the input weather file.

ITN = The tape number of the GSS tape containing the input weather file.

OF = The GSS dataset or the PSS subset of the output weather file.

OD = The GSS directory name or the PSS library name in which OF will reside.

OTN = The GSS tape number or the PSS group number of the tape or library on which OF is to be written.

OW = The owner name of the GSS tape or the PSS library where OF is to be stored.

EXAMPLES

1. CALL,DOE2.

This produces a regular DOE-2 run with CHICAGO weather, and uses the standard materials and walls library.

2. CALL,DOE2,SACRAME,WTHL=MYLIB,HELP=YES.

This regular DOE-2 run uses a weather file called SACRAME stored in MYLIB, and sends a copy of the output to the User Coordination Office.

3. CALL,DOE2/LIBRARY,LL=MYLIB,LF=MYWALLS,LGN=666,LOW=MYNAME.

Here the user is augmenting the standard library with his/her own library creation of, say, weighting factors. Not only will the user acquire all of the data on the standard library, but that data can be used in the description of walls and roofs during the weighting factor creation run. The output library of materials, walls, and weighting factors are to be stored in subset MYWALLS in library MYLIB which is

owned by MYNAME and belongs to the group with number 666.

4. CALL,DOE2,BOSTON,L=MYLIB,LS=MYWALLS.

This is another regular DOE-2 run, using the standard BOSTON weather file, but taking the materials and walls (and possibly weighting factors) from the file MYWALLS located in the PSS library MYLIB.

5. CALL,DOE2/STORE,BERKELEY,PSS,WTN=12345,L=PUBLIC,LS=WEIGHTS,
+SD=PRIVATE,STN=666,SOW=CARTER.

This is somewhat a tour de force to show what to do, when the arguments of the CALL card exceed 80 columns. The + sign in column one is a continuation mark and indicates that the material following belongs to the line above.

What is happening here is a DOE-2 run in which the output of LOADS (the default for SF is LDS) is being stored in a PSS library called PRIVATE, with group number 666, and owned by CARTER. In addition, the user is taking the weather named BERKELEY from a GSS tape with number 12345. At the same time he/she is using a library of materials, etc., on the file WEIGHTS in the PSS library PUBLIC.

6. CALL,DOE2,L=MYLIB,LS=MYSET,LL=MYLIB,LF=MYSET,LGN=666,LOW=JONES.

This is a weighing factor creation run, with a regular DOE2 run following on the same input deck. The subset MYSET in the PSS library MYLIB is to be used as the construction library in place of the standard library and the output of the custom weighting factor portion of the run is to be stored on PSS in library MYLIB on subset MYSET. The PSS group number of this library is 666 and the owner is JONES.

APPENDIX E. REFERENCED AND OTHER USEFUL DOCUMENTS

All of the documents in the preceding sections of this manual — plus other useful documents — are listed here, along with directions on how to obtain a copy of them.

REFERENCED DOCUMENTS

DOE-2.1 Documents

DOE-2 Reference Manual

LBL Documents

Handbook Subsets:
- MONEY
- STORAGE
- TTY

Writeups:
- GSS
- INTRO (The User's Introduction to the Lawrence Berkeley Laboratory Computing Facility)
- EDITING
- IDGUIDE (I/O Room Equipment Guide)

USEFUL DOCUMENTS NOT REFERENCED

DOE-2.1 Documents

DOE-2 BDL Summary
DOE-2 Users Guide
DOE-2 Sample Run Book
DOE-2 Engineering Manual

LBL Documents

Handbook Subsets:
- SAMPLES (Sample 7600 control cards)

Writeups:
- CCARD (List of all LBL control cards)
- OPTERM (Remote terminal operator's guide)

OBTAINING DOE-2 DOCUMENTS

Information on ordering DOE-2 documentation can be obtained from

National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161
Phone: (703) 487-4650
FTS: 737-4650

OBTAINING LBL DOCUMENTS

For handbook subsets, run the following job:

```
job card
*B,PSS,NOTAPES
LIBCOPY,HANDBOOK,OUT,document name.
DISPOSE,OUT=PR,SC=aa.
```

For writeups, run the following job:

```
job card
*B,PSS,NOTAPES
LIBCOPY,WRITEUPS,OUT,document name.
DISPOSE,OUT=PR,SC=aa.
```

If you want your copy of any of the preceding categories of documents printed on narrow ($8\frac{1}{2}$" approximately) paper at the LBL Computing Center, replace the SC=aa portion of the DISPOSE card with PA=1F.

APPENDIX F. DOE-2 FILE STRUCTURE

F.I BASIC DOE-2 CONTROL CARD PROCEDURE

Shown below is the basic DOE-2 procedure file that is called into effect by the CALL,DOE2 control card described in Section 1. In Appendix G is a the procedure file for all of the options given in this manual. For information and assistance with these control cards and for other than basic DOE-2 job processing, contact the User Coordination Office at LBL, Building 90, phone 415-486-5711 or FTS 451-5711.

```
[1] FBSIZE,WEATHR=44,IN=44.
    FBSIZE,INCOPY=10,BDLKEY=44,BDLLIB=44,CDLLIB=32,BDL=170,DBGMAP=6,CTKL=4.
    FBSIZE,STDFIL=30,HDRFIL=36,LSPE=300,LDSOUT=4,SYSOUT=4,DSNFIL=6,USRLIB=60.
    FBSIZE,REPFIL=30,HRREP=20,OUTPUT=40.
    FBSIZE,BDLABS=0,SIMABS=0.
    FETCHGS,WEATHER=WEATHFILE/CHICAGO,22438,ATL=ON.
[2] FETCHPS,DOE21,BDLABS,BDLABS.
    FETCHPS,DOE21,SIMABS,SIMABS.
    SCATTER,BDLABS.
    DELETE,BDLABS.
    COPY,INPUT/BR,1F,INCOPY.
    SKIPR,INPUT.
    SFL,70000.
    BDL,LC=50000,INPUT.
    DELETE,BDL,BDLKEY,BDLLIB,CDLLIB,INCOPY,USRLIB.
[2] SCATTER,SIMABS.
    DELETE,SIMABS.
    FBSIZE,LSPE=0.
    LSPE,LC=1000000.
    FIN.
```

F.II FILE DESCRIPTIONS

The files mentioned in the above procedure are described below:

[1] The command FBSIZE allocates large core memory (LCM) buffer space for each file mentioned. These allocations are designed to be optimum for the average size (10 zone) DOE-2 run. Defaulting FBSIZE to 0 (e.g., BDLABS and SIMABS) allows the computer to size the buffer space. All files are binary with the exception of INPUT, OUTPUT, and INCOPY.

[2] The files fetched from PSS are condensed (GATHERed) to save PSS space. They must be SCATTERed to retrieve the original files.

BDLABS contains all the files used by BDL, including

1) BDL	in absolute overlay form.
2) DBGMAP	created by the loader, when BDL is created. It is used in dumps.
3) BDLLIB	the construction library. It should be replaced, if the user does not want the built-in library, with the user's own construction library.
4) CDLLIB	the solar component library.
5) BDLKEY	is the file containing command and keyword names and abbreviations, limits and defaults, etc., for use by BDL.

SIMABS contains all the files used by the simulation programs, including

1) LSPE	all the simulation programs in absolute overlay form.
2) DBGMAP	created by the loader when LSPE is created.
3) HDRFIL	the SUMMARY, VERIFICATION, and HOURLY-REPORT library. It contains all the report formats and headings.

[3] In addition the following files are used:

General

1) INPUT	all input is read from here.
2) INCOPY	a copy of the input, which is used when the parametric run feature is requested.
3) OUTPUT	all output is written here.

BDL transmits to LSPE

1) CTRL	contains control information.

2) STDFIL	contains processed input information.

LSPE creates

1) LDSOUT*	is created when a LOADS run is followed by a SYSTEMS run or when the SAVE-FILE command is used.
2) SYSOUT†	is created when a SYSTEMS run is followed by a PLANT run or when the SAVE-FILE command is used.
3) DSNFIL	is created to transmit design information from LOADS → SYSTEMS, SYSTEMS → PLANT, and PLANT → ECONOMICS.
4) REPFIL	is created by LSPE whenever SUMMARY or VERIFICATION reports are requested.
5) HRREP	is created by LSPE whenever an hourly report is requested.

Weather Processor Utility

1) WPROC	is the basic weather processor program.
2) NEWTH	is the output weather file from the weather processor program.

Construction Library

1) BDLLIB	is the input construction library file.
2) USRLIB	is the output construction library file.

* To continue a SYSTEMS run at a later time, the files LDSOUT and DSNFIL must be saved (and the SAVE-FILE command must be used). See Section 2.

† To continue a PLANT run at a later time, the files SYSOUT and DSNFIL must be saved (and the SAVE-FILE command must be used). See Section 2.

APPENDIX G. PROCEDURE FILE FOR DOE-2 OPTIONS

The procedure file which is read by the CALL control card used in this manual is reproduced below:

```
*PROCEDURE DOE2,CHICAGO,WTN=22438,VER=DOE21,HELP=NO.
FBSIZE,WEATHR=44,IN=44.
IFEQUAL,<WTHL>.
CXIT.
FETCHPS,<WTHL>,WEATHR,$1.
BGNSKIP.
FIN.
FETCHPS,WEATHR,IN,$1.
SCATTER,IN,,WEATHR.
DELETE,IN.
CXIT.
FETCHGS,WEATHR=WEATHFILE/$1,<WTN>,ATL=ON.
FIN.
ENDSKIP.
FBSIZE,INCOPY=10,BDLKEY=44,BDLLIB=44,CDLLIB=32,BDL=170,DBGMAP=6,CTRL=4.
FBSIZE,STDFIL=30,HDRFIL=36,LSPE=300,LDSOUT=4,SYSOUT=4,DSNFIL=6,USRLIB=60.
FBSIZE,REPFIL=30,HRREP=20,OUTPUT=40.
FETCHPS,<VER>,BDLABS,BDLABS.
FETCHPS,<VER>,SIMABS,SIMABS.
FBSIZE,BDLABS=0,SIMABS=0.
SCATTER,BDLABS.
DELETE,BDLABS.
IFEQUAL,<L>.
CXIT.
DELETE,BDLLIB.
IFEQUAL,<LS>.
.*******************************
.**** ARGUMENT LS UNDEFINED ****
.*******************************
CXIT.
FETCHPS,<L>,BDLLIB,<LS>.
FIN.
COPY,INPUT/BR,1F,INCOPY.
SKIPR,INPUT.
SFL,70000.
BDL,LC=50000,INPUT.
DELETE,BDL,BDLKEY,BDLLIB,CDLLIB,INCOPY.
IFEQUAL,<LL>.
.*************************************
.**** NO LIBRARY STORAGE REQUESTED ****
.*************************************
BGNSKIP.
CXIT.
IFEQUAL,<LF>.
.*******************************
.**** ARGUMENT LF UNDEFINED ****
.*******************************
```

```
BGNSKIP.
CXIT.
IFEQUAL,<LGN>.
.*******************************
.**** ARGUMENT LGN UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
IFEQUAL,\$[<LOW>].
.*******************************
.**** ARGUMENT LOW UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
ENTERPS,<LL>,USRLIB/RR,<LF>.
LIBRITE,<LL>,USRLIB/RX,<LF>,<LGN>,W=\$[<LOW>].
CXIT.
FIN.
ENDSKIP.
SCATTER,SIMABS.
DELETE,SIMABS.
FBSIZE,LSPE=0.
LSPE,LC=100000.
EXIT.
DUMP,0.
FIN.
IFEQUAL,<HELP>,YES.
DDB.
COPY,OUTPUT/RR,DAYFILE/RB,USER.
DISPOSE,USER=PR,SC=UC,DT=I,T=[ATTENTION//DOE2 USER/ASSISTANCE].
CXIT.
FIN.



*PROCEDURE STORE,CHICAGO,VER=DOE21,WTN=22438,SF=LDS,HELP=NO.
FBSIZE,WEATHR=44,IN=44.
IFEQUAL,<WTHL>.
CXIT.
FETCHPS,<WTHL>,WEATHR,$1.
BGNSKIP.
FIN.
FETCHPS,WEATHR,IN,$1.
SCATTER,IN,,WEATHR.
DELETE,IN.
CXIT.
FETCHGS,WEATHR=WEATHFILE/$1,<WTN>,ATL=ON.
FIN.
ENDSKIP.
FBSIZE,INCOPY=10,BDLKEY=44,BDLLIB=44,CDLLIB=32,BDL=170,DBGMAP=6,CTRL=4.
FBSIZE,STDFIL=30,HDRFIL=36,LSPE=300,LDSOUT=4,SYSOUT=4,DSNFIL=6,USRLIB=60.
FBSIZE,REPFIL=30,HRREP=20,OUTPUT=40.
FETCHPS,<VER>,BDLABS,BDLABS.
FETCHPS,<VER>,SIMABS,SIMABS.
```

```
FBSIZE,BDLABS=0,SIMABS=0.
SCATTER,BDLABS.
DELETE,BDLABS.
IFEQUAL,<L>.
CXIT.
DELETE,BDLLIB.
FETCHPS,<L>,BDLLIB,<LS>.
FIN.
COPY,INPUT/BR,1F,INCOPY.
SKIPR,INPUT.
SFL,70000.
BDL,LC=50000,INPUT.
DELETE,BDL,BDLKEY,BDLLIB,CDLLIB,INCOPY,USRLIB.
SCATTER,SIMABS.
DELETE,SIMABS.
FBSIZE,LSPE=0.
LSPE,LC=100000.
DELETE,LSPE,STDFIL,CTRL,HDRFIL,REPFIL,HRREP,DBGMAP.
IFEQUAL,<SD>.
.*******************************
.**** ARGUMENT SD UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
IFEQUAL,<STN>.
.*******************************
.**** ARGUMENT STN UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
IFEQUAL,\$[<SOW>].
.*******************************
.**** ARGUMENT SOW UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
FIN.
REWIND,DSNFIL,<SF>OUT.
IFEQUAL,$2,PSS.
LIBRITE,<SD>,DSNFIL,DSNFIL,<STN>,W=\$[<SOW>].
LIBRITE,<SD>,<SF>OUT,<SF>OUT,<STN>,W=\$[<SOW>].
ENTERPS,<SD>,DSNFIL,DSNFIL.
ENTERPS,<SD>,<SF>OUT,<SF>OUT.
CXIT.
STOTAPE,/\$<SOW>/<SD>/DSNFIL,<STN>,ATL=ON.
STOTAPE,/\$<SOW>/<SD>/<SF>OUT,<STN>,ATL=ON.
ENTERGS,/\$<SOW>/<SD>/DSNFIL,<STN>,ATL=ON.
ENTERGS,/\$<SOW>/<SD>/<SF>OUT,<STN>,ATL=ON.
FIN.
ENDSKIP.
EXIT.
DUMP,0.
FIN.
IFEQUAL,<HELP>,YES.
```

```
DDB.
COPY,OUTPUT/RR,DAYFILE/RB,USER.
DISPOSE,USER=PR,SC=UC,DT=I,T=[ATTENTION//DOE2 USER/ASSISTANCE].
CXIT.
FIN.



*PROCEDURE RETRIEVE,CHICAGO,VER=DOE21,WTN=22438,RF=LDS,HELP=NO.
FBSIZE,WEATHR=44,IN=44.
IFEQUAL,<WTHL>.
CXIT.
FETCHPS,<WTHL>,WEATHR,$1.
BGNSKIP.
FIN.
FETCHPS,WEATHR,IN,$1.
SCATTER,IN,,WEATHR.
DELETE,IN.
CXIT.
FETCHGS,WEATHR=WEATHFILE/$1,<WTN>,ATL=ON.
FIN.
ENDSKIP.
FBSIZE,INCOPY=10,BDLKEY=44,BDLLIB=44,CDLLIB=32,BDL=170,DBGMAP=6,CTRL=4.
FBSIZE,STDFIL=30,HDRFIL=36,LSPE=300,LDSOUT=4,SYSOUT=4,DSNFIL=6,USRLIB=60.
FBSIZE,REPFIL=30,HRREP=20,OUTPUT=40.
FETCHPS,<VER>,BDLABS,BDLABS.
FETCHPS,<VER>,SIMABS,SIMABS.
FBSIZE,BDLABS=0,SIMABS=0.
SCATTER,BDLABS.
DELETE,BDLABS.
IFEQUAL,<L>.
CXIT.
DELETE,BDLLIB.
FETCHPS,<L>,BDLLIB,<LS>.
FIN.
COPY,INPUT/BR,1F,INCOPY.
SKIPR,INPUT.
SFL,70000.
BDL,LC=50000,INPUT.
DELETE,BDL,BDLKEY,BDLLIB,CDLLIB,INCOPY,USRLIB.
SCATTER,SIMABS.
DELETE,SIMABS.
IFEQUAL,<RD>.
.*******************************
.**** ARGUMENT RD UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
FIN.
IFEQUAL,$2,PSS.
FETCHPS,<RD>,DSNFIL,DSNFIL.
FETCHPS,<RD>,<RF>OUT,<RF>OUT.
CXIT.
IFEQUAL,<RTN>.
```

```
.*******************************
.**** ARGUMENT RTN UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
FETCHGS,<RD>/DSNFIL,<RTN>,ATL=ON.
FETCHGS,<RD>/<RF>OUT,<RTN>,ATL=ON.
FIN.
REWIND,DSNFIL,<RF>OUT.
FBSIZE,LSPE=0.
LSPE,LC=100000.
ENDSKIP.
EXIT.
DUMP,0.
FIN.
IFEQUAL,<HELP>,YES.
DDB.
COPY,OUTPUT/RR,DAYFILE/RB,USER.
DISPOSE,USER=PR,SC=UC,DT=I,T=[ATTENTION//DOE2 USER/ASSISTANCE].
CXIT.
FIN.



*PROCEDURE PACK.
IFEQUAL,<ID>.
.*******************************
.**** ARGUMENT ID UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
FIN.
IFEQUAL,$2,PSS.
FETCHPS,<ID>,WEATHR,$1.
CXIT.
IFEQUAL,<ITN>.
.*******************************
.**** ARGUMENT ITN UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
FETCHGS,WEATHR=<ID>/$1,<ITN>,ATL=ON.
FIN.
FETCHPS,DOE21,IN,WTHLGO.
SCATTER,IN,,WPROC.
DELETE,IN.
REWIND,WPROC.
LINK,X,L=0,F=WPROC,PP=[LC=50000].
REWIND,NEWTH.
IFEQUAL,<OD>.
.*******************************
.**** ARGUMENT OD UNDEFINED ****
.*******************************
BGNSKIP.
```

```
CXIT.
IFEQUAL,<OTN>.
.*******************************
.**** ARGUMENT OTN UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
IFEQUAL,\$[<OW>].
.*******************************
.**** ARGUMENT OW UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
IFEQUAL,<OF>.
.*******************************
.**** ARGUMENT OF UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
FIN.
IFEQUAL,$3,PSS.
LIBRITE,<OD>,NEWTH,<OF>,<OTN>,W=\$[<OW>].
ENTERPS,<OD>,NEWTH,<OF>.
CXIT.
STOTAPE,NEWTH=/\$<OW>/WEATHFILE/<OF>,<OTN>,ATL=ON.
ENTERGS,NEWTH=/\$<OW>/WEATHFILE/<OF>,<OTN>,ATL=ON.
FIN.
ENDSKIP.
EXIT.
DUMP,0.
FIN.



*PROCEDURE EDIT.
IFEQUAL,<ID>.
.*******************************
.**** ARGUMENT ID UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
FIN.
IFEQUAL,$2,PSS.
FETCHPS,<ID>,WEATHR,$1.
CXIT.
IFEQUAL,<ITN>.
.*******************************
.**** ARGUMENT ITN UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
FETCHGS,WEATHR=WEATHFILE/$1,<ITN>,ATL=ON.
FIN.
FETCHPS,DOE21,IN,WTHLGO.
```

```
SCATTER,IN,,WPROC.
DELETE,IN.
REWIND,WPROC.
LINK,X,L=0,F=WPROC,PP=[LC=50000].
REWIND,NEWTH.
IFEQUAL,<OD>.
.*******************************
.**** ARGUMENT OD UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
IFEQUAL,<OTN>.
.*******************************
.**** ARGUMENT OTN UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
IFEQUAL,\$[<OW>].
.*******************************
.**** ARGUMENT OW UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
IFEQUAL,<OF>.
.*******************************
.**** ARGUMENT OF UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
FIN.
IFEQUAL,$3,PSS.
LIBRITE,<OD>,NEWTH,<OF>,<OTN>,W=\$[<OW>].
ENTERPS,<OD>,NEWTH,<OF>.
CXIT.
STOTAPE,NEWTH=/\$<OW>/WEATHFILE/<OF>,<OTN>,ATL=ON.
ENTERGS,NEWTH=/\$<OW>/WEATHFILE/<OF>,<OTN>,ATL=ON.
FIN.
ENDSKIP.
EXIT.
DUMP,0.
FIN.


*PROCEDURE LIST.
IFEQUAL,<ID>.
.*******************************
.**** ARGUMENT ID UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
FIN.
IFEQUAL,$2,PSS.
FETCHPS,<ID>,WEATHR,$1.
```

```
CXIT.
IFEQUAL,<ITN>.
.*******************************
.**** ARGUMENT ITN UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
FETCHGS,WEATHR=<ID>/$1,<ITN>,ATL=ON.
FIN.
FETCHPS,DOE21,IN,WTHLGO.
SCATTER,IN,,WPROC.
DELETE,IN.
REWIND,WPROC.
LINK,X,L=0,F=WPROC,PP=[LC=50000].
ENDSKIP.
EXIT.
DUMP,0.
FIN.



*PROCEDURE BDL,VER=DOE21,HELP=NO.
FBSIZE,INCOPY=10,BDLKEY=44,BDLLIB=44,CDLLIB=32,BDL=170,DBGMAP=6,CTRL=4.
FBSIZE,USRLIB=60.
FETCHPS,<VER>,BDLABS,BDLABS.
FBSIZE,BDLABS=0.
SCATTER,BDLABS.
DELETE,BDLABS.
IFEQUAL,<L>.
CXIT.
DELETE,BDLLIB.
FETCHPS,<L>,BDLLIB,<LS>.
FIN.
COPY,INPUT/BR,1F,INCOPY.
SKIPR,INPUT.
SFL,70000.
BDL,LC=50000,INPUT.
EXIT.
DUMP,0.
FIN.
IFEQUAL,<HELP>,YES.
DDB.
COPY,OUTPUT/RR,DAYFILE/RB,USER.
DISPOSE,USER=PR,SC=UC,DT=I,T=[ATTENTION//DOE2 USER/ASSISTANCE].
CXIT.
FIN.



*PROCEDURE LIBRARY,VER=DOE21,LIB=USRLIB,HELP=NO.
FBSIZE,INCOPY=10,BDLKEY=44,BDLLIB=44,CDLLIB=32,BDL=170,DBGMAP=6,CTRL=4.
FBSIZE,USRLIB=60.
FETCHPS,<VER>,BDLABS,BDLABS.
FBSIZE,BDLABS=0.
```

```
SCATTER,BDLABS.
DELETE,BDLABS.
IFEQUAL,$1.
CXIT.
DELETE,BDLLIB.
FIN.
IFEQUAL,<L>.
.*******************************
.**** NO INPUT USER LIBRARY ****
.*******************************
BGNSKIP.
CXIT.
IFEQUAL,<LS>.
.*******************************
.**** ARGUMENT LS UNDEFINED ****
.*******************************
CXIT.
FETCHPS,<L>,BDLLIB,<LS>.
FIN.
ENDSKIP.
SFL,70000.
BDL,LC=50000,INPUT.
DELETE,BDL,BDLKEY,CDLLIB,INCOPY.
IFEQUAL,<LL>.
.*******************************
.**** ARGUMENT LL UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
IFEQUAL,<LF>.
.*******************************
.**** ARGUMENT LF UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
IFEQUAL,<LGN>.
.*******************************
.**** ARGUMENT LGN UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
IFEQUAL,\$[<LOW>].
.*******************************
.**** ARGUMENT LOW UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
FIN.
LIBRITE,<LL>,<LIB>/RR,<LF>,<LGN>,W=\$[<LOW>].
ENTERPS,<LL>,<LIB>/RR,<LF>.
ENDSKIP.
EXIT.
DUMP,0.
FIN.
```

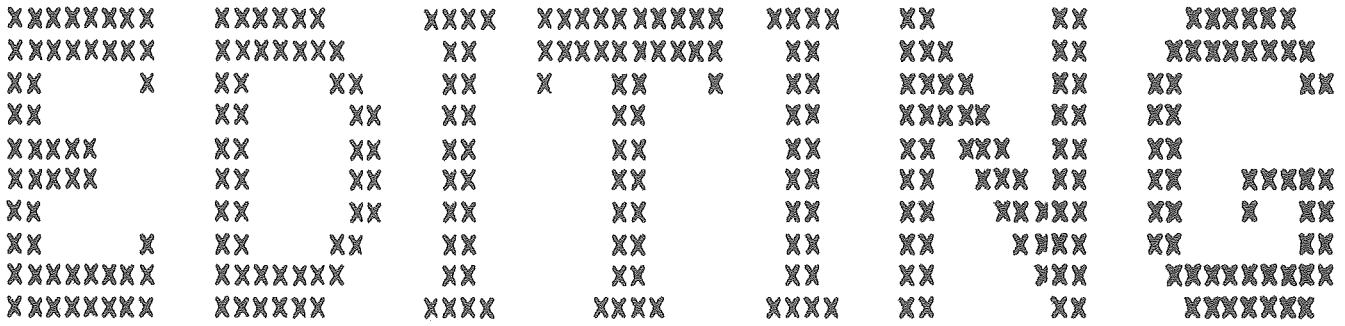
```
IFEQUAL,<HELP>,YES.
DDB.
COPY,OUTPUT/RR,DAYFILE/RB,USER.
DISPOSE,USER=PR,SC=UC,DT=I,T=[ATTENTION//DOE2 USER/ASSISTANCE].
CXIT.
FIN.



*PROCEDURE RESTORE,CHICAGO,VER=DOE21,WTN=22438,HELP=NO.
FBSIZE,WEATHR=44,IN=44.
IFEQUAL,<WTHL>.
CXIT.
FETCHPS,<WTHL>,WEATHR,$1.
BGNSKIP.
FIN.
FETCHPS,WEATHR,IN,$1.
SCATTER,IN,,WEATHR.
DELETE,IN.
CXIT.
FETCHGS,WEATHR=WEATHFILE/$1,<WTN>,ATL=ON.
FIN.
ENDSKIP.
FBSIZE,INCOPY=10,BDLKEY=44,BDLLIB=44,CDLLIB=32,BDL=170,DBGMAP=6,CTRL=4.
FBSIZE,STDFIL=30,HDRFIL=36,LSPE=300,LDSOUT=4,SYSOUT=4,DSNFIL=6,USRLIB=60.
FBSIZE,REPFIL=30,HRREP=20,OUTPUT=40.
FETCHPS,<VER>,BDLABS,BDLABS.
FETCHPS,<VER>,SIMABS,SIMABS.
FBSIZE,BDLABS=0,SIMABS=0.
SCATTER,BDLABS.
DELETE,BDLABS.
IFEQUAL,<L>.
CXIT.
DELETE,BDLLIB.
FETCHPS,<L>,BDLLIB,<LS>.
FIN.
COPY,INPUT/BR,1F,INCOPY.
SKIPR,INPUT.
SFL,70000.
BDL,LC=50000,INPUT.
DELETE,BDL,BDLKEY,BDLLIB,CDLLIB,INCOPY,USRLIB.
SCATTER,SIMABS.
DELETE,SIMABS.
IFEQUAL,<RD>.
.*******************************
.**** ARGUMENT RD UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
FIN.
IFEQUAL,$2,PSS.
FETCHPS,<RD>,DSNFIL,DSNFIL.
FETCHPS,<RD>,LDSOUT,LDSOUT.
CXIT.
```

```
IFEQUAL,<RTN>.
.*******************************
.**** ARGUMENT RTN UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
FETCHGS,<RD>/DSNFIL,<RTN>,ATL=ON.
FETCHGS,<RD>/LDSOUT,<RTN>,ATL=ON.
FIN.
REWIND,DSNFIL,LDSOUT.
FBSIZE,LSPE=0.
LSPE,LC=100000.
DELETE,LSPE,STDFIL,CTRL,LDSOUT,HDRFIL,REPFIL,HRREP,DBGMAP.
IFEQUAL,<SD>.
.*******************************
.**** ARGUMENT SD UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
IFEQUAL,<STN>.
.*******************************
.**** ARGUMENT STN UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
IFEQUAL,\$[<SOW>].
.*******************************
.**** ARGUMENT SOW UNDEFINED ****
.*******************************
BGNSKIP.
CXIT.
FIN.
REWIND,DSNFIL,SYSOUT.
IFEQUAL,$2,PSS.
LIBRITE,<SD>,DSNFIL,DSNFIL,<STN>,W=\$[<SOW>].
LIBRITE,<SD>,SYSOUT,SYSOUT,<STN>,W=\$[<SOW>].
ENTERPS,<SD>,DSNFIL,DSNFIL.
ENTERPS,<SD>,SYSOUT,SYSOUT.
CXIT.
STOTAPE,/\$<SOW>/<SD>/DSNFIL,<STN>,ATL=ON.
STOTAPE,/\$<SOW>/<SD>/SYSOUT,<STN>,ATL=ON.
ENTERGS,/\$<SOW>/<SD>/DSNFIL,<STN>,ATL=ON.
ENTERGS,/\$<SOW>/<SD>/SYSOUT,<STN>,ATL=ON.
FIN.
ENDSKIP.
EXIT.
DUMP,0.
FIN.
IFEQUAL,<HELP>,YES.
DDB.
COPY,OUTPUT/RR,DAYFILE/RB,USER.
DISPOSE,USER=PR,SC=UC,DT=I,T=[ATTENTION//DOE2 USER/ASSISTANCE].
CXIT.
FIN.
```

APPENDIX H. A REPRODUCTION OF THE LBL EDITING WRITE-UP



INTERACTIVE TEXT EDITING ON THE BKY 6000'S

3 MARCH 1980

QUESTIONS ON INTERACTIVE TEXT EDITING AND SUGGESTIONS ON THIS WRITEUP SHOULD BE DIRECTED TO THE CONSULTANTS, X5981

TO GET A COPY OF THIS WRITEUP -

```
<JOBCARD>
LIBCOPY,WRITEUPS,OUT,EDITING.
DISPOSE,OUT=PR,PA=1F.     (USE PA=1F AT BKY ONLY)
<END-OF-JOB CARD>
```

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1.1 THE BASICS

INTRODUCTION TO POE AND NETED

A "TEXT EDITOR" IS AN INTERACTIVE PROGRAM USED TO EDIT OR CREATE FILES OF TEXT, PROGRAMS, OR OTHER CHARACTER DATA. IF YOU ARE USING THE BKY COMPUTERS TO CREATE AND MODIFY PROGRAMS, DATA OR DOCUMENTS, YOU WILL PROBABLY BE SPENDING A GOOD DEAL OF TIME DOING INTERACTIVE TEXT EDITING TO PERFORM THESE TASKS. POE AND NETED ARE THE TWO INTERACTIVE TEXT EDITORS AVAILABLE ON THE 6000'S AT BKY. OF THESE, NETED IS THE OLDER AND MORE PRIMITIVE, AND POE IS THE MORE POWERFUL.

POE IS 100 PERCENT UPWARDLY COMPATIBLE WITH NETED; THAT IS, ANY LINE THAT IS MEANINGFUL IN NETED HAS EXACTLY THE SAME MEANING IN POE. IN ADDITION, MANY THINGS CAN BE DONE IN POE THAT CANNOT BE DONE IN NETED. THOSE USERS WHO HAVE BEEN EDITING WITH NETED MAY THINK OF POE AS A "SUPERSET" OF NETED; POE CONTAINS MANY EXTRA FEATURES THAT MAKE EDITING A MUCH EASIER AND MORE LOGICAL PROCESS THAN IT IS WITH NETED. ITS COMMAND SYNTAX IS SIGNIFICANTLY MORE FLEXIBLE THAN THAT OF NETED; IT ALLOWS THE USER A GOOD AMOUNT OF POETIC LICENSE.

NETED IS BEST SUITED FOR VERY SIMPLE TEXT EDITING AND FOR CREATION OF TEXT, WHICH DOES NOT REQUIRE POE'S FANCIER EDITING FEATURES; NETED REQUIRES LESS MEMORY THAN DOES POE, AND ITS INTERACTIVE RESPONSE MAY THEREFORE BE A BIT QUICKER. WITH NETED YOU CAN CREATE NEW TEXT; YOU CAN LOCATE A SPECIFIC STRING YOU WANT TO EDIT; YOU CAN CHANGE, REPLACE, OR DELETE INDIVIDUAL LINES OF TEXT, INSERT LINES AT ANY POINT, OR JUST PRINT LINES OUT ON THE TERMINAL.

POE UNDERSTANDS ALL NETED COMMANDS. AMONG ITS ADDITIONAL FEATURES ARE - COMMANDS CAN BE DIRECTED TO OPERATE ON A SPECIFIC LINE OR RANGE OF LINES; SUFFIXES CAN BE ADDED TO COMMANDS TO PERFORM SUCH TASKS AS UPWARDS SEARCHING THROUGH A FILE; LINE NUMBERS CAN BE PRINTED TO THE LEFT OF LINES, AND LINES CAN BE REFERENCED BY THESE NUMBERS; AN ENTIRE BLOCK OF LINES CAN BE MOVED OR COPIED TO ANOTHER LOCATION IN THE FILE WITH A SINGLE COMMAND; AND AN OPTIONAL VETO MODE EXISTS FOR THE CHANGE CURRENTLY BEING EXECUTED. MANY 1-LINE POE COMMANDS PERFORM TASKS THAT ARE IMPOSSIBLE, OR THAT REQUIRE MULTIPLE COMMANDS OR CONVOLUTED SYNTAX, IN NETED.

THROUGHOUT THIS WRITEUP, THE PHRASE "THE EDITOR" IS USED WHEN THE INFORMATION GIVEN APPLIES TO BOTH POE AND NETED. OTHERWISE, THE EDITOR TO WHICH A PROPERTY APPLIES IS REFERRED TO BY NAME.

THE POINTER

ALL POE AND NETED COMMANDS REFER TO THE FILE'S LINES, RATHER THAN WORDS, CHARACTERS, OR PARTS OF LINES. AN INVISIBLE LINE-POINTER EXISTS IN THE EDITOR; THIS POINTER RESIDES AT ONE LINE AT A TIME, THE «CURRENT» LINE. EDITOR COMMANDS APPLY TO, OR BEGIN EXECUTION AT, «CURRENT». WHEN YOU FIRST ENTER THE EDITOR, THE POINTER IS AT THE TOP

OF THE FILE.

TOP AND BOTTOM OF FILE

THE EDITOR CONCEIVES OF THE FILE IT IS EDITING AS BEGINNING AT THE TOP («TOF») AND EXTENDING TO THE BOTTOM («BOF»), OR END. (NOTE - IN NETED, THE WORDS ARE SPELLED OUT - «TOP OF FILE» AND «BOTTOM OF FILE».) THE FILE SHOULD NOT BE THOUGHT OF AS CIRCULAR. ONLY CERTAIN POE COMMANDS WILL GO AUTOMATICALLY FROM THE BOTTOM OF THE FILE TO THE TOP. THE TOP IS NOT THE NEXT POSITION AFTER THE BOTTOM EXCEPT IN THOSE POE COMMANDS THAT EXPLICITLY WRAP AROUND.

THE «TOP OF FILE» AND «BOTTOM OF FILE» ARE PSEUDO-LINES, REPRESENTING THE POSITION OF THE POINTER WHEN IT LIES JUST IN FRONT OF THE FIRST LINE OF THE FILE AND JUST AFTER THE LAST LINE OF THE FILE, RESPECTIVELY. A LINE INSERTED WHEN THE POINTER IS AT «TOF» WILL GO IN FRONT OF WHAT HAD BEEN THE FIRST LINE OF THE FILE. THE POINTER IS NOW ON THE LINE INSERTED, WHICH HAS BECOME THE FIRST LINE OF THE FILE; PSEUDO-LINE «TOF» DOES NOT CHANGE. A LINE ENTERED AT THE «BOF» POSITION GOES AFTER WHAT HAD BEEN THE LAST LINE OF THE FILE; THE POINTER NOW POINTS TO THE LINE JUST ENTERED, AND THE «BOF» TAKES THE POSITION JUST BELOW THIS. SINCE THE TOP AND BOTTOM POSITIONS ARE NOT REAL LINES, EDITOR COMMANDS THAT ATTEMPT TO CHANGE THESE LINES HAVE NO EFFECT ON THEM.

EDIT AND INPUT MODES

THE EDITOR OPERATES IN TWO DISTINCT MODES - EDIT MODE AND INPUT MODE. EDIT MODE IS FOR ALTERING THE CURRENTLY EXISTING CONTENTS OF A FILE; INPUT MODE IS EXCLUSIVELY FOR TEXT CREATION. ALL THE COMMANDS FOR LOCATING, CHANGING, DELETING, PRINTING, AND GENERALLY MANIPULATING LINES OF TEXT, AND FOR SAVING YOUR CHANGES, ARE EXECUTED IN EDIT MODE.

IN INPUT MODE, THE EDITOR INTERPRETS EACH LINE YOU TYPE AS A NEW LINE OF TEXT TO ADD TO YOUR FILE AT THE CURRENT POSITION. TEXT LINES CANNOT BE ALTERED IN INPUT MODE ONCE YOU HAVE PRESSED THE CARRIAGE RETURN. THE ONLY EDITOR COMMAND THAT CAN BE EXECUTED FROM WITHIN INPUT MODE IS THE TOGGLE THAT SWITCHES BETWEEN INPUT AND EDIT MODES. THIS COMMAND IS A LINE WITH A PERIOD (.) IN COLUMN ONE, AND NOTHING ELSE ON THAT LINE. IT IS FOLLOWED BY A CARRIAGE RETURN. ALL RECC COMMANDS (» AND "AT" COMMANDS - SEE BELOW) CAN ALSO BE EXECUTED WHILE IN THE EDITOR, WHETHER YOU ARE IN INPUT OR EDIT MODE.

IF YOU ENTER EDIT MODE COMMANDS WHILE IN INPUT MODE, THE COMMANDS WILL BE INTERPRETED AS LINES OF TEXT YOU WANT TO ENTER. IF YOU ARE TRYING TO EXECUTE AN EDITOR COMMAND AND IT SEEMS TO BE TAKING FOREVER, CHECK TO MAKE SURE YOU ARE NOT STUCK IN INPUT MODE BY TYPING THE ABOVE-MENTIONED TOGGLE SWITCH ".". THE EDITOR'S RESPONSE TO THIS COMMAND WILL BE EITHER "EDIT." OR "INPUT.".

THE EDITOR SIGNIFIES THAT IT HAS ENTERED INPUT MODE BY PRINTING

"INPUT" AT YOUR TERMINAL; IT SIGNIFIES EDIT MODE BY PRINTING "EDIT". IN INPUT MODE, THE EDITOR WILL WAIT FOR INPUT WITHOUT SEEMING TO RESPOND TO ANYTHING TYPED IN (EXCEPT THE TOGGLE SWITCH "." AND RECC COMMANDS), UNLESS YOU HAVE THE PROMPTING SWITCH SET. IN THIS CASE, AN ASTERISK APPEARS WHEN THE EDITOR IS READY FOR A LINE OF INPUT (SEE THE * COMMAND AND THE SET PROMPT COMMAND, BELOW).

ENTERING THE EDITOR

YOU MUST BE LOGGED INTO SESAME TO ENTER THE TEXT EDITOR ON THE BKY 6000'S. THERE IS A SIZE LIMITATION ON FILES THAT CAN BE EDITED, BUT IT IS SO LARGE (APPROXIMATELY 1 MILLION WORDS OF TEXT) THAT YOU SHOULD NOT HAVE TO WORRY ABOUT IT. THE FILE YOU SPECIFY ON THE POE OR NETED CONTROL CARD MUST BE CONNECTED, OR "ATTACHED", TO YOUR JOB, UNLESS YOU ARE CREATING A NEW FILE. IF YOU WISH TO EDIT A FILE THAT RESIDES ON A PERMANENT STORAGE MEDIUM SUCH AS TAPE OR THE PROGRAM STORAGE SYSTEM (PSS), YOU MUST COPY IT TO A DISK FILE LOCAL TO YOUR JOB IN ORDER TO EDIT IT. YOU MAY EDIT COMMON FILES THAT YOU HAVE ATTACHED TO YOUR JOB, AS WELL AS SOME OF THE FILES AUTOMATICALLY ATTACHED TO YOUR JOB (E.G., INPUT, OUTPUT, ETC.).

THE PROCEDURES FOR ENTERING POE AND NETED ARE ESSENTIALLY THE SAME. THE MOST COMMON WAY OF ENTERING POE IS TO TYPE -

```
POE,<FILENAME>
```

FOLLOWED BY A CARRIAGE RETURN. YOU CAN TYPE A BLANK SPACE INSTEAD OF A COMMA BETWEEN "POE" AND THE FILENAME. YOU CAN ALSO SIMPLY TYPE "POE" BY ITSELF; YOU WILL THEN BE ASKED TO SPECIFY THE FILENAME. POE WILL SEARCH FOR THAT FILE AMONG THE FILES ATTACHED TO YOUR JOB.

IF THE FILE YOU SPECIFIED IS AMONG THOSE ATTACHED TO YOUR JOB, POE MAKES A WORKING COPY OF THAT FILE FOR YOU TO EDIT, AND RESPONDS -

```
POE 2.15
214 LINES.  EDIT.
```

THIS TELLS YOU POE'S CURRENT VERSION NUMBER (IN THIS CASE, 2.15), GIVES THE NUMBER OF LINES IN YOUR FILE, AND TELLS YOU THAT YOU ARE IN EDIT MODE. YOU ARE NOW POSITIONED AT <TOP-OF-FILE>.

IN MAKING THE WORKING COPY OF THE FILE, THE EDITOR DOES NOT ALTER OR REPOSITION THE ORIGINAL FILE. IT IS ONLY BY ISSUING A "WRITE" OR A "SAVE" COMMAND THAT THE ORIGINAL FILE ATTACHED TO YOUR JOB IS AFFECTED AT ALL. A WRITE OR SAVE REPLACES THE ORIGINAL FILE WITH THE EDITED VERSION AND REWINDS IT BEFORE AND AFTER THE WRITE.

IF, AFTER EDITING YOUR FILE, YOU NEED TO STORE IT ON A PERMANENT STORAGE MEDIUM, YOU MUST EXECUTE THE APPROPRIATE CONTROL CARD TO DO SO (E.G., LIBRITE, STOTAPE, ETC.). SAVING THE EDITED FILE VIA "SAVE" MERELY UPDATES THE DISK FILE ATTACHED TO YOUR JOB; IT DOES NOT PERFORM A PERMANENT STORAGE OPERATION.

IF THE FILE YOU SPECIFIED ON THE POE CONTROL CARD IS NOT FOUND

AMONG THOSE ATTACHED TO YOUR JOB, POE ASSUMES YOU WISH TO CREATE THIS FILE, AND RESPONDS -

```
POE 2.15
<FILENAME> NOT FOUND.
INPUT.
```

SINCE THERE IS NOTHING TO EDIT, POE PUTS YOU STRAIGHT INTO INPUT MODE SO YOU CAN CREATE THE DESIRED TEXT. YOU MUST GET INTO EDIT MODE WHEN YOU ARE FINISHED ENTERING TEXT BY TYPING A PERIOD (.) IN COLUMN ONE, THEN CARRIAGE RETURN, AS DESCRIBED ABOVE; THEN EXECUTE A "W" OR "SAVE" COMMAND TO SAVE THE NEW FILE. IT IS ONLY AT THIS POINT THAT YOU HAVE ACTUALLY CREATED A LOCAL FILE BY THAT NAME.

IF YOU GOT INTO INPUT MODE BECAUSE YOU MISSPELLED THE NAME OF THE FILE YOU WANTED TO EDIT, GET INTO EDIT MODE (VIA ".") AND THEN TYPE "Q" ("QUIT", IN NETED). THEN TRY AGAIN.

IF THE FILE YOU SPECIFIED IS NOT ASSIGNED TO DISK (E.G., IF IT IS AN ON-LINE TAPE), OR IF YOU SPECIFY AN ILLEGAL FILE NAME, POE WILL RESPOND -

```
ILLEGAL FILE TYPE.
ENTER FILE NAME.
```

YOU MUST NOW ENTER SOME VALID FILE NAME, EVEN IF YOUR INTENTION IS JUST TO QUIT THE EDITOR AT THAT POINT.

ALL OF THE ABOVE INFORMATION APPLIES TO NETED AS WELL, BUT THE NUMBER OF LINES YOUR FILE CONSISTS OF IS NOT DISPLAYED WHEN YOU ENTER NETED.

IF THE LINES OF TEXT IN THE FILE YOU WISH TO EDIT ARE TOO LONG (I.E., LONGER THAN 140 CHARACTERS), POE WILL RESPOND -

```
XX LINES SPLIT AT 140 CHARS.
```

WHERE "XX" IS THE NUMBER OF LINES POE HAD TO SPLIT. YOU WILL STILL BE PUT INTO EDIT MODE, AND NO INFORMATION IS LOST WHEN POE SPLITS THE LINES. NETED, ON THE OTHER HAND, WILL TRUNCATE THE TOO-LONG LINES BEFORE PUTTING YOU IN EDIT MODE. THE MESSAGE

```
LINES TRUNCATED TO 140 CHARACTERS.
```

WILL APPEAR. IN BOTH EDITORS, A FILE WITH TOO-LONG LINES WILL BE CHANGED IF YOU ISSUE A "W" OR "SAVE" COMMAND, WHETHER OR NOT YOU HAVE DONE EDITING ON IT. LINE SPLITTING OR TRUNCATION USUALLY OCCURS IF YOU ATTEMPT TO EDIT FILES THAT ARE NOT COMPOSED OF TEXT - I.E., LGO FILES OR UPDATE PROGRAM LIBRARIES, WHICH CANNOT BE CHANGED PROPERLY WITH ANY TEXT EDITOR. IT IS HARD FOR THE EDITOR TO DISTINGUISH AN LGO FILE FROM A TEXT FILE WITH LONG LINES.

COMMON FILES

COMMON FILES PROVIDE A TEMPORARY WAY FOR INTERACTIVE USERS AT BKY TO PRESERVE THEIR WORK BEYOND THE DURATION OF AN INTERACTIVE JOB WITHOUT PERFORMING A PERMANENT STORAGE OPERATION. WHEREAS LOCAL FILES DISAPPEAR WHEN AN INTERACTIVE JOB ENDS, COMMON FILES USUALLY REMAIN IN THE MACHINE ON WHICH THEY WERE MADE COMMON FOR 24-72 HOURS AFTER JOB TERMINATION. IF YOU THEN LOG INTO THE SAME MACHINE, YOU CAN ATTACH THE FILE TO YOUR JOB AND CONTINUE TO WORK WITH IT. MAKING A FILE "COMMON" THUS SERVES AS SOMEWHAT OF A PROTECTION AGAINST SYSTEM FAILURES. IT DOES **NOT** PERFORM A PERMANENT STORAGE OPERATION (AS **LIBRITE**, **STOTAPE**, ETC. DO); IT MERELY MAKES IT POSSIBLE TO ACCESS THE FILE AGAIN WITHIN A SHORT PERIOD OF TIME.

IT IS USUALLY A GOOD IDEA TO "COMMON" THE FILE YOU ARE EDITING, TO PROTECT YOURSELF FROM LOSING ALL YOUR WORK IN THE EVENT THAT A SYSTEM CRASH OCCURS OR IF YOU RUN OUT OF COMPUTING UNITS (CU"S) IN THE MIDDLE OF AN EDITING SESSION. HOWEVER, COMMONING A FILE WILL ONLY HELP IF YOU PERIODICALLY ISSUE "W" (WRITE) COMMANDS WHILE EDITING YOUR FILE: IF A SYSTEM CRASH OCCURS, THE LATEST VERSION OF YOUR COMMON FILE (I.E., SINCE THE LAST "W" WAS ISSUED) IS TEMPORARILY PRESERVED. BEWARE - COMMON FILES DO NOT ALWAYS STAY AROUND, AND SHOULD THEREFORE **NEVER** BE RELIED ON AS BEING PERMANENT IN ANY WAY. AS A RULE OF THUMB, YOU SHOULD ISSUE W COMMANDS AT LEAST EVERY 15-30 MINUTES, AND USE **LIBRITE** OR **STOTAPE** EVERY HOUR OR SO TO BACK UP YOUR FILE ON A PERMANENT FORM OF STORAGE.

TO MAKE A LOCAL FILE THAT IS ATTACHED TO YOUR JOB INTO A COMMON FILE, FIRST MAKE SURE YOUR FILENAME IS UNIQUE BY ISSUING THE **RECC** COMMAND "**>CF**,<FILENAME>". IF A COMMON FILE ALREADY EXISTS BY THAT NAME IN THE MACHINE YOU ARE USING, YOU SHOULD **UNIQUELY** RENAME YOUR FILE (FINDING A UNIQUE NAME MAY REQUIRE ADDITIONAL "**>CF**" COMMANDS) USING **RENAME**, WHOSE FORMAT IS "**RENAME**,OLDNAME=NEWNAME." YOU CAN THEN EXECUTE THE **COMMON** CONTROL CARD BY TYPING "**COMMON**,<FILENAME>.". A FILENAME MAY BE NO MORE THAN 7 ALPHAMERIC CHARACTERS, THE FIRST OF WHICH MUST BE ALPHABETIC.

IF YOU ARE CREATING A NEW FILE, YOU SHOULD ALSO MAKE IT COMMON. ISSUE THE **RECC** COMMAND "**>CF**,<FILENAME>" TO MAKE SURE THAT THE NAME YOU PLAN TO USE IS UNIQUE. THEN EXECUTE THE COMMAND "**REWIND**,<FILENAME>.", WHICH CREATES THE FILE. NEXT, EXECUTE THE CONTROL CARD "**COMMON**,<FILENAME>."; AND YOU ARE NOW READY TO ENTER THE EDITOR. NOTE THAT **REWIND** MERELY CREATED AN EMPTY FILE; WHEN YOU ENTER THE EDITOR YOU WILL BE PUT DIRECTLY INTO INPUT MODE.

THE **COMMON** CONTROL CARD IS ALSO USED TO ATTACH AN EXISTING COMMON FILE TO YOUR JOB. HOWEVER, THE FILE CAN ONLY BE ATTACHED IF YOU ARE USING THE SAME MACHINE IT IS IN. E.G., IF YOU WERE EDITING OR CREATING A COMMON FILE IN YOUR PREVIOUS JOB ON THE B MACHINE, AND NOW WISH TO ACCESS IT AGAIN, LOG IN TO THE B MACHINE AND EXECUTE THE CONTROL CARD "**COMMON**,<FILENAME>,.". THE FINAL COMMA IS NECESSARY WHEN USING THE **COMMON** CONTROL CARD TO ATTACH AN EXISTING COMMON FILE, BUT NOT WHEN MAKING A LOCAL FILE COMMON. IF THE EXISTING COMMON FILE IS CURRENTLY ATTACHED TO ANOTHER JOB, OR IF THE FILE DOES NOT EXIST, THE FINAL COMMA WILL CAUSE YOUR JOB TO RETURN IMMEDIATELY TO **SESAME** WITH A "**EXIT ERROR**" MESSAGE.

YOU SHOULD RE-ATTACH A COMMON FILE WITHIN 24 HOURS AFTER IT WAS LAST ATTACHED TO A JOB. IT IS NEVER GUARANTEED, HOWEVER, THAT A COMMON FILE WILL STILL BE AROUND WHEN YOU TRY TO ATTACH IT, EVEN IF IT IS WITHIN 24 HOURS. IF THE COMMON FILE NO LONGER EXISTS, OR IF IT EXISTS BUT NOT IN THE MACHINE YOU ARE USING, YOU WILL GET THE MESSAGE "EXIT ERROR".

NOTE - IF, AFTER ISSUING A **COMMON** CONTROL CARD, YOU GET THE ERROR MESSAGE -

COMMON FILE <FILENAME> ALREADY EXISTS

IT IS BECAUSE YOU HAVE A LOCAL FILE BY THE NAME YOU SPECIFIED AND THERE ALREADY EXISTS A COMMON FILE BY THAT SAME NAME. IN THIS CASE, IF YOU WANTED TO MAKE YOUR LOCAL FILE COMMON, YOU MUST UNIQUELY RENAME IT BEFORE DOING SO. IF YOU WANTED TO ATTACH THE EXISTING **COMMON** FILE TO YOUR JOB, YOU MUST FIRST **RENAME**, **DELETE**, OR **RETURN** YOUR LOCAL FILE BEFORE ATTACHING THE COMMON FILE.

THE RECC BUFFER

RECC IS A MINICOMPUTER THAT ACTS AS A TRANSLATOR BETWEEN YOUR TERMINAL AND THE 6000 MACHINE TO WHICH YOUR TERMINAL IS CONNECTED. **RECC** MAINTAINS AN INPUT BUFFER THAT HOLDS JUST TWO LINES AT A TIME. EACH LINE YOU TYPE IS PROCESSED BY **RECC**; THIS APPLIES WHETHER YOU ARE IN **SESAME** OR IN THE EDITOR, AND WHETHER YOU ARE IN INPUT OR EDIT MODE.

EACH LINE IN THE BUFFER IS EITHER INTERPRETED BY **RECC** ITSELF, OR IS SENT TO THE 6000 AS SOON AS POSSIBLE; RESPONSE TIME DEPENDS ON YOUR JOBCARD PRIORITY, SYSTEM SATURATION LEVEL, AND OTHER FACTORS. IF YOU TYPE THE SECOND LINE BEFORE THE FIRST ONE CAN BE INTERPRETED, THE **RECC** BUFFER IS FULL AND YOU CANNOT ENTER A THIRD LINE UNTIL THE FIRST IS PROCESSED OR THE BUFFER IS CLEARED. IF YOU NOW ATTEMPT TO TYPE A THIRD LINE, THE BELL ON THE TERMINAL WILL RING TO LET YOU KNOW THAT THE BUFFER IS FULL. AT THIS POINT YOU CAN EITHER WAIT FOR THE LINES TO BE ACCEPTED, OR DELETE THE LINES IN THE BUFFER BY TYPING CONTROL-X (TYPING THE CHARACTER "X" WHILE SIMULTANEOUSLY DEPRESSING THE "CTRL" KEY). YOU CAN THEN TYPE IN NEW LINES, OR EXECUTE A **RECC** COMMAND (SEE BELOW) TO INQUIRE ABOUT YOUR JOB STATUS, SYSTEM STATUS, ETC. (THIS IS USEFUL IF YOU SUSPECT THAT A SICK SYSTEM IS THE CAUSE OF A DELAY.) FOR MORE INFORMATION ON **RECC**, SEE THE **HANDBOOK** SUBSET TTY.

RECC COMMANDS

CERTAIN COMMANDS ARE ACTED UPON DIRECTLY BY **RECC**; THESE ARE APTLY CALLED **RECC** COMMANDS. THESE COMMANDS ALWAYS BEGIN WITH A > OR AN (AT) SYMBOL IN COLUMN ONE. FOR EXAMPLE, THE COMMAND >L LOGS YOU ON OR PUTS YOU IN THE LOGIN QUEUE. **RECC** COMMANDS ARE USED TO INQUIRE ABOUT SYSTEM STATUS AND JOB STATUS, AND TO PERFORM A VARIETY OF TASKS THAT **RECC** CAN DO INDEPENDENTLY, I.E., WITHOUT COMMUNICATING WITH THE 6000'S. (SEE THE **HANDBOOK** SUBSET TTY FOR A COMPLETE LIST OF THESE

COMMANDS.)

RECC COMMANDS CAN BE ISSUED FROM WITHIN THE EDITOR, BOTH IN INPUT AND IN EDIT MODES. (THEY CAN ALSO, OF COURSE, BE ISSUED BOTH FROM SESAME AND BEFORE YOU ARE LOGGED ON.) HOWEVER, LIKE OTHER COMMANDS, RECC COMMANDS MUST REACH THE FIRST LINE IN THE INPUT BUFFER (SEE ABOVE) IN ORDER TO EXECUTE.

(NOTE - IF YOU ARE IN INPUT MODE AND YOU NEED TO TYPE AN (AT) SIGN OR A » IN COLUMN 1 AS INPUT RATHER THAN AS A RECC COMMAND, YOU CAN PRECEDE THE (AT) SIGN OR » WITH A BACKSLASH. THIS IS CALLED "ESCAPING" A CHARACTER. THE CHARACTER WILL THEN APPEAR AS A REGULAR GRAPHIC "AT" SIGN OR » WHEN PRINTED OUT IN THE EDITOR.)

THE RECC COMMAND »INT IS ESPECIALLY USEFUL IN THE EDITOR. THIS COMMAND TELLS THE EDITOR TO STOP THE PRINTING CAUSED BY A COMMAND SUCH AS ALTER OR PRINT. IF YOU ACCIDENTALLY MISUSE OR MISTYPE AN ALTER OR PRINT COMMAND, INORDINATE AMOUNTS OF TELETYPE OUTPUT CAN RESULT, CAUSING EXPENSE OF BOTH MONEY AND, ON A SLOW TERMINAL, TIME. REMEMBER TO CLEAR THE BUFFER (VIA CONTROL-X; SEE ABOVE) BEFORE ISSUING A »INT COMMAND.

THE »INT COMMAND SETS A FLAG IN THE EDITOR THAT TURNS OFF THE TELETYPE OUTPUT RESULTING FROM THE CURRENTLY EXECUTING COMMAND. THE EDITOR COMMAND ITSELF WILL BE EXECUTED FULLY; ONLY THE OUTPUT WILL BE SUPPRESSED. NOTE THAT THIS MEANS THE POINTER WILL HAVE MOVED TO WHATEVER LINE THE COMMAND LED IT TO, EVEN THOUGH THIS LINE WILL PROBABLY NOT BE PRINTED. »INT CAUSES THE LINE "SWITCH SET" TO BE PRINTED ON THE TERMINAL. THE FLAG THAT »INT SETS IS CLEARED AS SOON AS THE COMMAND HAS BEEN FULLY EXECUTED.

RECORD AND FILE MARKS - "EOR" AND "EOF"

THE STRINGS "EOR" AND "EOF", BEGINNING IN COLUMN ONE, ARE INTERPRETED BY THE EDITOR AS "END-OF-RECORD" AND "END-OF-FILE", RESPECTIVELY. THE STRINGS MUST BE ENTERED AS THE ONLY CHARACTERS IN THE LINE. MOST FILES CREATED WITH THE EDITOR WILL BE JCB DECKS; THE "EOR" IS USED FREQUENTLY AND REPLACES THE 7/8/9 CARD. THE "EOF", WHICH GENERALLY HAS FEWER USES THAN THE "EOR", REPLACES THE 6/7/9 CARD. NOTE - IN ASCII FILES (SEE THE NEXT SECTION), YOU MUST ENTER THE "EOR" AND "EOF" LINES IN UPPER CASE.

IF THE FILE YOU EDIT EXISTED BEFORE YOU ENTERED THE EDITOR, THE RECORD AND FILE MARKS THAT ARE ON THE FILE WILL BE REPRESENTED BY THE LINES EOR AND EOF, RESPECTIVELY. BY DEFINITION, AN "EOF" IS ALWAYS DIRECTLY PRECEDED BY AN "EOR". IF YOU CREATE A FILE AND INSERT "EOF"S BUT NO "EOR"S, THE EDITOR ADDS AN "EOR" DIRECTLY PRECEDING EACH "EOF" WHEN YOU WRITE OR SAVE THE FILE.

THERE IS ALWAYS AN IMPLICIT "EOR" AT THE BOTTOM OF A FILE. IN ADDITION, THERE MAY BE AN EXPLICIT RECORD OR FILE MARK. IF YOU WANT TO APPEND LINES TO THE END OF YOUR FILE, YOU SHOULD FIRST CHECK TO SEE IF THE LAST LINE IS AN EXPLICIT "EOR" OR "EOF". (TO DO THIS, USE THE "B" COMMAND, WHICH PRINTS THE LAST LINE OF THE FILE.) IF SUCH A MARK

APPEARS, YOU WILL USUALLY WANT TO INSERT THE NEW LINES BEFORE THAT MARK (OTHERWISE THE NEW LINES WOULD GO IN A SEPARATE LOGICAL RECORD AT THE END). IF SUCH A MARK DOES NOT APPEAR, ANY LINES YOU ADD AT THE BOTTOM WILL GO BEFORE THE IMPLICIT "EOR".

NOTE - IF YOUR FILE WAS NOT CREATED WITH THE EDITOR (E.G., IF YOU CREATED IT WITH CARDS), AND IF THE STRING "EOR" OR "EOF" EXISTS BEGINNING IN COLUMN ONE, THE EDITOR WILL INTERPRET THAT STRING AS TEXT RATHER THAN AS A RECORD OR FILE MARK. IN OTHER WORDS, WHEN THE FILE IS WRITTEN, THE STRING WILL BE WRITTEN AS TEXT, NOT AS A RECORD OR FILE MARK.

1.2 CHARACTER SET INFORMATION

DISPLAY CODE FILES AND ASCII FILES

THE EDITOR CAN BE USED BOTH ON **DISPLAY CODE** FILES (FILES COMPOSED OF THE UPPER-CASE-ONLY STANDARD **CDC** CODE THAT MOST PRINTERS USE AND ALL COMPILERS EXPECT) AND ON **ASCII** FILES (FILES THAT MUST USE SPECIAL PRINTERS BECAUSE THEY CONTAIN BOTH UPPER AND LOWER CASE LETTERS, AND ADDITIONAL SPECIAL CHARACTERS). IN **NETED**, TO EDIT OR CREATE AN **ASCII** FILE, YOU SHOULD SPECIFY **CH=AS** ON THE CONTROL CARD, E.G.,

NETED <FILENAME> CH=AS.

NETED ASSUMES THE FILE IS DISPLAY CODE UNLESS THIS SPECIFICATION IS MADE.

IT IS NOT NORMALLY NECESSARY TO TELL **POE** WHICH CHARACTER SET AN **EXISTING** FILE USES, SINCE **POE** CAN DEDUCE THIS (WITH 99 PERCENT ACCURACY) FROM EXAMINING THE CONTENTS OF THE FILE. HOWEVER, TO CREATE AN **ASCII** FILE IN **POE**, YOU MUST SPECIFY **CH=AS** (FOR **ASCII**) ON THE **POE** CONTROL CARD. IF YOU WANT TO SPECIFY THE CHARACTER SET OF AN EXISTING FILE, JUST TO BE SAFE, YOU CAN USE **CH=DC** (FOR DISPLAY CODE) OR **CH=AS** ON THE CONTROL CARD; E.G., **POE** <FILENAME> **CH=DC**. (FILES THAT BEGIN WITH AN "EOR" FOLLOWED BY AN "EOF" DEFAULT TO DISPLAY CODE.)

IF YOU ARE EDITING OR CREATING AN **ASCII** FILE, THE **ASCII** CHARACTERS SENT BY YOUR TERMINAL UNDERGO NO CONVERSION. SOME TERMINALS MAY USE ONLY UPPER CASE; SEE THE MANUAL FOR YOUR TERMINAL. (AN **ASCII** FILE MAY BE SENT TO MICROFICHE OR THE **ASCII** PRINTER, MAY BE PRINTED AT YOUR TERMINAL FROM WITHIN THE EDITOR, OR MAY BE READ BY SOME PROGRAM OF YOUR OWN THAT EXPECTS **ASCII** INPUT. IT IS ALSO SUITABLE FOR OUTPUTTING DIRECTLY ON YOUR TERMINAL'S PAPER TAPE PUNCH.)

DISPLAY CODE CONVERSION

TELETYPES THAT ARE CONNECTED TO **RECC** WORK IN **ASCII** MODE, SO IF THE FILE YOU ARE EDITING OR CREATING IS IN DISPLAY CODE, EACH CHARACTER YOU TYPE AS INPUT IS TRANSLATED INTO ITS DISPLAY CODE EQUIVALENT. BOTH UPPER AND LOWER CASE LETTERS ARE TRANSLATED INTO MATCHING UPPER-CASE DISPLAY CODE LETTERS. NUMBERS IN **ASCII** ARE TRANSLATED INTO THE SAME NUMBERS IN DISPLAY CODE.

IN ADDITION, MANY NON-ALPHANUMERIC CHARACTERS YOU TYPE AT THE TERMINAL HAVE EXACTLY THE SAME REPRESENTATION IN DISPLAY CODE. THESE CHARACTERS ARE AS FOLLOWS -

\+ - * / ( ) $ = , . [ ] ? ° < > ; AND (BLANK).

CERTAIN DISPLAY CODE CHARACTERS, HOWEVER, ARE GRAPHICALLY REPRESENTED ON THE PRINTER DIFFERENTLY FROM HOW THEY APPEAR ON THE TERMINAL. I.E., TO INPUT THESE CHARACTERS, YOU MUST TYPE NON-MATCHING

TELETYPE CHARACTERS. FOR EXAMPLE, TO INPUT AN INEQUALITY (≠) SIGN (DISPLAY CODE 64), YOU TYPE A POUND SIGN ON THE TELETYPE. THE EDITOR WILL, HOWEVER, STILL ECHO IT AS A POUND SIGN IF YOU USE THE PRINT COMMAND TO SEE THE LINE PRINTED ON THE TELETYPE. THERE IS NO WAY TO MAKE AN ACTUAL POUND SIGN APPEAR ON THE PRINTER.

THE FOLLOWING CHART LISTS THESE SPECIAL CHARACTERS WITH THEIR EQUIVALENT TELETYPE CHARACTERS. THE FIRST TWO COLUMNS OF THE CHART REFER TO THE GRAPHIC CHARACTER ON THE PRINTER AND THE TELETYPE, RESPECTIVELY; THE THIRD COLUMN GIVES EACH GRAPHIC CHARACTER'S OCTAL REPRESENTATION, IN DISPLAY CODE, WITHIN THE 6000'S.

PRINTER CHARACTER	TELETYPE CHARACTER	DISPLAY CODE
≡ (IDENTITY)	AT SIGN	60
≠ (INEQUALITY)	POUND SIGN	64
→ (RIGHT ARROW)	LEFT ARROW OR UNDERLINE	65
∨ (INVERSE CARET)	EXCLAMATION	66
∧ (CARET)	AMPERSAND	67
↑ (UPARROW)	CARET	70
≤ (LESS OR EQUAL)	PERCENT	74
≥ (GREATER OR EQUAL)	DOUBLE QUOTE	75
¬ (NEGATION)	BACKSLASH	76

IF YOU HAPPEN TO TYPE A CHARACTER (AS INPUT) THAT CAN BE INTERPRETED NEITHER AS AN ALPHANUMERIC, NOR A MATCHING NON-ALPHANUMERIC, NOR A "SPECIAL" TELETYPE CHARACTER AS SHOWN IN THE ABOVE CHART, THE EDITOR CHANGES THE CHARACTER TO AN "AT" SIGN, WHICH WILL APPEAR IF YOU PRINT THE LINE OUT ON YOUR TERMINAL. THIS INCLUDES MOST "CONTROL" CHARACTERS - CHARACTERS GENERATED BY DEPRESSING THE "CONTROL" (OR "CTRL") KEY AND SIMULTANEOUSLY STRIKING ANOTHER KEY.

SEMICOLON, BACKSLASH, AND "AT" SIGN

THE TELETYPE CHARACTERS SEMICOLON, BACKSLASH, AND THE "AT" SIGN NORMALLY HAVE A SPECIAL FUNCTION WHEN THEY ARE OUTPUT FROM A 6000 PROGRAM (SUCH AS COPY) TO A TELETYPE. THE SEMICOLON GENERATES A LINE FEED, THE BACKSLASH GENERATES A CARRIAGE RETURN, AND THE "AT" SIGN CAUSES A BELL RING.

THE EDITOR, HOWEVER, WILL PRINT THESE 3 CHARACTERS AT THE TERMINAL AS NORMAL GRAPHIC CHARACTERS. THUS IF YOU ARE IN THE EDITOR AND YOU ISSUE A PRINT COMMAND OF LINES CONTAINING THOSE SYMBOLS, THE CHARACTERS APPEAR AS CHARACTERS AND DO NOT CAUSE ANY SPECIAL FUNCTIONS. THESE CHARACTERS STILL HAVE THEIR SPECIAL EFFECTS WHEN SENT TO YOUR TERMINAL BY ANY PROGRAM OTHER THAN THE EDITOR.

TRAILING BLANKS

IN GENERAL, TRAILING BLANKS (BLANKS AT THE END OF A COMMAND OR LINE OF TEXT) ARE NOT SIGNIFICANT IN THE EDITOR. IN MAKING THE WORKING COPY THAT YOU ACTUALLY EDIT, THE EDITOR AUTCMATICALLY REMCVES TRAILING BLANKS FRCM THE ORIGINAL FILE. THESE BLANKS ARE ALSO REMCVED FROM THE ENDS OF BOTH THE INPUT LINES AND THE COMMANDS THAT YOU ENTER. (IN THE INTERNALS OF THE EDITOR, LINES MUST CONSIST CF AN EVEN NUMBER OF CHARACTERS, SO ONE TRAILING BLANK WILL BE INSERTED IN LINES HAVING AN ODD NUMBER OF CHARACTERS.)

IF YOU ARE EDITING A FILE AND DOING CONTEXT SEARCHING, HOWEVER (SEARCHING FOR A PARTICULAR STRING), FOR THE FURPCSE OF MATCHING THE STRING THE EDITOR PRETENDS THERE IS AN INFINITE NUMBER CF BLANKS AT THE END OF A LINE OF TEXT. SEE "BLANKS IN CONTEXT SEARCHING" IN THE SECTION "COMMAND SYNTAX" BELOW.

2.1 COMMAND SYNTAX

THIS SECTION DESCRIBES THE BASIC COMMAND SYNTAX OF POE AND NETED. THE COMMANDS ARE DISCUSSED INDIVIDUALLY IN THE FOLLOWING SECTIONS; LINE SPECIFICATIONS IN POE ARE DISCUSSED IN DETAIL IN A LATER SECTION.

A REMINDER - POE AND NETED ARE LINE EDITORS. ALL COMMANDS REFER TO LINES RATHER THAN WORDS, CHARACTERS, OR PARTS OF LINES.

POE COMMAND SYNTAX

ALL POE EDIT MODE COMMANDS TAKE THE FOLLOWING GENERAL FORM, BEGINNING IN COLUMN ONE OF A LINE -

<LINE SPECIFICATIONS><COMMAND><SUFFIXES><ARGUMENT>

<LINE SPECIFICATIONS>

(OPTIONAL) REPRESENTS THE LINE OR LINES TO WHICH THE COMMAND WILL APPLY. UP TO 3 SUCH SPECIFICATIONS MAY BE USED, DEPENDING ON THE COMMAND. YOU CAN USE ACTUAL LINE NUMBERS TO SPECIFY LINES; YOU CAN REFERENCE LINES USING CERTAIN PRE-DEFINED CHARACTERS; OR YOU CAN USE TEXT STRINGS, BOUNDED BY SLASHES OR QUESTION MARKS, TO REFERENCE THE LINES CONTAINING THOSE STRINGS. BLANKS (OR ANY OTHER PUNCTUATION) ARE NOT ALLOWED BETWEEN LINE SPECIFICATIONS AND THE COMMAND. E.G., IN THE LINE "1,10D", "1" AND "10" ARE LINE SPECIFICATIONS, AND THE "D" COMMAND IMMEDIATELY FOLLOWS THEM. REFER TO THE SECTION "LINE SPECIFICATIONS - POE ONLY" BELOW FOR A FURTHER DESCRIPTION.

<COMMAND>

TELLS THE EDITOR TO PERFORM A CERTAIN OPERATION. IT IS USUALLY AN ALPHABETIC CHARACTER OR WORD. IN THE EXAMPLE "1,10D", THE LETTER "D" IS THE COMMAND, TELLING THE EDITOR TO DELETE THAT RANGE OF LINES. (HOWEVER, A COMMAND GARNISHED WITH LINE SPECIFICATIONS, SUFFIXES, AND/OR ARGUMENTS IS AS A WHOLE ALSO REFERRED TO AS A COMMAND.)

<SUFFIXES>

(OPTIONAL) ARE SINGLE-LETTER PARAMETERS THAT MODIFY THE COMMAND. THEY ARE ATTACHED TO THE COMMAND WITH NO SEPARATING BLANKS, BEFORE THE ARGUMENT, IF ANY IS GIVEN. SEVERAL SUFFIXES MAY BE USED ON A COMMAND. AN EXAMPLE USING 2 SUFFIXES WITH THE "P" COMMAND IS "PAN", WHICH MEANS PRINT (P) ALL LINES (A) IN THE FILE, WITH LINE NUMBERS (N) DISPLAYED. THE ORDER OF MULTIPLE SUFFIXES IS UNIMPORTANT (BUT "PAN", FOR EXAMPLE, IS EASY TO REMEMBER AND IS VERY USEFUL).

SINCE SOME SUFFIXES HAVE DIFFERENT MEANINGS WITH DIFFERENT COMMANDS, THEY ARE DISCUSSED IN DETAIL IN THE INDIVIDUAL COMMAND DESCRIPTION.

<ARGUMENT>

(OPTIONAL) CAN BE THOUGHT OF AS INPUT TO THE COMMAND, E.G., THE NUMBER 23 IN THE COMMAND "P23" (PRINT 23 LINES), OR THE STRING "KARAMAZOV" IN THE COMMAND "L KARAMAZOV" (LOCATE THAT STRING). THE ARGUMENTS ACCEPTED BY EACH COMMAND ARE DISCUSSED IN THE INDIVIDUAL COMMAND DESCRIPTION.

THE A (ALTER) AND C (CHANGE) COMMANDS, WHICH TAKE TWO TEXT STRINGS AS ARGUMENTS, REQUIRE DELIMITERS TO SEPARATE THE 2 ARGUMENTS WITHIN A SINGLE COMMAND FROM EACH OTHER. FOR EXAMPLE, IN THE COMMAND

A/ADULT/A DOLT/

(TURN "ADULT" INTO "A DOLT" ON THE CURRENT LINE), THE CHARACTER "/" IS USED AS A DELIMITER BETWEEN THE FIRST AND THE SECOND ARGUMENT.

IN COMMANDS THAT TAKE ONE TEXT STRING AS AN ARGUMENT (L, F, ETC.), A NON-BLANK DELIMITER IS REQUIRED IF TRAILING BLANKS ARE PART OF THE ARGUMENT. SEE THE "BLANKS IN COMMANDS" SECTION BELOW.

IF AN ARGUMENT REQUIRES A DELIMITER, IT IS ASSUMED TO BE THE CHARACTER THAT DIRECTLY FOLLOWS THE COMMAND OR THE COMMAND'S SUFFIX(ES). ANY SINGLE NON-ALPHABETIC CHARACTER CAN BE USED AS A DELIMITER AS LONG AS IT DOES NOT APPEAR AS A CHARACTER WITHIN THE STRING. FOR ALL COMMANDS EXCEPT THE C COMMAND (Q.V.), A BLANK IS AN ACCEPTABLE DELIMITER IF THE ARGUMENT(S) DO(ES) NOT CONTAIN BLANKS. IF A BLANK CANNOT BE USED (I.E., IF A BLANK IS PART OF THE STRING ARGUMENT), IT IS ADVISABLE TO USE AN EASILY RECOGNIZABLE PUNCTUATION CHARACTER SUCH AS THE SLASH (/) OR THE PERIOD (.) AS A DELIMITER. THE FINAL DELIMITER CAN ALWAYS BE LEFT OFF UNLESS TRAILING BLANKS ARE PART OF THE FINAL STRING.

FOR ALL COMMANDS THAT TAKE INTEGERS AS ARGUMENTS (E.G., THE P COMMAND - P10), THERE IS NO SIZE LIMIT ON THE INTEGER. IF YOU GIVE AN INTEGER TO REPRESENT A NUMBER OF LINES ON WHICH THE COMMAND IS TO ACT (E.G., "P1000"), AND THIS INTEGER IS LARGER THAN THE NUMBER OF LINES IN THE FILE OR THE NUMBER OF LINES REMAINING BETWEEN <CURRENT> AND <BOF>, THE COMMAND SIMPLY STOPS EXECUTING WHEN IT RUNS OUT OF LINES. IF THE INTEGER IS OMITTED ON THESE COMMANDS, THE DEFAULT IS THE NUMBER 1 (E.G., THE COMMAND D ALONE MEANS DELETE 1 LINE - THE CURRENT LINE).

NETED COMMAND SYNTAX

NETED'S COMMAND SYNTAX IS MORE LIMITED AND RIGID THAN THAT OF POE. NETED COMMANDS CANNOT BE PRECEDED BY ANY FORM OF LINE SPECIFICATION, AND ALL COMMANDS THAT HAVE ARGUMENTS MUST HAVE A BLANK BETWEEN THE COMMAND AND THE ARGUMENT. IN THE DETAILED COMMAND DESCRIPTIONS BELOW, NETED USERS SHOULD IGNORE ALL REFERENCES TO LINE SPECIFICATIONS AND SUFFIXES, SINCE THESE CANNOT BE USED IN NETED.

NETED'S COMMAND FORMAT IS SIMPLY -

<COMMAND>(BLANK)<ARGUMENT>

THE "C" (CHANGE) COMMAND IS THE ONLY COMMAND IN NETED THAT CAN TAKE A LINE COUNT AND/OR SUFFIX. THESE MUST BOTH BE GIVEN AFTER THE COMMAND AND ARGUMENT. THE SYNTAX OF THE C COMMAND IS TREATED INDIVIDUALLY UNDER THE COMMAND'S DETAILED DESCRIPTION.

NETED'S COMMAND FORMAT CAN, OF COURSE, BE EMPLOYED IN POE, BUT IT TENDS TO BE UNNECESSARILY CUMBERSOME.

BLANKS IN CONTEXT SEARCHING

SUPPOSE YOU WANT TO CHANGE A PERIOD AT THE VERY END OF A LINE TO A COMMA, AND SUPPOSE THAT A PERIOD OCCURS SEVERAL TIMES WITHIN THAT LINE. IF YOU JUST TOLD THE EDITOR TO CHANGE PERIOD TO COMMA, IT WOULD CHANGE THE FIRST OCCURRENCE OF THE PERIOD. IN ORDER TO DISTINGUISH THE FINAL OCCURRENCE FROM THE OTHER OCCURRENCES, YOU CAN USE TRAILING BLANKS IN THE COMMAND AS CHARACTERS AT THE END OF THE LINE, E.G. -

A/. /,/

THIS LITERALLY MEANS "FIND A PERIOD WITH 15 BLANKS AFTER IT AND CHANGE IT TO A COMMA". IF 15 CONSECUTIVE BLANKS ARE NOT FOUND AFTER A PERIOD ANYWHERE WITHIN THE LINE, THE EDITOR LOOKS TO SEE IF THE LAST CHARACTER IN THE LINE IS A PERIOD, AND IF IT IS, IT CHANGES IT TO A COMMA. THIS IS BECAUSE THE EDITOR PRETENDS FOR THE PURPOSE OF PATTERN MATCHING THAT THERE ARE AN INFINITE NUMBER OF BLANKS AT THE END OF EACH LINE. TO ADD A STRING AT THE END OF A LINE, YOU CAN CHANGE A SERIES OF BLANKS TO WHATEVER YOU WANTED TO ADD.

THESE USEFUL FEATURES CAN ALSO BE APPLIED TO THE L, F, AND C COMMANDS (Q.V.). (NOTE - BLANKS CAN ALSO BE USED IN CONTEXT SEARCHING WHEN "L" AND "F" ARE USED AS SUFFIXES TO THE A AND D COMMANDS [Q.V.].)

LINE NUMBERS - POE ONLY

IT CAN BE VERY HANDY IN POE TO USE LINE NUMBERS FOR MAKING CHANGES, DELETIONS, AND INSERTIONS AND FOR MOVING BLOCKS OF LINES. IT IS NOT POSSIBLE TO USE LINE NUMBERS IN NETED. LINE NUMBERS IN POE ARE TRANSIENT, I.E., THE FIRST LINE IN A FILE IS ALWAYS NUMBERED 1 (<TOF> IS LINE 0), AND IF THIS LINE IS DELETED, THEN WHAT WAS FORMERLY LINE 2 BECOMES LINE 1, AND SO ON THROUGH THE ENTIRE FILE, WHEN THE COMMAND FINISHES EXECUTING. LINES ARE AT ALL TIMES NUMBERED WITH SEQUENTIAL INTEGERS (THERE ARE NO FRACTIONAL LINE NUMBERS).

THE SUFFIX N CAN BE USED AFTER SOME POE COMMANDS TO CAUSE THE OUTPUT LINES THAT RESULT FROM THE COMMAND TO BE PRINTED WITH CORRESPONDING LINE NUMBERS TO THEIR LEFT. IF YOU WANT TO HAVE LINE NUMBERS AUTOMATICALLY PRINTED BESIDE EACH LINE, YOU CAN SET THIS AS THE DEFAULT BY TYPING THE COMMAND

SET NUMBERS

WHICH MAY BE ABBREVIATED TO "SET N" OR "SE N" (SEE "THE SET/SHOW COMMANDS - POE ONLY" BELOW). YOU MAY FIND IT EASIEST TO HANDLE LARGE FILES WITH LINE NUMBERS SET.

THERE IS NO PROMPT AFTER ISSUING THE SET N COMMAND (UNLESS THE PROMPT TOGGLE HAS BEEN SET). TO TURN OFF THE PRINTING OF LINE NUMBERS, TYPE

SET -N

THE DEFAULT IS LINE NUMBERS NOT PRINTED.

POE USERS SHOULD BE AWARE THAT LINE NUMBERS ARE ONLY ONE OF THE THREE TYPES OF LINE SPECIFICATIONS THAT CAN BE USED WITH POE COMMANDS. REFER TO THE SECTION "LINE SPECIFICATIONS - POE ONLY" FOR FURTHER DETAILS.

COMMAND DESCRIPTIONS IN THIS WRITEUP

THE NEXT 4 SECTIONS DESCRIBE ALL THE EDITOR COMMANDS IN DETAIL. THE FIRST SECTION, "COMMANDS THAT MOVE THE POINTER", DESCRIBES ALL THE COMMANDS WHOSE MAIN FUNCTION IS TO MOVE THE POINTER; THIS INCLUDES PRINTING LINES AND FINDING STRINGS. THE SECOND SECTION, "COMMANDS THAT CHANGE CONTENTS OF FILE", DESCRIBES THE COMMANDS THAT ARE USED TO CHANGE, REPLACE, DELETE AND INSERT LINES, MOVE LINES, AND MERGE OTHER FILES INTO THE FILE YOU ARE EDITING. THE THIRD SECTION DESCRIBES THE COMMANDS FOR SAVING YOUR WORK AND FOR QUITTING THE EDITOR: IT IS APTLY CALLED "SAVING AND STOPPING". FINALLY, THE FOURTH SECTION DESCRIBES "SPECIAL COMMANDS", INCLUDING HELP COMMANDS, MISCELLANEOUS TOGGLE SWITCHES, COMMANDS TO CHANGE DEFAULTS, AND SOME VERY NIFTY POE-ONLY COMMANDS.

ALL COMMANDS ARE LABELLED POE ONLY WHEN THEY WORK ONLY IN POE. FOR COMMANDS THAT WORK IN BOTH EDITORS, THE POE VERSION IS DESCRIBED IN DETAIL FIRST. THEN FOLLOWS A PARAGRAPH ON HOW TO USE LINE SPECIFICATIONS WITH THAT COMMAND, AND A PARAGRAPH ON SUFFIXES THAT CAN BE USED WITH THE COMMAND AND EXAMPLES OF APPROPRIATE SUFFIXES. NETED USERS PLEASE NOTE - THE PARAGRAPHS ABOUT LINE SPECIFICATIONS AND SUFFIXES DO NOT APPLY TO NETED.

FINALLY, AT THE END OF EACH COMMAND DESCRIPTION, THE COMMAND'S RESTRICTIONS WHEN USED IN NETED, IF ANY, ARE DESCRIBED.

2.2 COMMANDS THAT MOVE THE POINTER

THE P (PRINT) COMMAND

THE COMMAND P WITH NO PARAMETERS PRINTS THE CURRENT LINE. THE COMMAND PX PRINTS X LINES BEGINNING WITH THE CURRENT LINE. E.G.,

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P15
```

PRINTS <CURRENT> AND THE 14 LINES FOLLOWING <CURRENT>. THE POINTER IS NOW AT THE LAST LINE PRINTED. IF THE BOTTOM OF THE FILE IS REACHED BEFORE THE GIVEN COUNT OF LINES HAS BEEN EXHAUSTED, THE POINTER WILL REST AT <BOF> AND THE EDITOR WILL AWAIT FURTHER INSTRUCTION.

NOTE - IN POE ONLY, IT IS POSSIBLE TO PRINT LINES AT THE TERMINAL WITHOUT EXPLICITLY USING THE P COMMAND. THIS IS DONE BY USING LINE SPECIFICATIONS, WHICH EMPLOY THE P COMMAND BY DEFAULT IF NO COMMAND IS SPECIFIED. SEE "THE <NIL> COMMAND - POE ONLY" FOR FURTHER DETAILS.

LINE SPECIFICATIONS - MAY TAKE 1 OR 2 LINE SPECIFICATIONS. E.G., THE COMMAND "T,/EOR/P" MEANS TO PRINT THE LINES BETWEEN AND INCLUDING T, <TOF>, AND THE FIRST LINE CONTAINING THE STRING "EOR". SEE "LINE SPECIFICATIONS AND THE P COMMAND" IN THE SECTION FOLLOWING COMMAND DESCRIPTIONS.

SUFFIXES - A, N, OR BOTH.

```
PA    PRINT ALL LINES IN THE FILE.
PAN   PRINT ALL LINES IN THE FILE, WITH CORRESPONDING LINE NUMBERS AT
      THEIR LEFT.
PN    PRINT SPECIFIED LINE(S) WITH LINE NUMBER(S).
```

IN NETED, A SPACE MUST BE INCLUDED BETWEEN THE P AND THE NUMBER SPECIFIED; E.G., YOU MUST SAY "P 10" INSTEAD OF "P10". POE ALSO ACCEPTS THIS SYNTAX, OF COURSE.

THE L (LOCATE) COMMAND

THE L COMMAND MOVES THE POINTER TO THE NEXT LINE AFTER <CURRENT> THAT CONTAINS THE CHARACTER STRING YOU SPECIFY, AND PRINTS THE LINE. THE COMMAND MUST BE FOLLOWED BY A SEPARATOR (A BLANK IS ACCEPTABLE EVEN IF THERE ARE BLANKS WITHIN THE STRING); IN POE A NON-BLANK SEPARATOR IS ALLOWED (THIS IS PARTICULARLY USEFUL FOR LOCATING A STRING WITH TRAILING BLANKS OR WITH BLANKS AT THE END OF A LINE - SEE BELOW). THE COMMAND

```
L CRAZY SALAD
```

SEARCHES DOWNWARD THROUGH THE FILE, STARTING AT THE LINE AFTER <CURRENT>, FOR THE STRING "CRAZY SALAD". IF THE STRING IS NOT FOUND,

THE POINTER IS MOVED TO THE TOP OF THE FILE, AND THE EDITOR ECHOES «TOF» TO SIGNIFY THAT THE STRING WAS NOT FOUND BETWEEN WHAT WAS <CURRENT> AND THE END OF THE FILE.

IF THE STRING "CRAZY SALAD" WAS ABOVE THE CURRENT POSITION OF THE POINTER WHEN YOU EXECUTED THE COMMAND, YOU SHOULD EXECUTE THE COMMAND AGAIN AT THIS POINT (FROM <TOF>) TO CONTINUE THE SEARCH. (TO REPEAT THE MOST RECENT COMMAND YOU TYPED, YOU CAN USE POE'S "O" (OVER) COMMAND (Q.V.). THIS IS VERY HANDY IN THE ABOVE SITUATION.)

IF YOU KNOW THAT THE STRING "CRAZY SALAD" IS BEFORE <CURRENT>, YOU CAN USE THE "U" SUFFIX IN POE TO EXECUTE THE COMMAND UPWARDS THROUGH THE FILE. (THIS WOULD BE "LU CRAZY SALAD".)

LEADING AND INTERNAL BLANKS MAY BE A PART OF THE STRING YOU ARE SEARCHING FOR; THESE BLANKS WILL BE INTERPRETED AS CHARACTERS. THUS THE COMMAND

```
L ANYTHING
```

WOULD NOT LOCATE THE PHRASE "ANY THING". SIMILARLY, THE COMMAND

```
L OUR GLASS LAKE
```

WOULD NOT LOCATE THE STRING "HOURGLASS LAKE" (HOWEVER, THE COMMAND "L OURGLASS LAKE" WOULD LOCATE THAT STRING).

IF NO ARGUMENT TO THIS COMMAND IS GIVEN, THE "L" COMMAND ACTS AS THE "N" COMMAND - I.E., IT ADVANCES THE POINTER TO THE NEXT LINE AND PRINTS IT.

(NOTE - SINCE THE "L" COMMAND DOES NOT WRAP AROUND, POE USERS MAY FIND IT MORE EXPEDIENT TO SKIP THE "L" COMMAND ALTOGETHER AND DO CONTEXT SEARCHING INSTEAD, WHICH DOES WRAP AROUND. THIS IS COVERED IN THE SECTION "LINE SPECIFICATIONS - POE ONLY". SEE "CONTEXTS AS LINE SPECIFICATIONS" IN THAT SECTION.)

LINE SPECIFICATIONS - MAY TAKE 1 OR 2 LINE SPECIFICATIONS. SINCE THE SEARCH DOES NOT WRAP AROUND TO FIND THE STRING IF IT ISN'T BETWEEN <CURRENT> AND <BOF>, THE "T" («TOF») SPECIFICATION IS ESPECIALLY USEFUL AS A PREFIX. THIS TELLS POE TO GO TO <TOF> BEFORE BEGINNING THE SEARCH FOR «STRING». E.G., THE COMMAND "TL FORMAT" SAYS TO START AT <TOF> AND LOCATE THE FIRST OCCURRENCE OF "FORMAT".

IF 2 LINE SPECIFICATIONS ARE GIVEN, THE SEARCH APPLIES ONLY WITHIN THE SPECIFIED RANGE OF LINES; IF THE STRING IS NOT FOUND THERE, THE SEARCH QUITS AT THE LAST LINE IN THE RANGE AND THE POINTER IS MOVED TO THE <TOF>.

SUFFIXES - A, N, AND U, AND VARIOUS COMBINATIONS THEREOF. SUFFIXES A AND U SHOULD NOT BE USED TOGETHER, SINCE SUFFIX A IMPLICITLY STARTS THE COMMAND AT <TOF> AND THERE IS NOTHING TO SEARCH UPWARDS FOR FROM THERE.

LA PARTICULARLY USEFUL. E.G., "LA PEACOCK" - LOCATE ALL LINES THAT CONTAIN THE STRING "PEACOCK". IF NO LINE SPECIFICATIONS ARE GIVEN, THE SEARCH WILL BEGIN AT <TOF> AND APPLY THROUGHOUT THE

FILE, NO MATTER WHERE THE POINTER IS LOCATED WHEN THE COMMAND IS ISSUED. THUS YOU SHOULD NOT PRECEDE AN "LA" COMMAND WITH 1 LINE SPECIFICATION. 2 LINE SPECIFICATIONS MEAN TO RESTRICT THE SEARCH TO THE RANGE OF LINES SPECIFIED, AND PRINT ALL LINES WITHIN THAT RANGE THAT CONTAIN THE STRING YOU GIVE. IF THE RANGE CONTAINED AT LEAST ONE OCCURRENCE OF THE STRING, THE POINTER IS NOW AT THE LAST LINE IN THE RANGE, EVEN IF THAT LINE DID NOT CONTAIN THE STRING. "LAN" - SAME AS "LA", BUT PRINTS ALL LINES FOUND WITH LINE NUMBERS.

LU LOCATE GIVEN STRING SEARCHING UPWARDS THROUGH FILE, STARTING AT THE LINE ABOVE <CURRENT>. "LUN" - SAME AS "LU", BUT PRINTS LINES WITH LINE NUMBERS. 1 LINE SPECIFICATION MAXIMUM WITH "LU" OR "LUN".

AN EXAMPLE THAT USES BOTH LINE SPECIFICATIONS AND SUFFIXES IS "BLU FORMAT". THIS SAYS, GO TO THE <BOF> (B) AND LOCATE (L), SEARCHING UPWARDS (U), THE FIRST OCCURRENCE OF "FORMAT".

IN NETED, BLANKS CAN BE CHARACTERS WITHIN THE STRING OR AT THE BEGINNING OF THE STRING, BUT, SINCE A NON-BLANK DELIMITER IS NOT ALLOWED, TRAILING BLANKS CANNOT BE SEARCHED FOR. E.G., THE COMMAND

L/NEVERMORE. /

IS NOT A VALID NETED COMMAND, SINCE A NON-BLANK DELIMITER IS USED. (IN POE, THIS COMMAND WOULD FIND THE STRING "NEVERMORE." ON THE END OF A LINE. THE NON-BLANK DELIMITER IS VALID, AND OFTEN QUITE USEFUL, IN POE.)

THE F (FIND IN COLUMN ONE) COMMAND

THE F COMMAND, WHICH TAKES THE FORM "F <STRING>", IS THE SAME AS THE L COMMAND EXCEPT THAT IT ANCHORS THE SEARCH TO THE BEGINNING OF LINES. I.E., IT MOVES THE POINTER TO THE NEXT LINE THAT BEGINS WITH <STRING>. THIS IS HANDY FOR LOCATING EQR"S, COMMENT LINES, ETC. IN A PROGRAM, SINCE THESE LINES BEGIN IN COLUMN ONE. FOR EXAMPLE, THE COMMAND "F C" FINDS THE NEXT "COMMENT" LINE AFTER <CURRENT> IN A FORTRAN PROGRAM. OR, IF YOU ARE EDITING A FILE OF INPUT TO THE TEXT FORMATTER BARB, YOU CAN USE THE F COMMAND TO FIND A SPECIFIC BARB DIRECTIVE - E.G., "F H" WOULD FIND THE NEXT HEADING (H CARD) AFTER <CURRENT>.

THE F COMMAND IS PREFERABLE TO THE L COMMAND WHEN YOU KNOW THAT WHAT YOU ARE LOOKING FOR BEGINS IN COLUMN 1. IF IT BEGINS IN COLUMN 2 AND COLUMN 1 IS BLANK, YOU CAN STILL USE THE F COMMAND, BUT WITH 2 RATHER THAN 1 BLANK FOLLOWING THE COMMAND. E.G., "F MARMALADE" (WITH TWO BLANKS) FINDS THE FIRST OCCURRENCE OF "MARMALADE" AFTER <CURRENT> THAT BEGINS IN COLUMN 2. THE STRING WOULD NOT BE FOUND IF IT BEGAN IN ANY OTHER COLUMN OR HAD ANY CHARACTER OTHER THAN A BLANK PRECEDING IT. YOU CAN USE AS MANY OF THESE LEADING BLANKS AS YOU LIKE, BUT OF COURSE, THE MORE YOU USE, THE LESS CONVENIENT IT BECOMES TO USE THE F COMMAND.

A NON-BLANK DELIMITER CAN BE USED IN POE ONLY; THIS IS VERY HANDY IF YOU ARE LOOKING FOR A LINE THAT BEGINS WITH A LOT OF BLANKS, E.G., A BLANK LINE. THE COMMAND

F/ /

FINDS THE FIRST LINE AFTER <CURRENT> WITH BLANKS IN COLUMNS 1-15 (NON-BLANK LINES USUALLY DO NOT BEGIN WITH AS MANY AS 15 BLANKS, THOUGH THE NUMBER 15 IS SOMEWHAT ARBITRARY HERE). IT IS IMPRACTICAL TO TRY TO LOCATE BLANK LINES USING THE L COMMAND, WHICH IN THE ABOVE EXAMPLE WOULD SIMPLY LOCATE THE NEXT LINE, SINCE THERE IS AN INFINITE NUMBER OF TRAILING BLANKS AT THE END OF EACH LINE.

LINE SPECIFICATIONS - MAY TAKE 1 OR 2 LINE SPECIFICATIONS. AS ALWAYS, 1 LINE SPECIFICATION TELLS POE TO MOVE THE POINTER TO THAT LINE BEFORE EXECUTING THE COMMAND. E.G., THE COMMAND "TF EOR" SAYS GO TO <TOF> AND FIND THE FIRST "EOR" THAT STARTS IN COLUMN 1. AS WITH THE L COMMAND, 2 LINE SPECIFICATIONS RESTRICT THE SEARCH TO THE GIVEN RANGE OF LINES, AND IF THE STRING IS NOT FOUND, THE SEARCH QUITS AT THE LAST LINE IN THE RANGE (OR ECHOES <TOF>, IF THE "A" SUFFIX IS USED IN ADDITION).

SUFFIXES - A, N, AND U, AND VARIOUS COMBINATIONS THEREOF. EXACTLY THE SAME AS FOR THE L COMMAND (Q.V.).

IN NETED, NON-BLANK DELIMITERS ARE NOT ALLOWED.

THE T (TOP) COMMAND

THE T COMMAND MOVES THE POINTER TO THE TOP OF THE FILE (<TOF> MARK), I.E., THE PSEUDO-LINE THAT EXISTS BEFORE LINE 1. IF YOU TYPE "T", THE EDITOR RESPONDS "<TOF>". WHEN YOU ENTER THE EDITOR IN EDIT MODE, THE POINTER IS AUTOMATICALLY POSITIONED AT THE TOF OF THE FILE.

THE T COMMAND WORKS IN BOTH EDITORS, BUT IT IS NOT NECESSARY AS A POE COMMAND, SINCE T CAN BE USED IN POE AS A LINE SPECIFICATION TO ANOTHER COMMAND. IT IS DESCRIBED AS A POE COMMAND SOLELY FOR THE SAKE OF COMPATIBILITY WITH NETED; ONLY A POETASTER WOULD USE IT AS AN ACTUAL COMMAND IN POE.

FOR EXAMPLE, TO PRINT THE FIRST 10 LINES OF THE FILE, YOU CAN SIMPLY SAY "TP10", USING T AS A LINE SPECIFICATION RATHER THAN ISSUING IT AS A SEPARATE COMMAND BEFORE THE PRINT COMMAND. SEE THE SECTION "LINE SPECIFICATIONS - POE ONLY" FOR MORE DETAILS.

LINE SPECIFICATIONS - NONE

SUFFIXES - NONE

NETED'S RESPONSE TO THIS COMMAND IS <TOP OF FILE>; POE'S IS <TOF>.

THE B (BOTTOM) COMMAND

THE B COMMAND MOVES THE POINTER TO THE LAST LINE IN THE FILE (I.E., THE LINE BEFORE PSEUDO-LINE «BOF»). IN MANY CASES THIS LINE WILL BE AN EOR OR AN EOF (END-OF-RECORD AND END-OF-FILE, RESPECTIVELY). SEE UNDER THE HEADING "RECORD AND FILE MARKS - EOR AND EOF" IN THE INTRODUCTORY SECTION OF THIS WRITEUP FOR MORE INFORMATION ON THESE MARKS.

AS WITH THE T COMMAND, THE B COMMAND WORKS IN BOTH EDITORS BUT IS UNNECESSARY AS A SEPARATE COMMAND IN POE, SINCE IT CAN BE USED AS A LINE SPECIFICATION IN POE FOR ANOTHER COMMAND. FOR EXAMPLE, SUPPOSE YOU WANT TO ADD LINES TO THE END OF YOUR FILE, BUT THE LAST LINE IS AN EOR. AS EXPLAINED IN THE INTRODUCTION, YOU WILL PROBABLY WANT TO INSERT YOUR ADDITIONS BEFORE THIS MARK. TO GO INTO INPUT MODE BEFORE THE LAST LINE, IN NETED YOU WOULD SAY -

```
B
N -1
.
```

TO ACCOMPLISH THESE 3 NETED COMMANDS WITH ONE POE COMMAND, YOU COULD SIMPLY TYPE "B-1.", WHICH SAYS, GO TO THE LINE BEFORE THE LAST LINE OF THE FILE AND GO INTO INPUT MODE. THUS "B-1" IS USED AS A PREFIX TO THE COMMAND ".", WHICH PUTS YOU IN INPUT MODE. IT IS UNNECESSARY TO ISSUE B AS A SEPARATE COMMAND. SEE THE SECTIONS "LINE SPECIFICATIONS - POE ONLY" AND "SUCCESSIVE LINE SPECIFICATIONS", BELOW, FOR FURTHER EXPLANATION.

LINE SPECIFICATIONS - NONE

SUFFIXES - NONE

THE N (NEXT) COMMAND

THE N COMMAND IS A REMNANT OF THE NETED-ONLY DAYS AT BKY. IT MOVES THE POINTER TO THE NEXT LINE IN THE FILE, WHICH THEN BECOMES «CURRENT», AND PRINTS IT. IF FOLLOWED BY A NUMERIC PARAMETER, THE N COMMAND MOVES THE POINTER THAT MANY LINES DOWN FROM «CURRENT». THUS "N16" MOVES THE POINTER 16 LINES DOWN FROM «CURRENT». IF A NEGATIVE PARAMETER IS GIVEN (E.G., "N-10"), THE POINTER IS MOVED UP THAT MANY LINES.

IF YOU SPECIFY AN INTEGER GREATER THAN THE NUMBER OF LINES REMAINING AFTER «CURRENT» IN THE FILE, THE EDITOR ECHOES «BOF», AND THE POINTER RESTS AT THAT PSEUDO-LINE. SIMILARLY, IF YOU SPECIFY A NEGATIVE PARAMETER AND REACH THE TOP OF THE FILE BEFORE REACHING THE SPECIFIED DECREMENT, THE EDITOR ECHOES «TOF» AND THE POINTER RESTS THERE.

NOW THAT YOU HAVE ALL THAT INFORMATION, IF YOU ARE A POE USER, YOU WILL NOT NEED TO USE N AS A COMMAND AT ALL, SINCE "N" CAN BE USED AS A SYMBOLIC LINE SPECIFICATION TO PRECEDE ANOTHER COMMAND. E.G.,

"N10P23" SAYS TO MOVE THE POINTER DOWN 10 LINES AND PRINT 23 LINES STARTING AT THAT POINT. N10 IS USED HERE TO PRECEDE THE P COMMAND. THERE IS NO NEED IN POE TO MOVE THE POINTER A CERTAIN NUMBER OF LINES ABOVE OR BELOW <CURRENT> EXCEPT FOR THE PURPOSE OF EXECUTING ANOTHER COMMAND FROM THAT POINT; THEREFORE, "N" NEED NOT BE USED AS A SEPARATE COMMAND IN POE.

NEAT TRICKS DEPARTMENT - POE ONLY

IN POE, TO GET TO THE NEXT LINE, SIMPLY PRESS THE CARRIAGE RETURN; THE "N" IS NOT NECESSARY IF YOU JUST WANT TO PRINT THE LINE THAT IMMEDIATELY FOLLOWS <CURRENT>. TO PRINT THE LINE JUST BEFORE <CURRENT>, TYPE "-"; THIS IS AN ABBREVIATION FOR "N-1". TO PRINT THE LINE 5 LINES ABOVE <CURRENT>, TYPE "-5" (THIS IS AN ABBREVIATION FOR "N-5"). SEE "THE <NIL> COMMAND - POE ONLY", AND THE SECTION ON LINE SPECIFICATIONS, FOR FURTHER INFORMATION AND MORE NEAT TRICKS.

LINE SPECIFICATIONS - ONE LINE SPECIFICATION MAY BE USED WITH THE N COMMAND, E.G., "77N15" MEANS GO TO LINE 77 AND MOVE THE POINTER AHEAD 15 LINES.

SUFFIXES - NONE

IN NETED, A SPACE MUST BE GIVEN BETWEEN THE "N" AND THE NUMERIC ARGUMENT. E.G., YOU MUST SAY "N 4" RATHER THAN "N4" TO MOVE THE POINTER AHEAD 4 LINES. ONCE THE POINTER IS MOVED, OF COURSE, YOU MAY ALTER THE LINE, INSERT OR DELETE LINES FROM THERE, ETC.

THE G (GO BACK) COMMAND - POE ONLY

THE G COMMAND MOVES THE POINTER BACK TO THE POSITION AT WHICH IT WAS LOCATED BEFORE THE LAST COMMAND WAS EXECUTED. FOR EXAMPLE, SUPPOSE LINE 25 IS <CURRENT>, AND YOU ISSUE A COMMAND THAT MOVES THE POINTER - SAY "P20". THE POINTER MOVES TO LINE 45. IF YOU NOW ISSUE A G COMMAND, LINE 25 BECOMES <CURRENT> AGAIN.

IF THE LINE AT WHICH THE POINTER PREVIOUSLY RESTED IS DELETED OR MOVED, AND YOU NOW ISSUE A G COMMAND, THE POINTER MOVES BACK TO ITS PREVIOUS LOCATION AND THE LINE THAT NOW EXISTS THERE IS <CURRENT>. IN OTHER WORDS, G GOES BACK TO A POSITION IN THE FILE, NOT NECESSARILY TO A GIVEN LINE.

LINE SPECIFICATIONS - NONE

SUFFIXES - SUFFIX "P" (I.E., THE COMMAND "GP") PRINTS THE LINE YOU HAVE GONE BACK TO; IT WILL NOT BE PRINTED OTHERWISE. SUFFIX "N" PRINTS THE LINE WITH ITS LINE NUMBER.

THE <NIL> COMMAND - POE ONLY

A BLANK OR NIL LINE FOLLOWED BY A CARRIAGE RETURN IS INTERPRETED BY POE AS THE COMMAND "NP", OR PRINT THE NEXT LINE. THIS IS BECAUSE THE PRINT COMMAND IS THE DEFAULT IN POE IF NO COMMAND IS SPECIFIED. JUST PRESS THE <CR> IF YOU WANT TO SEE THE NEXT LINE.

IF YOU GIVE A SINGLE LINE SPECIFICATION WITHOUT A COMMAND, IT MEANS TO GO TO AND PRINT THE ADDRESSED LINE. FOR EXAMPLE, THE COMMAND "14" MEANS TO PRINT LINE 14, AND THE COMMAND "/OPHELIA/" MEANS TO PRINT THE NEXT LINE AFTER <CURRENT> THAT CONTAINS THE STRING "OPHELIA".

2 LINE SPECIFICATIONS WITHOUT A COMMAND FOLLOWING THEM MEANS PRINT ALL THE LINES BETWEEN AND INCLUDING THE 2 LINES SPECIFIED. EXAMPLES - "10,20" - PRINT LINES 10-20, INCLUSIVE; "T,/EOR/" - PRINT FROM <TOF> TO THE FIRST "EOR" IN THE FILE.

2.3 COMMANDS THAT CHANGE CONTENTS OF FILE

THE A (ALTER) COMMAND - POE ONLY

THE A COMMAND CHANGES THE FIRST STRING YOU SPECIFY TO THE SECOND STRING YOU SPECIFY, AND PRINTS OUT THE NEW LINE(S). IF THE 2ND STRING IS LEFT OFF, THE STRING YOU GIVE IS DELETED FROM <CURRENT> OR FROM THE LINE(S) YOU SPECIFY. THE CHARACTER FOLLOWING THE A (OR FOLLOWING THE LAST SUFFIX GIVEN) IS THE DELIMITER; IT MUST ALSO APPEAR BETWEEN THE 1ST AND 2ND STRINGS. A CLOSING DELIMITER IS OPTIONAL, WHETHER 1 OR 2 STRINGS ARE GIVEN. THE DELIMITER MAY BE A BLANK OR ANY OTHER NON-ALPHABETIC CHARACTER THAT DOES NOT APPEAR IN EITHER STRING.

AN EXAMPLE OF THE A COMMAND IS -

```
A/QUICK BRIGHT THINGS/CONFUSION
```

WHICH CHANGES "QUICK BRIGHT THINGS" TO "CONFUSION" ON THE CURRENT LINE. IF IT DID NOT FIND THE FIRST STRING, THE MESSAGE "NOTHING ALTERED" WILL APPEAR AND THE POINTER REMAINS AT <CURRENT>. BLANKS WITHIN EITHER STRING YOU GIVE ARE SIGNIFICANT.

IF THERE ARE MULTIPLE OCCURRENCES OF STRING 1 IN A LINE, ONLY THE FIRST WILL BE CHANGED, UNLESS YOU USE THE "G" SUFFIX (SEE BELOW), WHICH SAYS TO CHANGE EVERY OCCURRENCE OF STRING 1 THROUGHOUT THE LINE.

NOTE - IF YOU USE THE A COMMAND TO GET RID OF THE CONTENTS OF AN ENTIRE LINE, E.G., "C /EOR//", THE LINE BECOMES BLANK BUT IS NOT DELETED.

LINE SPECIFICATIONS - MAY TAKE 1 OR 2 LINE SPECIFICATIONS. 1 LINE SPECIFICATION SAYS TO GO TO THE ADDRESSED LINE AND MAKE THE CHANGE. E.G.,

```
/EOF/A F R
```

SAYS TO FIND THE FIRST "EOF" AFTER <CURRENT> AND CHANGE THE "F" TO "R", THUS MAKING IT AN "EOR".

2 LINE SPECIFICATIONS SAY TO MAKE THE ALTERATION BETWEEN AND INCLUDING THE LINES SPECIFIED. E.G., SUPPOSE YOU ARE EDITING A FAMILIAR NURSERY RHYME. THE COMMAND

```
T,2A CHILD KID
```

SAYS, IN THE RANGE OF LINES BETWEEN <TOF> AND LINE 2, FIND THE LINES THAT CONTAIN THE STRING "CHILD" AND, ON THOSE LINES, CHANGE THE FIRST OCCURRENCE OF "CHILD" TO "KID". THE OUTPUT WOULD BE -

```
MONDAY"S KID IS FAIR OF FACE.
TUESDAY"S KID IS FULL OF GRACE.
```

IF YOU WANTED TO CHANGE ONLY THE 1ST OCCURRENCE OF A STRING ON EVERY LINE THROUGHOUT THE FILE, YOU WOULD SAY "T,$A/STRING1/STRING2"

(T AND B ARE LINE SPECIFICATIONS REPRESENTING <TOF> AND <BOF>, RESPECTIVELY).

SUFFIXES - THE A COMMAND CAN TAKE A NUMBER OF VERY HANDY SUFFIXES - A, G, L, LU, F, FU, N, AND V. SOME OF THESE CAN BE USED IN COMBINATION; THE FOLLOWING IS A BASIC DESCRIPTION OF EACH. A DELIMITER MUST APPEAR BETWEEN THE SUFFIX(ES) AND THE 1ST STRING GIVEN.

AA APPLY THE COMMAND TO ALL LINES IN THE FILE, GLOBALLY THROUGHOUT EACH LINE. IMPLIES SUFFIX "G" AND IMPLIES STARTING THE SEARCH AT <TOF>. THE COMMAND

AA.READMS."RITHMETICMS.

SAYS TO CHANGE ALL OCCURRENCES OF "READMS" TO ""RITHMETICMS" THROUGHOUT THE ENTIRE FILE. AFFECTED LINES ARE PRINTED OUT. IF PRECEDED BY 1 LINE SPECIFICATION, "AA" BEGINS EXECUTION AT THE LINE SPECIFIED AND ENDS AT <BOF>; IF PRECEDED BY 2 LINE SPECIFICATIONS, "AA" EXECUTES WITHIN THE RANGE SPECIFIED.

AG APPLY THE COMMAND GLOBALLY THROUGHOUT THE LINE(S) SPECIFIED, NOT ONLY TO THE FIRST OCCURRENCE. E.G., IF THE CURRENT LINE IS

I CAME, I SAW, I CONQUERED

YOU MIGHT ISSUE THE COMMAND -

AG I WE

WHICH RESULTS IN -

WE CAME, WE SAW, WE CONQUERED

WITHOUT SUFFIX "G", THE OUTPUT WOULD HAVE BEEN -

WE CAME, I SAW, I CONQUERED

NOTE THAT IF THERE HAD BEEN OTHER OCCURRENCES OF THE LETTER "I" WITHIN THE LINE, THEY WOULD ALSO HAVE BEEN CHANGED TO "WE". TO AVOID THIS, YOU COULD SAY

AG. I . WE .

WHICH ONLY CHANGES THE LETTER "I" IF IT IS SURROUNDED BY BLANKS. "AG" CAN TAKE UP TO 2 LINE SPECIFICATIONS.

AL LOCATE THE FIRST LINE AFTER <CURRENT> THAT CONTAINS STRING 1 AND CHANGE STRING 1 TO STRING 2. E.G., "AL/PROGRAM/POGROM/" CHANGES THE FIRST OCCURRENCE OF "PROGRAM" AFTER <CURRENT> TO "POGROM". (THIS IS MORE EXPEDIENT THAN USING "/PROGRAM/" AS A LINE SPECIFICATION PRECEDING AN ALTER COMMAND - FOR THAT YOU WOULD HAVE TO SAY "/PROGRAM/A.PROGRAM.POGROM.") IF YOU LEAVE OFF A SECOND STRING, E.G., IF YOU SAY "AL.PROGRAM", THE 1ST STRING IS DELETED FROM THE LINE ON WHICH IT IS FOUND (THE LINE IS NOT DELETED, ONLY THE STRING). "AL" CAN TAKE UP TO 2 LINE SPECIFICATIONS.

ALU SAME AS "AL", BUT LOOK UPWARDS FOR STRING TO CHANGE. CAN TAKE 1 LINE SPECIFICATION; 2 SHOULD NOT BE USED.

AF SAME AS "AL", BUT FIND STRING IN COLUMN 1. CAN TAKE 2 LINE SPECIFICATIONS.

AFU SAME AS "ALU", BUT LOOK UPWARDS FOR STRING IN COLUMN 1. CAN TAKE 1 LINE SPECIFICATION.

AN ALTER AND PRINT RESULTING LINE(S) WITH LINE NUMBER(S). CAN TAKE 2 LINE SPECIFICATIONS, AND CAN BE COMBINED WITH ALL OTHER

SUFFIXES IN ANY ORDER.

AV VETO MODE. CAN TAKE 2 LINE SPECIFICATIONS. EVERY POSSIBLE CHANGE IN THE RANGE SPECIFIED MUST BE APPROVED OR DISAPPROVED BY YOU. "AV" IMPLIES SUFFIX "G"; I.E., THE COMMAND APPLIES ON EACH OCCURRENCE OF THE STRING THROUGHOUT EACH LINE. CHANGES ARE EVALUATED ONE AT A TIME; YOU MUST RESPOND WITH ONE OF THE FOLLOWING -

Y	YES, MAKE THE CHANGE.
N	NO, DON"T MAKE THE CHANGE.
YG	YES FOR THIS INSTANCE AND FOR ALL THE REST TO COME IN THIS LINE.
NG	DO NOT MAKE THE CHANGE HERE OR ANYWHERE ELSE ON THIS LINE.
AB	ABANDON THE "AV" COMMAND ALTOGETHER AT THIS POINT.

THE ALTERED LINE WILL ECHO ONLY IF YOUR REPLY WAS "YG", AND PROVIDED YOU HAVE NOT SUPPRESSED THE PRINTING OF OPTIONAL RESPONSES BY ISSUING A V OR A SET -V COMMAND (Q.V.).

NEAT TRICKS DEPARTMENT -

THE A COMMAND MAY BE USED TO SAVE REPEATED TYPING OF LONG OR COMPLICATED STRINGS. E.G., SUPPOSE YOU WANT TO TYPE A SERIES OF LIBCOPY CARDS INTO YOUR FILE. RATHER THAN TYPING EACH ONE OUT, YOU CAN USE A SYMBOL THAT DOESN"T OCCUR ELSEWHERE TO REPRESENT THE PART OF THE STATEMENT THAT IS REPEATED EXACTLY. YOU THEN ISSUE AN ALTER COMMAND FOR ALL LINES IN THE FILE TO CHANGE THE SYMBOL TO THE LONG STRING. THUS, IN INPUT MODE, INSTEAD OF TYPING

```
LIBCOPY,WRITEUPS,EDITING,EDITING.
LIBCOPY,WRITEUPS,BKYNEWS,BKYNEWS.
(ETC.)
```

YOU COULD TYPE

```
*EDITING,EDITING.
*BKYNEWS,BKYNEWS.
(ETC.)
```

USING THE CHARACTER "*" WHEREVER YOU WANT "LIBCOPY,WRITEUPS,". THEN, IN EDIT MODE, ISSUE THE COMMAND

```
AA/*/LIBCOPY,WRITEUPS,/
```

AND THE LINES ARE CHANGED THROUGHOUT THE FILE.

THE C (CHANGE) COMMAND

C IS NETED"S COMMAND FOR CHANGING ONE STRING TO ANOTHER. THE C COMMAND WORKS IN POE ALSO, BUT EXISTS ONLY FOR NETED-COMPATIBILITY. POE USERS SHOULD USE THE A COMMAND, WHICH HAS THE SAME FUNCTION AS THE C COMMAND AND IS MUCH MORE VERSATILE. (C STANDS FOR CLUDGE [SIC] IN POE.) THE FOLLOWING DESCRIPTION ASSUMES THE READER USES NETED, IN

WHICH THERE IS NO WAY TO MAKE CHANGES BESIDES THE C COMMAND.

THE SYNTAX OF THE C COMMAND IS INCONSISTENT WITH THAT OF EVERY OTHER COMMAND IN EITHER EDITOR. IT CAN TAKE A LINE COUNT AFTER IT, AND CAN ALSO TAKE THE SUFFIX "G" (EXECUTE THE COMMAND GLOBALLY THROUGHOUT THE LINE). THESE PARAMETERS MUST COME AFTER THE STRINGS YOU SPECIFY. THUS THE FORMAT IS -

C /STRING1/STRING2/ X G

STRING1 IS SEARCHED FOR AND CHANGED TO STRING2 IN THE NEXT X LINES INCLUDING <CURRENT>. STRING1 MAY CONTAIN BLANKS, AND THESE ARE SIGNIFICANT. WHEN THE EDITOR SEARCHES FOR THIS STRING, ANY BLANKS WITHIN THE STRING ARE CONSIDERED CHARACTERS, AND THE EDITOR MUST FIND AN EXACT MATCH TO EXECUTE THE CHANGE. IF STRING1 IS NULL (E.G., "C //EXPANSION/"), THEN STRING2 ("EXPANSION") WILL BE INSERTED AT THE BEGINNING OF THE LINE (I.E., <NULL> IS CHANGED TO STRING2). YOU CAN INSERT BLANKS AT THE BEGINNING OF A LINE BY SAYING "C // /".

STRING2 MAY ALSO CONTAIN BLANKS; THESE ARE SIGNIFICANT TOO. IF STRING2 IS NULL, E.G., "C /PUMPKIN//", STRING1 IS SIMPLY DELETED - I.E., CHANGED TO NOTHING. IN THIS CASE, ONLY 1 TERMINAL DELIMITER IS NECESSARY. IN POE, BOTH TERMINAL DELIMITERS MAY BE LEFT OFF IN THIS CASE. NOTE - IF YOU USE THE C COMMAND TO GET RID OF THE CONTENTS OF AN ENTIRE LINE, E.G., "C /EOR//", THE LINE BECOMES BLANK BUT IS NOT DELETED.

X IS OPTIONAL, AND STANDS FOR THE NUMBER OF LINES YOU WANT THE CHANGE TO AFFECT. IF OMITTED, THE COMMAND REFERS TO <CURRENT> ONLY. IF GIVEN, MUST BE A POSITIVE INTEGER. IF "X" IS GREATER THAN THE NUMBER OF LINES BETWEEN <CURRENT> AND <BOF>, THE COMMAND EXECUTES FROM <CURRENT> TO <BOF>.

G IS OPTIONAL, AND STANDS FOR GLOBAL. MAKE THE CHANGE ON EVERY OCCURRENCE OF STRING1 IN <CURRENT> OR IN ALL "X" LINES. IF OMITTED, ONLY THE FIRST OCCURRENCE OF STRING1 IN EACH LINE IS CHANGED.

G AND THE NUMERIC PARAMETER MAY APPEAR IN EITHER ORDER; E.G. -

C /FETCHPS/KETCHUPS/ 100 G

IS THE SAME AS

C /FETCHPS/KETCHUPS/ G 100

THE NUMERIC PARAMETER AND THE "G" NEED NOT BE SEPARATED FROM EACH OTHER.

/ - DELIMITER - IN NETED, ANY NON-BLANK CHARACTER THAT DOES NOT OCCUR IN EITHER STRING MAY BE USED AS A DELIMITER; THE SLASH USED ABOVE IS JUST AN EXAMPLE. IN NETED, A BLANK MUST OCCUR BETWEEN THE "C" AND THE FIRST DELIMITER; IN POE, THIS BLANK IS UNNECESSARY. THE FINAL DELIMITER MAY BE OMITTED IF "X" AND G ARE NOT GIVEN AFTER STRING2.

ALL LINES THAT ARE CHANGED ARE PRINTED OUT, UNLESS YOU HAVE ISSUED A V COMMAND (Q.V.). AFTER THE COMMAND IS FINISHED EXECUTING, IF YOU

HAVE GIVEN A NUMERIC SPECIFICATION AFTER STRING2, THE POINTER WILL BE AT THE LAST LINE IN THE RANGE OF THAT SPECIFICATION, EVEN IF THE LAST CHANGE OCCURRED ON A LINE ABOVE THE LAST LINE IN THE RANGE. (THE LAST LINE IS NOT PRINTED UNLESS A CHANGE WAS MADE ON IT.) IF STRING1 IS NOT FOUND ON <CURRENT> (OR WITHIN THE RANGE OF LINES SPECIFIED BY "X"), THE MESSAGE "NOTHING CHANGED" WILL APPEAR.

HOW-TO-COPE-WITH-NETED DEPARTMENT -

SUPPOSE YOU WANT TO LIST ALL OCCURRENCES OF A STRING IN THE FILE. IN NETED, THE COMMAND "LA <STRING>" (LOCATE ALL OCCURRENCES OF <STRING>) IS NOT ALLOWED. YOU CAN USE THE C COMMAND TO SURMOUNT THIS SHORTCOMING BY MAKING STRING1 AND STRING2 IDENTICAL. THE EDITOR WILL BEHAVE AS IF IT CHANGED THE STRING, AND WILL THEREFORE PRINT OUT THE MOCK CHANGES. FOR EXAMPLE, IF YOU WANT TO LOCATE ALL OCCURRENCES OF "ASHES" WITHIN YOUR FILE, GO TO <TOF> AND ISSUE THE COMMAND

```
C /ASHES/ASHES/ 10000000
```

NETED THINKS IT HAS ACTUALLY CHANGED ASHES TO ASHES THROUGHOUT THE FILE, SO ALL OCCURRENCES OF THAT WORD ARE PRINTED OUT (PROVIDED YOU HAVE NOT SUPPRESSED THE PRINTING OF OPTIONAL RESPONSES VIA THE V COMMAND). THE NUMBER "10000000" IS ARBITRARY - YOU MAY SPECIFY A SMALLER NUMBER IF YOU ARE SURE IT WILL COVER ALL THE LINES YOU WISH TO CHANGE.

YOU CAN ALSO USE BLANKS WITHIN THE STRING HERE, SO IF YOU WANT TO FIND ALL OCCURRENCES OF THE WORD "A" WITHIN YOUR FILE, BUT DON'T PARTICULARLY WANT NETED TO LIST OUT ALL OCCURRENCES OF THE LETTER "A", YOU CAN GO TO <TOF> AND ISSUE THE COMMAND

```
C / A / A / 10000000
```

THIS LOOKS ONLY FOR THE LETTER "A" WITH A BLANK ON EITHER SIDE OF IT.

THE C COMMAND, LIKE THE A COMMAND, CAN BE USED TO SAVE REPEATED TYPING OF LONG OR COMPLICATED STRINGS. SEE THE "NEAT TRICKS DEPARTMENT" UNDER THE DESCRIPTION OF THE A COMMAND.

POE USE - IF YOU DECIDE ON USING THE C COMMAND WHILE YOU ARE IN POE, YOU MAY GIVE 1 OR 2 LINE SPECIFICATIONS BEFORE THE COMMAND. IF 2 ARE GIVEN, A RANGE OF LINES IS SPECIFIED; THUS A LINE COUNT MAY NOT APPEAR AFTER THE COMMAND. NO SUFFIXES OF THE NORMAL POE TYPE ARE ALLOWED WITH THE C COMMAND.

THE . (INPUT/EDIT TOGGLE) COMMAND

A TOGGLE COMMAND SWITCHES YOU BACK AND FORTH BETWEEN 2 CONDITIONS. WHEN YOU ISSUE A TOGGLE COMMAND, THE CURRENT CONDITION IS CHANGED TO ITS OPPOSITE. IF YOU ISSUE A TOGGLE COMMAND TWICE, THE CONDITION WILL BE RESET TO ITS INITIAL VALUE.

THE PERIOD (.) IS A TOGGLE COMMAND USED TO SWITCH YOU BETWEEN INPUT

AND EDIT MODES IN THE EDITOR. IF YOU ARE SWITCHING FROM INPUT TO EDIT MODE, THE PERIOD MUST BE IN COLUMN ONE AND MUST BE THE ONLY NON-BLANK CHARACTER ON THE LINE. TRAILING BLANKS AFTER THE COMMAND ARE IGNORED. IN **POE**, IF YOU ARE SWITCHING FROM EDIT TO INPUT MODE, SUFFIX "I" OR LINE SPECIFICATIONS ARE ALLOWED; IN **NETED**, LINE SPECIFICATIONS AND SUFFIXES ARE NOT ALLOWED.

THE EDITOR NOTIFIES YOU WHEN YOU INITIALLY CHANGE MODES BY TYPING OUT "**INPUT.**" OR "**EDIT.**". HOWEVER, A COMMON PROBLEM IS NOT REMEMBERING YOU'RE IN INPUT MODE AND TRYING TO EXECUTE EDIT MODE COMMANDS. IF YOU ARE GETTING NO RESPONSE, AND YOU DO NOT THINK A SICK SYSTEM IS THE CAUSE OF THE DELAY, YOU MAY BE IN INPUT MODE WITHOUT REALIZING IT. TYPE THE COMMAND "." TO TEST THIS POSSIBILITY; THE EDITOR'S RESPONSE WILL BE EITHER "INPUT." OR "EDIT.".

"." IS THE ONLY EDITOR COMMAND THAT CAN BE ISSUED FROM WITHIN INPUT MODE. IF YOU WANT TO PUT A LINE IN YOUR FILE THAT CONSISTS OF JUST A PERIOD IN COLUMN ONE, YOU MUST USE THE EDIT MODE COMMAND I OR R (Q.V.).

EACH TIME A NEW LINE IS ENTERED IN INPUT MODE, THE POINTER MOVES TO THAT LINE.

LINE SPECIFICATIONS - WHEN SWITCHING FROM EDIT INTO INPUT MODE, UP TO 2 LINE SPECIFICATIONS MAY BE GIVEN. A SINGLE LINE SPECIFICATION, E.G., "**T.**", SAYS TO GO TO THE ADDRESSED LINE AND GO INTO INPUT MODE SO THAT THE ADDED LINES WILL APPEAR DIRECTLY AFTER THE LINE YOU SPECIFIED. (IN THE CASE OF "**T.**", THE LINES ARE INSERTED BEFORE LINE 1 AND AFTER PSEUDO-LINE <TOF>; THE COMMAND "**B.**" ADDS LINES AT THE END OF THE FILE, AND PSEUDO-LINE <BOF> WILL FOLLOW THE INSERTED LINES.)

IF 2 LINE SPECIFICATIONS ARE GIVEN, THE INDICATED RANGE OF LINES IS **DELETED** AND YOU ARE PUT INTO INPUT MODE. E.G., "**10,20.**" DELETES LINES 10-20, INCLUSIVE, AND PUTS YOU INTO INPUT MODE. THE FIRST LINE YOU TYPE WILL THEN BE LINE 10, THE NEXT WILL BE LINE 11, ETC. "**10,20.**" IS EXACTLY EQUIVALENT TO "**10,20D**" FOLLOWED BY A "." ALONE ON THE NEXT LINE.

SUFFIXES - I - SUFFIX "I" IS ALLOWED WHEN GOING FROM EDIT INTO INPUT MODE **ONLY**. THE COMMAND ".I" TAKES THE LAST LINE YOU TYPED AND TREATS IT AS THE FIRST LINE IN INPUT MODE; YOU ARE NOW IN INPUT MODE. THIS BENEVOLENT COMMAND IS USED FOR ERROR RECOVERY WHEN YOU HAVE TYPED A LONG LINE THINKING YOU WERE IN INPUT MODE, ONLY TO DISCOVER THAT THE EDITOR TRIED TO INTERPRET IT AS A COMMAND. ".I" IS EXACTLY EQUIVALENT TO THE COMMAND "II" (SEE THE I COMMAND'S PARAGRAPH ON SUFFIX "I") FOLLOWED BY A "." ALONE ON THE NEXT LINE.

IN **NETED**, SINCE NO LINE SPECIFICATIONS OR SUFFIXES ARE ALLOWED, THE "." MUST BE THE ONLY NON-BLANK CHARACTER ON A LINE AND MUST APPEAR IN COLUMN ONE, WHETHER YOU ARE SWITCHING FROM INPUT TO EDIT OR FROM EDIT TO INPUT MODE.

THE I (INSERT) COMMAND

THE I COMMAND INSERTS AFTER <CURRENT> THE STRING YOU SPECIFY AS A NEW LINE IN THE FILE. THE INSERTED LINE THEN BECOMES <CURRENT>; IT IS NOT PRINTED UNLESS SUFFIX "P" IS USED (SEE BELOW).

THERE MUST BE A SEPARATOR BETWEEN THE "I" AND THE STRING. A BLANK IS ACCEPTABLE, EVEN IF THERE ARE BLANKS IN THE STRING. HOWEVER, IF A NON-BLANK SEPARATOR IS USED (POE ONLY), THAT CHARACTER MAY NOT BE ALPHAMERIC AND MAY NOT APPEAR WITHIN THE STRING. A CLOSING SEPARATOR IS NOT NECESSARY.

LEADING AND INTERNAL BLANKS ARE SIGNIFICANT IN THE STRING GIVEN. THE COMMAND

```
I ANDREW MARVELL
```

WILL RESULT IN THE STRING "ANDREW MARVELL" BECOMING A LINE, WITH "ANDREW" BEGINNING IN COLUMN ONE. ADDITIONAL BLANKS PRECEDING THE STRING CAUSE THE STRING TO BEGIN THAT MANY COLUMNS OVER. THE I COMMAND ISSUED ALONE INSERTS A BLANK LINE AFTER <CURRENT>.

IF YOU ARE USING RECC FORTRAN TABS WITH THE I COMMAND, BE SURE TO ADD TWO MORE BLANK SPACES AFTER THE TAB, SINCE THE "I" AND ITS SEPARATOR TAKE UP THE FIRST 2 COLUMNS WHEN YOU INSERT THE LINE. (FORTRAN TABS ARE EASIER TO USE IN INPUT MODE, WHERE COLUMN 1 REMAINS COLUMN 1.)

LINE SPECIFICATIONS - MAY TAKE 1 LINE SPECIFICATION. FOR EXAMPLE -

```
136I TIME'S WINGED CHARIOT
```

INSERTS THAT LINE DIRECTLY AFTER LINE 136.

SUFFIXES - P, N, I, AND M.

IP INSERTS AND PRINTS OUT THE STRING YOU SPECIFY. E.G., THE COMMAND "IP <STRING>" INSERTS <STRING> AFTER <CURRENT> AND PRINTS OUT THE NEW LINE.

IN INSERTS <STRING> AND PRINTS OUT THE NEW LINE WITH ITS LINE NUMBER.

II THIS COMMAND SERVES AS AN ERROR RECOVERY - IT INSERTS AFTER <CURRENT> THE LINE THAT WAS TYPED IMMEDIATELY BEFORE IT. THUS, IF YOU TYPED

```
HAD WE BUT WORLD ENOUGH, AND TIME,
```

(FORGETTING TO TYPE THE "I" BEFORE THE FIRST WORD), YOU COULD IMMEDIATELY TYPE "II" TO RETRIEVE THE TYPING, EVEN IF POE HAS ALREADY SCREAMED "BAD COMMAND" IN RESPONSE TO THE LINE YOU TYPED. THUS, THE ABOVE LINE FOLLOWED BY "II" ON THE NEXT LINE WOULD BE EXACTLY EQUIVALENT TO THE SINGLE LINE

I HAD WE BUT WORLD ENOUGH, AND TIME,

IF YOU SAY "II <STRING>", THE <STRING> YOU SPECIFY IS INSERTED DIRECTLY AFTER THE STRING YOU RECOVERED (THE "II" MUST BE FOLLOWED BY A NON-ALPHAMERIC CHARACTER TO SEPARATE IT FROM THE STRING).

IM ALONE ON A LINE, MEANS "INSERT THAT WHICH IMMEDIATELY FOLLOWS". INPUT MODE IS ENTERED UNTIL THE NEXT LINE IS TYPED, AT WHICH TIME POE RETURNS IMMEDIATELY TO EDIT MODE. THUS

```
IM
THIS COYNESS, LADY, WERE NO CRIME.
```

IS EXACTLY EQUIVALENT TO

```
.
THIS COYNESS, LADY, WERE NO CRIME.
.
```

THIS IS USEFUL IF YOU ARE WORKING WITH RECC TABS AND WANT THE COLUMNS TO LINE UP AUTOMATICALLY.

IN NETED, A BLANK IS THE ONLY CHARACTER THAT CAN BE USED TO SEPARATE THE "I" FROM THE STRING FOLLOWING. THE STRING CAN ONLY BE INSERTED AFTER <CURRENT>, SINCE NO LINE SPECIFICATIONS CAN PRECEDE THE COMMAND.

THE D (DELETE) COMMAND

THE D COMMAND WITH NO PARAMETERS DELETES THE CURRENT LINE. A NUMERIC ARGUMENT CAN BE GIVEN AFTER THE "D" TO INDICATE THE NUMBER OF LINES YOU WISH TO DELETE. IF YOU SAY "D15", FOR EXAMPLE, THE 15 LINES BEGINNING WITH <CURRENT> ARE DELETED. THE POINTER IS NOW POSITIONED AT THE LINE PRECEDING WHAT HAD BEEN <CURRENT>, UNLESS THE EDITOR ENCOUNTERS <BOF> BEFORE THE SPECIFIED NUMBER OF LINES HAVE BEEN DELETED (IN WHICH CASE THE POINTER IS POSITIONED AT <BOF>). THE COMMAND "D1" HAS THE SAME MEANING AS "D" - IT DELETES <CURRENT>.

LINE SPECIFICATIONS - MAY TAKE 1 OR 2 LINE SPECIFICATIONS. 1 LINE SPECIFICATION DELETES THE LINE SPECIFIED - E.G., "/EOR/D" DELETES THE FIRST LINE AFTER <CURRENT> THAT CONTAINS THE STRING "EOR". USING 2 LINE SPECIFICATIONS CAUSES THE RANGE OF LINES BETWEEN AND INCLUDING THE 2 LINES REFERENCED TO BE DELETED. E.G., "10,20D" DELETES LINES 10-20, INCLUSIVE. NOTE THAT WHAT WAS FORMERLY LINE 21 BECOMES LINE 10 AFTER THE COMMAND IS EXECUTED.

CAUTION - THE USE OF LINE NUMBERS WITH THE D COMMAND CAN BE VERY DANGEROUS. BECAUSE LINES ARE INSTANTLY RENUMBERED AFTER DELETIONS, IF YOU HAVE A SERIES OF LINES OR BLOCKS OF LINES THAT NEED TO BE DELETED, DO NOT REFERENCE ANY BUT THE FIRST BLOCK BY LINE NUMBER, UNLESS YOU CALCULATE EXACTLY WHAT NEW NUMBERS WILL REFERENCE THE NEXT BLOCK. TO AVOID ACCIDENTALLY USING OBSOLETE NUMBERS TO REFERENCE BLOCKS TO BE DELETED, DO YOUR DELETIONS FROM THE BOTTOM UP. THE LINES ABOVE THOSE

DELETED ARE NOT RENUMBERED; ONLY THE LINE NUMBERS OF THOSE BELOW DELETED LINES ARE AFFECTED.

SUFFIXES - N, P, L, LU, F, AND FU.

DP DELETE LINE(S) AND THEN PRINT <CURRENT>, WHICH IS THE LINE THAT RESIDED BEFORE THE (FIRST OF THE) DELETED LINE(S).

DN SAME AS DP, BUT PRINT <CURRENT> WITH ITS LINE NUMBER.

DL MUST BE FOLLOWED BY AN ARGUMENT STRING. E.G., "DL ATLANTIS" MEANS SEARCH FOR THE FIRST OCCURRENCE OF "ATLANTIS" AFTER <CURRENT> AND DELETE THAT LINE. THE DELETED LINE IS PRINTED. IF A STRING IS NOT FOUND, THE POINTER WILL BE BACK AT THE LINE WHERE IT RESIDED BEFORE THE "DL" COMMAND WAS ISSUED. THE COMMAND "DLU <STRING>" SEARCHES UPWARDS FOR THE STRING, THEN DELETES THE LINE CONTAINING THAT STRING. "DL" MAY TAKE 2 LINE SPECIFICATIONS; POE WILL SEARCH WITHIN THAT RANGE FOR THE FIRST OCCURRENCE OF THE STRING GIVEN. "DLU" MAY TAKE 1 LINE SPECIFICATION, WHICH MEANS TO START THE UPWARD SEARCH AT THE LINE SPECIFIED. NOTE - IF A STRING IS NOT FOUND BY THE "DL" COMMAND, POE ISSUES THE SPURIOUS ERROR MESSAGE "BAD COMMAND"; THIS SHOULD BE IGNORED.

DF SAME AS DL, BUT FINDS STRING BEGINNING IN COLUMN ONE; DFU MEANS SEARCH UPWARD TO FIND AND DELETE. AS WITH SUFFIX "L", THE "DF" COMMAND CAN TAKE 2 LINE SPECIFICATIONS AND THE "DFL" COMMAND CAN TAKE 1 LINE SPECIFICATION. DF IS VERY HANDY FOR DELETING BLANK LINES - E.G.,

DF/ /

THIS COMMAND CAN BE FOLLOWED BY SUCCESSIVE O COMMANDS (Q.V.) TO GET RID OF ANY REMAINING BLANK LINES. NOTE - IF A STRING IS NOT FOUND BY THE "DF" COMMAND, POE ISSUES THE SPURIOUS ERROR MESSAGE "BAD COMMAND"; THIS SHOULD BE IGNORED.

IN NETED, THE NUMERIC ARGUMENT AFTER THE "C" MUST BE PRECEDED BY A BLANK. E.G., YOU MUST SAY "D 15" RATHER THAN "D15" TO DELETE 15 LINES.

THE DTOP COMMAND

THE DTOP COMMAND DELETES ALL LINES FROM THE TOP OF THE FILE DOWN TO, BUT NOT INCLUDING, THE CURRENT LINE. <CURRENT> IS NOW THE FIRST LINE IN THE FILE. NO LINE SPECIFICATIONS, SUFFIXES, OR OTHER PARAMETERS CAN BE USED WITH THIS COMMAND.

THE DTOP COMMAND IS NOT NECESSARY IN POE, SINCE THE SAME FUNCTION CAN BE ACHIEVED BY THE COMMAND "T,-1D" (I.E., DELETE THE LINES BETWEEN AND INCLUDING "T", <TOF>, AND "-1", THE LINE JUST BEFORE <CURRENT>). DTOP HAS BEEN KEPT IN POE SOLELY TO MAINTAIN COMPATIBILITY WITH NETED. IT IS USEFUL ONLY BECAUSE IN NETED, LINE NUMBERS CANNOT BE USED TO SPECIFY LINES TO BE DELETED.

NOTE - IF YOU WERE USING THE DTOP COMMAND IN NETED AS PART OF THE

PROCEDURE TO MOVE BLOCKS OF LINES, YOU SHOULD USE INSTEAD THE MC OR MV COMMAND (Q.V.) IN POE TO MOVE LINES.

IN NETED, THE POINTER IS AT <CURRENT> AFTER A DTOP COMMAND HAS BEEN EXECUTED; IN POE, THE POINTER IS AT <TOF>. BE SURE YOU KNOW WHERE THE POINTER IS LOCATED BEFORE DOING ADDITIONAL EDITING.

THE R (REPLACE) COMMAND

THE R COMMAND IS LIKE A D COMMAND FOLLOWED BY AN I COMMAND. IT REPLACES A LINE OR LINES WITH THE STRING YOU SPECIFY. E.G.,

```
R IT IS A FAR, FAR BETTER THING
```

REPLACES <CURRENT> WITH THAT STRING. A SINGLE NON-ALPHAMERIC SEPARATOR MUST APPEAR BETWEEN THE "R" AND THE STRING; AS WITH THE I COMMAND, A BLANK IS ACCEPTABLE EVEN IF THERE ARE BLANKS IN THE STRING.

LEADING BLANKS WORK AS THEY DO WITH THE I COMMAND - I.E., THEY ARE SIGNIFICANT IN THE STRING GIVEN. THUS IN THE ABOVE EXAMPLE, THE STRING WILL BEGIN IN COLUMN 1; MORE BLANKS BETWEEN THE "R" AND THE STRING CAUSE THE STRING TO BEGIN THAT MANY COLUMNS OVER, DISCOUNTING THE "R" AND THE BLANK FOLLOWING IT. IF SUFFIX "P" OR "N" IS USED, THE SEPARATOR IS THE CHARACTER DIRECTLY FOLLOWING THE SUFFIX; ANY BLANKS BETWEEN THAT AND THE STRING ARE SIGNIFICANT. NOTE - THE R COMMAND GENERATES NO PRINTED RESPONSE UNLESS THE SUFFIX "P" OR "N" IS USED (POE ONLY).

LINE SPECIFICATIONS - MAY TAKE 1 OR 2 LINE SPECIFICATIONS. IF 1 IS GIVEN, THE POINTER MOVES TO THE LINE SPECIFIED AND THAT LINE IS REPLACED WITH THE STRING GIVEN. IF 2 LINE SPECIFICATIONS ARE GIVEN, E.G., "10,20R HARD TIMES", THE ENTIRE BLOCK SPECIFIED IS **DELETED**, INCLUDING BOTH LINES 10 AND 20; AND THE SINGLE LINE YOU GIVE REPLACES THE BLOCK. THE NEW LINE BECOMES LINE 10, THE <CURRENT> LINE.

SUFFIXES - N AND P.

RP REPLACES LINE(S) WITH STRING GIVEN, AND PRINTS OUT REPLACEMENT. E.G., "RP COPPERFIELD" REPLACES THE LINE(S) AND GENERATES THE RESPONSE "COPPERFIELD".

RN IMPLIES SUFFIX "P". PRINTS REPLACEMENT LINE AND GIVES ITS LINE NUMBER.

IN NETED, ONLY A BLANK CAN BE USED TO SEPARATE THE "R" FROM THE STRING FOLLOWING. ONLY <CURRENT> CAN BE REPLACED, SINCE NO LINE SPECIFICATIONS CAN PRECEDE THE COMMAND.

THE M (MERGE) COMMAND

THE M COMMAND MERGES A COPY OF AN EXISTING FILE THAT IS ATTACHED TO YOUR JOB INTO THE FILE YOU ARE CURRENTLY EDITING. E.G., THE EDITOR COMMAND

M ALFRED

MERGES A COPY OF FILE "ALFRED" INTO THE FILE YOU ARE EDITING, BEGINNING JUST AFTER THE CURRENT LINE. AFTER THIS COMMAND, THE POINTER IS AT THE LAST LINE COPIED FROM THE FILE "ALFRED". POE RESPONDS WITH THE MESSAGE "XX LINES MERGED", WHERE "XX" IS THE NUMBER OF LINES COPIED INTO YOUR FILE.

THE FILE TO BE MERGED MUST BE A NON-EMPTY DISK FILE ATTACHED TO YOUR JOB. IF YOU GIVE AN ILLEGAL FILE NAME, YOU WILL RECEIVE THE ERROR MESSAGE "ILLEGAL FILE NAME". IF THE FILE SPECIFIED IS EMPTY OR IF NO SUCH FILE IS ATTACHED TO YOUR JOB, THE EDITOR ISSUES THE MESSAGE "«FILENAME» EMPTY". IF THE FILE IS NOT A DISK FILE, THE MESSAGE "ILLEGAL FILE TYPE" WILL APPEAR.

IF YOU DON'T UNDERSTAND WHY YOU GOT AN ERROR MESSAGE AFTER A MERGE COMMAND, IT IS POSSIBLE THAT THE FILE YOU SPECIFIED IS NOT CONNECTED TO YOUR JOB - PERHAPS YOU MISTYPED OR MISREMEMBERED THE NAME. IN SUCH CASES, THE BEST THING TO DO IS TYPE A SAVE COMMAND AND THEN EXECUTE THE CONTROL CARD "FILES" FROM SESAME TO SEE A LIST OF THE FILES CONNECTED TO YOUR JOB. OR, IF YOU ARE IN POE, YOU MAY EXIT TEMPORARILY FROM THE EDITOR USING THE X COMMAND (Q.V.), EXECUTE A FILES AND THEN RETURN TO THE EDITING SESSION.

AN EOR AT THE END OF THE FILE YOU ARE MERGING WILL BE STRIPPED WHEN THE FILE HAS BEEN MERGED; EOF'S WILL REMAIN. AFTER MERGING A FILE, YOU SHOULD PRINT A FEW LINES AROUND THE BOTTOM OF THE MERGED FILE TO CHECK FOR RECORD AND FILE MARKS, AND DELETE ANY THAT ARE UNNECESSARY.

LINE SPECIFICATIONS - MAY TAKE 1 LINE SPECIFICATION, WHICH TELLS POE AFTER WHICH LINE THE MERGED FILE SHOULD BE INSERTED. E.G., "19M PRFROCK" SAYS TO MERGE A COPY OF FILE "PRFROCK" AFTER LINE 19 OF THE FILE. LINE 1 OF FILE "PRFROCK" IS NOW LINE 20 OF THE FILE YOU ARE EDITING.

SUFFIXES - NONE.

IN NETED, THE RESPONSE TO AN M COMMAND IS "«FILENAME» MERGED"; THE NUMBER OF LINES MERGED IS NOT MENTIONED.

THE MV AND MC COMMANDS (MOVE LINES) - POE ONLY

THE MV AND MC COMMANDS ARE USED FOR MOVING LINES TO ANOTHER LOCATION IN THE FILE. (NEW POE CONVERTS WHO HAVE SPENT YEARS OF FRUSTRATION MOVING BLOCKS OF LINES WITH DTOP, WTOP, AND MERGE IN NETED WILL FIND THAT MV AND MC ARE PURE POETRY.) MV AUTOMATICALLY DELETES THE LINE(S) FROM THE OLD LOCATION AFTER MOVING A COPY TO THE NEW

LOCATION. MC MOVES THE COPY AND ALSO RETAINS THE LINE(S) IN THEIR ORIGINAL LOCATION.

POE ISSUES NO PRINTED RESPONSE AFTER EXECUTING THESE COMMANDS. IF YOU MOVE A BLOCK OF LINES, THE POINTER IS POSITIONED AT THE LAST LINE OF THE BLOCK IN THE NEW LOCATION AFTER THE COMMAND HAS BEEN EXECUTED. IF YOU MOVE JUST ONE LINE, THE POINTER IS NOW AT THE LINE'S NEW LOCATION.

LINE SPECIFICATIONS - UP TO 3 LINE SPECIFICATIONS MAY BE GIVEN WITH THE MV AND MC COMMANDS; LINE NUMBERS ARE OFTEN THE EASIEST TYPE OF SPECIFICATIONS TO USE. IF NO LINE SPECIFICATION IS GIVEN, THE MV COMMAND WITH NO ARGUMENT HAS NO EFFECT. THE MC COMMAND WITH NO LINE SPECIFICATIONS AND NO ARGUMENT MOVES A COPY OF <CURRENT> IMMEDIATELY FOLLOWING <CURRENT> (I.E., IT DUPLICATES <CURRENT> IN PLACE).

IF 1 LINE SPECIFICATION IS USED WITH THE MV COMMAND (E.G., "19MV"), THE SPECIFIED LINE (19) IS MOVED TO IMMEDIATELY FOLLOW <CURRENT>; MC MOVES A COPY OF THE SPECIFIED LINE.

IF 2 LINE SPECIFICATIONS ARE GIVEN, E.G., "10,20MV", THE INDICATED BLOCK OF LINES IS MOVED TO THE POSITION IMMEDIATELY FOLLOWING <CURRENT>. AS ALWAYS, MC MOVES A COPY OF THE BLOCK AND LEAVES THE ORIGINAL IN PLACE.

IF 3 LINE SPECIFICATIONS ARE GIVEN, THE FIRST 2 REPRESENT THE BLOCK OF LINES TO BE MOVED, AND THE 3RD REPRESENTS THE LINE THE BLOCK WILL FOLLOW (AS STATED ABOVE, <CURRENT> IS THE DEFAULT IF ONLY 2 LINE SPECIFICATIONS ARE GIVEN). E.G.,

```
T,20,100MV
```

SAYS TO MOVE THE BLOCK OF LINES BETWEEN <TOF> AND LINE 20 (INCLUDING LINE 20) TO FOLLOW LINE 100. WHAT WAS FORMERLY LINE 21 IS NOW LINE 1 OF THE FILE, SINCE THE BLOCK HAS BEEN DELETED FROM ITS ORIGINAL POSITION. PSEUDO-LINE <TOF>, OF COURSE, REMAINS AT THE TOP.

SUPPOSE YOU ARE CURRENTLY AT LINE 350 OF YOUR FILE. THE COMMAND

```
100,200,/ECR/MC
```

SAYS TO MOVE A COPY OF LINES 100-200 (INCLUSIVE) TO IMMEDIATELY FOLLOW THE FIRST LINE AFTER LINE 350 THAT CONTAINS THE STRING "ECR". (SEE THE SECTION ON LINE SPECIFICATIONS BELOW FOR FURTHER EXPLANATION OF THE USE OF SLASHES.) AS ANOTHER EXAMPLE,

```
100,200,BMV
```

INSTRUCTS POE TO MOVE LINES 100-200 TO THE BOTTOM OF THE FILE (B).

SUFFIXES - NONE.

ARGUMENTS - BOTH MC AND MV MAY TAKE A SINGLE NUMERIC ARGUMENT, WHICH SPECIFIES THE NUMBER OF COPIES TO BE MOVED. THUS THE COMMAND "MC5" DUPLICATES <CURRENT> IN PLACE 5 TIMES; THERE ARE NOW 6 COPIES OF THAT LINE. THE COMMAND "1,20MV5" MOVES 5 COPIES OF LINES 1-20 TO

IMMEDIATELY FOLLOW <CURRENT>, AND REMOVES THE BLOCK FROM ITS ORIGINAL LOCATION. (A NUMERIC ARGUMENT MAY BE USED AFTER THE COMMAND NO MATTER HOW MANY LINE SPECIFICATIONS PRECEDE THE COMMAND.)

NOTE - THE COMMAND "16MC5" (FOR EXAMPLE) MEANS MOVE 5 COPIES OF LINE 16 TO JUST AFTER <CURRENT>. IT DOES NOT MEAN TO MOVE 5 COPIES OF LINE 16 TO JUST AFTER LINE 16. (THAT COULD ONLY BE DONE BY SAYING "16,16,16MC5", UNLESS LINE 16 HAPPENED TO BE <CURRENT>.)

THE AC (ALTER BY COLUMNS) COMMAND - POE ONLY

THE AC COMMAND IS A FANCY VARIATION OF THE ALTER COMMAND THAT WORKS ON ONLY ONE LINE AT A TIME. IT INVOKES A SPECIAL "COLUMN" MODE IN WHICH EACH CHARACTER YOU TYPE AFFECTS THE CORRESPONDING CHARACTER IN THE LINE DISPLAYED DIRECTLY ABOVE IT (I.E., IN THE SAME COLUMN). THIS ELIMINATES THE NEED TO FIND A UNIQUE STRING TO ALTER; YOU MAKE YOUR CHANGES CHARACTER BY CHARACTER BY TYPING DIRECTLY UNDER THE PRINTED LINE. IF A NUMBER OF CHANGES ARE REQUIRED ON A PARTICULAR LINE, IT IS OFTEN MORE EXPEDIENT TO USE THE AC COMMAND THAN TO ISSUE MULTIPLE A COMMANDS.

WHEN YOU ISSUE THE COMMAND "AC" AND PRESS THE <CR>, THE CURRENT LINE IS PRINTED OUT ON THE TERMINAL IN "COLUMN" MODE. IT WILL APPEAR WITHOUT ITS LINE NUMBER, EVEN IF LINE NUMBERS ARE SET. IN ALL OTHER RESPECTS, THE LINE PRINTED OUT LOOKS ORDINARY. POE NOW AWAITS A LINE OF INPUT, WHICH YOU TYPE DIRECTLY BENEATH THE PRINTED LINE.

AC MAY BE PRECEDED BY ANY TYPE OF LINE SPECIFICATION, AND POE WILL PRINT THE SPECIFIED LINE IN "COLUMN" MODE. FOLLOWING IS A SIMPLE EXAMPLE IN WHICH LINE 8 IS THE LINE TO BE CHANGED.

```
    YOU TYPE    8AC
POE RESPONDS    DO CATS EAT BATS?
    YOU TYPE       B        C
POE RESPONDS    DO BATS EAT CATS?
```

THE LINE HAS NOW BEEN CHANGED, AND REMAINS <CURRENT>. NOTE THAT BLANKS MEAN TO RETAIN THE CHARACTER AS IT WAS. (TO TYPE MULTIPLE BLANKS QUICKLY, DEPRESS THE "REPEAT" KEY WHILE DEPRESSING THE SPACE BAR.) YOU NEED NOT TYPE TRAILING BLANKS AFTER THE LAST CHARACTER YOU WISH TO CHANGE.

THE AC COMMAND MAY ALSO BE TYPED ON THE SAME LINE AS THE DESIRED CHANGES, IF THE LINE TO BE CHANGED HAPPENS TO BE THE LINE MOST RECENTLY PRINTED OUT ON THE TERMINAL, AND IF YOU DON'T NEED TO ALTER COLUMNS 1-3. FOR EXAMPLE, IF <CURRENT> IS PRINTED AS -

```
                DO CATS EAT BATS?
YOU CAN TYPE    AC B        C
POE RESPONDS    DO BATS EAT CATS?
```

HOWEVER, COLUMNS 1 THROUGH 3 CANNOT BE CHANGED IN THIS MANNER (SINCE THE LETTERS "AC" TAKE UP THE FIRST TWO COLUMNS AND A BLANK MUST FOLLOW THE "AC") UNLESS LINE NUMBERS ARE SET. (IF LINE NUMBERS APPEAR

DUE TO AN "N" SUFFIX ON THE PREVIOUS COMMAND, RATHER THAN AS A RESULT OF THE "SET N" COMMAND, AC WILL NOT LINE UP CORRECTLY.) WITH LINE NUMBERS SET, THE NUMBER TAKES UP THE FIRST SEVERAL COLUMNS AND THE "AC" CAN BE PLACED ON THE LINE, AS FOLLOWS -

```
                  8   DO CATS EAT BATS?
        YOU TYPE  AC  MY                .
THE LINE IS NOW   8   MY CATS EAT BATS.
```

THERE ARE THREE "MAGIC" CHARACTERS FOR THE AC COMMAND ONLY - THE *, THE $, AND THE /, WHICH PERFORM SPECIAL FUNCTIONS. A * UNDER A CHARACTER CHANGES IT TO A SINGLE BLANK SPACE. A $ DELETES THE CHARACTER, LEAVING NO BLANK SPACE, SO THAT EVERYTHING THAT EXISTS TO THE RIGHT OF THE CHARACTER WILL BE SHIFTED ONE COLUMN TO THE LEFT. *"S AND $"S HAVE THE IDENTICAL MEANING WHEN PLACED AT THE END OF A LINE, SINCE BLANKS ARE INTERPRETED AS NOTHINGS AT THE END OF A LINE.

SLASHES (/) ARE USED TO INSERT TEXT BEFORE THE COLUMN UNDER WHICH THE FIRST SLASH IS TYPED. THE TEXT TO BE INSERTED IS TYPED IN BETWEEN TWO SLASHES, AND THE INSERTION CAUSES EVERYTHING THAT EXISTED TO THE RIGHT TO BE SHIFTED FURTHER TO THE RIGHT AS FAR AS IS NECESSARY TO MAKE ROOM FOR THE INSERTION.

ANY NON-BLANK CHARACTERS BESIDES THE MAGIC CHARACTERS TELL POE TO REPLACE THE CHARACTER IN THAT POSITION WITH THE CHARACTER GIVEN. ALL 3 MAGIC CHARACTERS MAY BE USED IN COMBINATION WITH EACH OTHER AND WITH OTHER REGULAR CHARACTERS, AND MAY BE USED AS MANY TIMES AS NEEDED IN ONE LINE. IN THE FOLLOWING EXAMPLES, THE 1ST LINE IS THE ORIGINAL LINE, THE 2ND LINE IS YOUR "AC" COMMAND, AND THE 3RD LINE IS THE RESULT.

AN EXAMPLE OF THE USE OF THE MAGIC CHARACTER $ IS -

```
24   SEE MORE GLASS
AC     Y$  UR
24   SEYMCUR GLASS
```

NOTE THAT THE $ REMOVES THE CHARACTER ABOVE IT (IN THIS CASE, THE CHARACTER REMOVED WAS A BLANK).

USING MAGIC CHARACTERS, THERE ARE OFTEN MULTIPLE WAYS OF ACCOMPLISHING THE SAME RESULT. THE METHOD YOU USE IS A MATTER OF PREFERENCE. FOLLOWING IS AN EXAMPLE OF ALTERNATE WAYS OF MAKING THE SAME CHANGE. THE * CAN BE USED -

```
OF SHOES - AND SHIPS - AND SEALING-WAX -
AC CABBAGES*-*AND*KINGS*-**************
OF CABBAGES - AND KINGS -
```

OR SLASHES CAN BE USED IN COMBINATION WITH *"S (THE *"S COULD ALSO BE REPLACED BY $"S AT THE END OF THE LINE) -

```
OF SHOES - AND SHIPS - AND SEALING-WAX -
AC CABB/AGE/   KING    **************
OF CABBAGES - AND KINGS -
```

AN EXAMPLE COMBINING ALL POSSIBLE AC TRICKS IS THE FOLLOWING -

```
FAIR IS FOUL AND FOUL IS FAIR
AC     / TOO/  *EPITHET$  O$  THEE
FAIR IS TOO FOUL AN EPITHET FOR THEE
```

NOTE THAT THE BLANK IS NECESSARY BETWEEN THE SLASHES SO THAT A BLANK WILL SEPARATE THE INSERTED WORD FROM ITS PREDECESSOR IN THE LINE. THE CHARACTER UNDER WHICH THE FIRST SLASH IS PLACED WILL APPEAR AFTER THE TEXT THAT YOU PLACE BETWEEN THE SLASHES.

IF IT IS NECESSARY TO INSERT ONE OF THE MAGIC CHARACTERS AS AN ACTUAL CHARACTER, YOU CAN USE THE SET AC COMMAND (Q.V.) TO MAKE ANY OF THE 3 NON-MAGIC. OR YOU COULD USE THE AC COMMAND TO CHANGE THE CHARACTER TO ANOTHER SYMBOL TEMPORARILY, THEN USE THE A (ALTER) COMMAND TO CHANGE IT TO A $, *, OR /. HOWEVER, *'S AND $'S THAT ARE PLACED WITHIN SLASHES WHEN USING THE AC COMMAND ARE INTERPRETED LITERALLY; I.E., THEY ARE ADDED AS LITERAL *'S AND $'S. TO ADD BLANKS WITHIN SLASHES, SIMPLY TYPE BLANKS.

2 LINE SPECIFICATIONS MAY BE USED WITH THE AC COMMAND. E.G., IF YOU SAY '1,10AC', LINES 1-10 WILL APPEAR ONE AT A TIME IN COLUMN MODE; YOU TYPE THE DESIRED CHANGES ON ONE LINE AT A TIME, AND EACH LINE IS ECHOED WITH THE CHANGES MADE BEFORE THE NEXT LINE IS PRINTED OUT IN COLUMN MODE.

2.4 SAVING AND STOPPING

THE W (WRITE) COMMAND

WHEN YOU ENTER THE EDITOR, IF THE FILE YOU SPECIFIED WAS ATTACHED TO YOUR JOB, THE EDITOR MAKES A WORKING COPY OF THAT FILE, REWINDING THE COPY BEFORE AND AFTER. THE W COMMAND WRITES THIS WORKING COPY OF YOUR FILE, WITH THE CHANGES YOU HAVE MADE, OUT TO DISK OVER THE ORIGINAL FILE (I.E., THE FILE SPECIFIED ON THE **POE** OR **NETED** CONTROL CARD). IF YOU GIVE A FILENAME AS AN ARGUMENT TO THE W COMMAND, IT WRITES THE EDITED FILE OVER THE FILENAME YOU SPECIFY, REWINDING IT BEFORE AND AFTER.

THE FILE BEING EDITED IS NOT REPOSITIONED OR ALTERED IN ANY WAY UNTIL YOU ISSUE A W COMMAND (OR **SAVE** COMMAND, Q.V.), WHICH REPLACES THE ORIGINAL FILE OR FILE YOU SPECIFY WITH THE EDITED VERSION. (THUS, ANY COMMAND THAT "CHANGES THE FILE" DOES **NOT** ACTUALLY AFFECT THE ORIGINAL UNTIL YOU ISSUE A W OR **SAVE** COMMAND.)

THE W COMMAND REWINDS THE FILE BEFORE AND AFTER THE WRITE AND RETURNS YOU TO THE EDITOR WITH YOUR WORKING COPY AND POINTER UNDISTURBED. IF YOU DID NOT GIVE A FILENAME AS AN ARGUMENT, THE WORKING COPY AND THE ORIGINAL ARE NOW IDENTICAL, UNTIL YOU MAKE FURTHER CHANGES. WHILE EDITING, YOU SHOULD PERIODICALLY ISSUE A W COMMAND TO GUARD AGAINST LOSING YOUR MOST RECENT CHANGES IN THE EVENT OF A SYSTEM CRASH OR IF YOU EXCEED YOUR CU LIMIT. HOWEVER, THIS IS ONLY OF USE IF YOUR FILE IS A **COMMON** FILE (SEE THE SECTION "COMMON FILES" UNDER "THE BASICS" EARLIER IN THIS WRITEUP).

IF YOU ENTER THE EDITOR TO CREATE A NEW FILE, HAVING SPECIFIED A FILENAME (ON THE **POE** OR **NETED** CONTROL CARD) THAT WAS NOT ATTACHED TO YOUR JOB, THE FILE DOES NOT ACTUALLY EXIST UNTIL YOU ISSUE A W OR **SAVE** COMMAND, EVEN THOUGH YOU MAY HAVE TYPED IN YOUR WHOLE FILE. WHEN CREATING TEXT, YOU SHOULD MAKE YOUR FILE A COMMON FILE, AND YOU SHOULD PERIODICALLY ISSUE A W COMMAND TO SAVE YOUR TYPING (THIS REQUIRES GETTING OUT OF INPUT MODE TEMPORARILY TO TYPE "W").

AS MENTIONED ABOVE, THE W COMMAND CAN TAKE A FILENAME AS AN ARGUMENT - I.E., "W <FILENAME>". A BLANK MUST APPEAR BETWEEN THE W AND THE FILENAME, WHICH MUST BE NO MORE THAN 7 ALPHAMERIC CHARACTERS, THE FIRST OF WHICH MUST BE ALPHABETIC. THE WORKING COPY IS WRITTEN OUT TO THE FILE SPECIFIED, WHICH MAY OR MAY NOT ALREADY EXIST (IF IT DOES NOT EXIST, IT IS CREATED BY THIS COMMAND; IF IT EXISTS, IT MUST RESIDE ON DISK AND MUST NOT BE A READ-ONLY FILE). THE ORIGINAL FILE CAN THUS BE PRESERVED INTACT UNDER ITS ORIGINAL NAME. THIS CAN BE HANDY IF YOU WANT TO EXPERIMENT WITHOUT RUINING THE ORIGINAL FILE.

AFTER THE W COMMAND HAS BEEN EXECUTED, THE EDITOR RESPONDS "<FILENAME> WRITTEN.".

IF A J RESTRICTION IS IN EFFECT (POE ONLY) AND YOU ISSUE A W, ONLY THE SUBSET OF LINES CURRENTLY IN ACTION WILL BE WRITTEN. SEE "THE J (JUST) COMMAND" FOR IMPORTANT DETAILS ON THIS.

LINE SPECIFICATIONS - MAY TAKE 2 LINE SPECIFICATIONS, BUT NOT 1 LINE SPECIFICATION. IF 2 ARE GIVEN, ONLY THE INDICATED RANGE OF LINES (INCLUSIVE) IS WRITTEN OUT. MOST FREQUENTLY, YOU WILL PROBABLY WANT TO WRITE THE SPECIFIED RANGE OUT TO ANOTHER FILE IN ORDER TO KEEP THE ORIGINAL INTACT. E.G., "1,20W LITTLE" WRITES OUT LINES 1-20 (INCLUSIVE) OF YOUR FILE TO THE FILE "LITTLE". CAUTION - IF YOU USE 2 LINE SPECIFICATIONS AND DO NOT SPECIFY A FILENAME, E.G., "1,20W", ONLY THE LINES SPECIFIED WILL BE WRITTEN OUT, REPLACING THE ENTIRE ORIGINAL FILE.

SUFFIXES - E - THIS SAYS THAT THE FILE SHOULD BE EXTENDED. THE COMMAND "WE" OR "WE <FILENAME>" WILL SKIP TO END-OF-INFORMATION (<EOI>) BEFORE WRITING. THE FILE IS REWOUND AFTER BEING WRITTEN ON. (IF YOU DO NOT USE SUFFIX "E", THE FILE IS REWOUND BOTH BEFORE AND AFTER BEING WRITTEN ON.) A BLANK MUST APPEAR BETWEEN THE "WE" AND THE FILENAME, IF ANY IS GIVEN. NOTE - SUCCESSIVE WE COMMANDS WILL RESULT IN EOR'S APPEARING BETWEEN THE SECTIONS.

IN NETED, OF COURSE, NO LINE SPECIFICATIONS OR SUFFIXES ARE ALLOWED, AND WE IS NOT A LEGAL COMMAND.

THE SAVE COMMAND

THE SAVE COMMAND WRITES THE WORKING COPY OF YOUR FILE OVER THE ORIGINAL FILE (I.E., THE ONE YOU SPECIFIED ON THE POE OR NETED CONTROL CARD), AND CAUSES YOUR JOB TO EXIT FROM THE EDITOR. AS WITH THE W COMMAND, THE FILE WRITTEN IS REWOUND BEFORE AND AFTER. NO FILENAME MAY BE GIVEN AS AN ARGUMENT; SAVE REPLACES THE ORIGINAL FILE WITH THE EDITED VERSION AND THEN EXITS FROM THE EDITOR. THE EDITOR RESPONDS TO THE SAVE COMMAND BY PRINTING THE MESSAGE "<FILENAME> WRITTEN". YOU MAY NOW EXECUTE CONTROL CARDS FROM SESAME (YOU MAY WANT TO LIBRITE, DISPOSE, OR CALL YOUR FILE, FOR EXAMPLE).

THE SAVE COMMAND IS EQUIVALENT TO A W FOLLOWED DIRECTLY BY A Q COMMAND (WHICH QUITS THE EDITOR). IF YOU ARE IN POE, SAVE CAN BE ABBREVIATED TO "QW", WHICH MEANS WRITE AND THEN QUIT. SAVE OR QW SHOULD BE USED WHEN YOU ARE FINISHED EDITING THE FILE AND WISH TO DO SOMETHING ELSE, SUCH AS USE OR STORE THE FILE, OR TERMINATE YOUR INTERACTIVE JOB. TO KEEP SAVING YOUR EDITING WHILE REMAINING IN THE EDITOR, ISSUE W COMMANDS PERIODICALLY; SAVE IS APPROPRIATE ONLY AT THE END OF THE EDITING SESSION.

NO LINE SPECIFICATIONS, SUFFIXES, OR ARGUMENTS ARE ALLOWED WITH THIS COMMAND. SAVE IS IDENTICAL IN POE AND NETED, BUT "QW" IS A NICE ABBREVIATION AVAILABLE IN POE ONLY.

NOTE - POE REWINDS THE FILE OUTPUT AFTER A SAVE; NETED DOES NOT.

THE QUIT COMMAND

THE QUIT COMMAND CAUSES AN IMMEDIATE EXIT FROM THE EDITOR. IT CAN ONLY BE EXECUTED FROM WITHIN EDIT MODE. ANY CHANGES YOU HAVE MADE SINCE YOU LAST ISSUED A W (WRITE) COMMAND (Q.V.) WILL NOT BE SAVED IF YOU ISSUE A QUIT, ALTHOUGH IF YOU ARE IN POE YOU WILL BE WARNED THAT YOU HAVE NOT WRITTEN THE FILE SINCE THE LAST CHANGE WAS MADE, AND WILL BE ASKED TO REPEAT THE COMMAND TO FORCE A QUIT. IF YOU DID NOT ISSUE ANY W COMMAND DURING THE EDITING SESSION, AND YOU ISSUE A "QUIT", THE ORIGINAL VERSION OF THE FILE ATTACHED TO YOUR JOB WILL BE PRESERVED, AND YOUR CHANGES ARE LOST. IF YOU WERE CREATING A NEW FILE, THE FILE WILL NOT ACTUALLY EXIST IF YOU QUIT WITHOUT WRITING IT FIRST VIA "W".

IF YOU WISH TO ALTER A FILE AND ALSO KEEP A COPY OF THE ORIGINAL ATTACHED TO YOUR JOB, YOU EDIT THE FILE (SAY IT IS CALLED "OLDFILE") AND WRITE THE NEW VERSION OUT UNDER ANOTHER NAME (VIA THE COMMAND "W NEWFILE", FOR EXAMPLE). YOU THEN QUIT THE EDITOR WITHOUT WRITING OVER THE ORIGINAL FILE, AND "OLDFILE" HAS BEEN PRESERVED INTACT. TO SAVE THE CHANGES ON "OLDFILE", ON THE OTHER HAND, YOU MUST EITHER ISSUE A "QW" OR A "SAVE" COMMAND (Q.V.), OR A "W" FOLLOWED BY A "QUIT".

POE ACCEPTS THE ABBREVIATION "Q" (SEE "THE Q COMMAND", BELOW), WHICH TAKES SPECIAL SUFFIXES. IN ADDITION, AS MENTIONED ABOVE, POE WILL WARN YOU IF YOU TRY TO QUIT FROM A FILE YOU HAVE CHANGED SINCE THE LAST "WRITE". THIS IS TRUE WHETHER YOU SAY "QUIT" OR "Q" IN POE. THE MESSAGE "CHANGES WILL BE LOST - REPEAT Q TO FORCE" WILL BE PRINTED ON THE TERMINAL. IF YOU REALLY WANT TO QUIT, YOU MUST REPEAT THE COMMAND AT THIS POINT TO EXIT. SINCE YOU ARE WARNED THAT YOUR CHANGES WILL BE LOST UNLESS YOU EXPLICITLY REPEAT THE "Q" IN POE, YOU NEEDN'T WORRY (TOO MUCH) ABOUT ACCIDENTALLY TYPING THE LETTER "C" AND LOSING YOUR CHANGES.

NETED, ON THE OTHER HAND, WILL NOT WARN YOU THAT YOUR CHANGES WILL BE LOST IF YOU HAVEN'T ISSUED A "W" COMMAND. THE REQUIREMENT TO SPELL OUT THE WORD "QUIT" IN NETED SERVES AS SOMEWHAT OF A GUARD AGAINST ACCIDENTAL MISTYPING.

THE Q (QUIT) COMMAND - POE ONLY

THE Q COMMAND IS THE SAME AS "QUIT" (Q.V.); IT ENDS THE EDITING SESSION. IF YOU ATTEMPT TO "Q" FROM A FILE THAT YOU HAVE CHANGED SINCE THE LAST "W" WAS ISSUED, YOU WILL BE WARNED BY THE MESSAGE "CHANGES WILL BE LOST - REPEAT Q TO FORCE", AND YOU MUST REPEAT THE Q COMMAND AS CONFIRMATION. ANY OTHER LINE YOU TYPE AT THIS POINT IS INTERPRETED AS "DON'T QUIT"; THE LINE TYPED IS OTHERWISE IGNORED.

NO LINE SPECIFICATIONS ARE ALLOWED WITH THIS COMMAND.

SUFFIXES - Q HAS 3 VERY USEFUL SUFFIXES - D, F, AND W.

QD QUIT AND DELETE THE FILE. SAME AS Q FOLLOWED BY THE SESAME COMMAND "DELETE,<FILENAME>". CAUTION - THE FILE ATTACHED TO YOUR

JOB NO LONGER EXISTS AFTER THIS COMMAND. THIS IS TRUE EVEN IF YOUR FILE IS A COMMON FILE.

QF FORCE QUIT. SUPPRESSES THE MESSAGE WARNING YOU THAT YOUR CHANGES WILL BE LOST, AND QUITS FROM POE WITHOUT SAVING CHANGES SINCE LAST WRITE. SAME AS TWO SUCCESSIVE Q COMMANDS (IF CHANGES WERE MADE SINCE LAST WRITE); ALSO THE SAME AS ISSUING A "QUIT" COMMAND IN NETED, WHICH CAUSES EXIT TO SESAME WITHOUT WARNING AND REGARDLESS OF WHETHER CHANGES HAVE BEEN MADE SINCE LAST WRITE.

QW WRITE AND THEN QUIT. EXACTLY THE SAME AS THE "SAVE" COMMAND (Q.V.). ALSO THE SAME AS A W FOLLOWED IMMEDIATELY BY A Q. THE EDITED COPY OF THE FILE IS WRITTEN OUT UNDER THE ORIGINAL FILENAME BEFORE QUITTING. NOTE - IF A J RESTRICTION IS IN EFFECT WHEN A QW IS ISSUED, ALL LINES OF THE FILE ARE WRITTEN OUT, NOT JUST THE BLOCK CURRENTLY BEING EDITED.

THE WTOP COMMAND

THE WTOP COMMAND WRITES ALL LINES FROM THE TOP OF THE FILE DOWN TO, BUT NOT INCLUDING, THE CURRENT LINE. A FILENAME NO LONGER THAN 7 CHARACTERS MUST BE GIVEN AS AN ARGUMENT, AND A BLANK MUST APPEAR BETWEEN THE WTOP AND THE FILENAME - E.G., "WTOP CHUNK". FILE CHUNK NOW CONTAINS THE PORTION OF LINES BETWEEN <TOF> AND <CURRENT> (NOT INCLUSIVE), AND THE EDITOR RESPONDS "CHUNK WRITTEN.". THE SPECIFIED FILE IS REWOUND BEFORE AND AFTER THE WRITE, SO IF FILE CHUNK EXISTED PREVIOUSLY, ITS ORIGINAL CONTENTS ARE OVERWRITTEN. AFTER ISSUING THE WTOP COMMAND, THE POINTER POSITION IS UNCHANGED, AND THE WORKING COPY THAT IS BEING EDITED IS NOT ALTERED. BE CAREFUL NOT TO SPECIFY THE NAME OF THE FILE YOU ARE EDITING UNLESS YOU REALLY MEAN IT.

THE WTOP COMMAND IS NOT NECESSARY IN POE, SINCE THE SAME FUNCTION CAN BE ACHIEVED BY THE COMMAND "T,-1W <FILENAME>" (I.E., WRITE OUT THE LINES BETWEEN T, <TOF>, AND "-1", THE LINE JUST BEFORE <CURRENT>, TO FILE <FILENAME>). WTOP HAS BEEN KEPT IN POE SOLELY TO MAINTAIN COMPATIBILITY WITH NETED. IT IS USEFUL ONLY BECAUSE IT IS IMPOSSIBLE TO GIVE LINE SPECIFICATIONS BEFORE A W (OR ANY OTHER) COMMAND IN NETED.

IF YOU DO USE THE WTOP COMMAND IN POE, AND A J RESTRICTION IS IN EFFECT (SEE THE J COMMAND), THE WTOP WILL WRITE OUT THE LINES FROM THE TOP OF THE RANGE THROUGH THE LINE PRECEDING <CURRENT>.

NO LINE SPECIFICATIONS OR SUFFIXES ARE ALLOWED WITH THE WTOP COMMAND.

NOTE - IF YOU WERE USING THE WTOP COMMAND IN NETED AS PART OF THE PROCEDURE TO MOVE BLOCKS OF LINES, YOU SHOULD USE INSTEAD THE MC OR MV COMMAND (Q.V.) IN POE TO MOVE LINES.

2.5 SPECIAL COMMANDS

THE ? COMMAND

THE ? COMMAND LISTS ALL THE COMMANDS THAT CAN BE USED IN WHICHEVER EDITOR YOU ARE IN. NO LINE SPECIFICATIONS, SUFFIXES, OR ARGUMENTS ARE ALLOWED WITH THIS COMMAND.

THE H (HELP) COMMAND

THE COMMAND H OR HELP TELLS HOW YOU CAN GET DOCUMENTATION ON THE EDITOR. NO LINE SPECIFICATIONS, SUFFIXES, OR ARGUMENTS ARE ALLOWED WITH THIS COMMAND.

THE = COMMAND - POE ONLY

THE = COMMAND PRINTS OUT THE LINE NUMBER OF <CURRENT> WITHOUT PRINTING <CURRENT> ITSELF. THIS COMMAND IS NOT NECESSARY IF YOU HAVE LINE NUMBERS SET. = TAKES NO SUFFIXES OR ARGUMENT, BUT CAN TAKE A SINGLE LINE SPECIFICATION AS A PREFIX. E.G., THE COMMAND "$=" GIVES THE LINE NUMBER OF THE LAST LINE IN THE FILE (THIS IS USEFUL FOR FINDING OUT HOW MANY LINES ARE IN THE FILE). ANOTHER EXAMPLE OF THE USE OF ONE LINE SPECIFICATION IS "/<STRING>/=", WHICH PRINTS OUT THE LINE NUMBER OF THE FIRST LINE AFTER <CURRENT> THAT CONTAINS <STRING>. THE POINTER IS NOW AT THE LINE SPECIFIED (OR AT <CURRENT>, IF NO LINE SPECIFICATION WAS GIVEN).

THE SET/SHOW COMMANDS - POE ONLY

THE SET COMMAND RESETS VARIOUS DEFAULTS TO NEW VALUES; THE SHOW COMMAND CAN SHOW THE NAME OF THE FILE BEING EDITED AND THE VERSION NUMBER OF THE POE PROGRAM YOU ARE USING. SET <ARGUMENT> MAY BE ABBREVIATED TO SE <ARGUMENT>; SHOW <ARGUMENT> MAY BE ABBREVIATED TO SH <ARGUMENT>. IN ADDITION, ANY ARGUMENT MAY BE ABBREVIATED TO AS SHORT A STRING AS IS UNIQUE. E.G., "SET NUMBERS" MAY BE ABBREVIATED TO "SE N", SINCE NO OTHER "SET" ARGUMENT STARTS WITH "N". A BLANK MUST APPEAR BETWEEN THE COMMAND AND THE ARGUMENT.

THERE ARE 6 ARGUMENTS THAT CAN BE USED WITH THE SET COMMAND - NUMBERS, AC, CHARSET, OUTMAX, PROMPT, AND VERBOSE.

SET NUMBERS ("SET N" IS A CONVENIENT ABBREVIATION) - SHOW LINE NUMBERS BESIDE ALL LINES THAT ARE PRINTED. SET -N - RETURN TO DEFAULT; I.E., LINE NUMBERS NOT SHOWN.

SET AC <OLDCHAR> <NEWCHAR> - CHANGE ANY OF THE AC COMMAND'S 3 MAGIC CHARACTERS $, *, AND /. E.G. -

SET AC * +

GIVES '+' THE MAGIC PROPERTIES ASSOCIATED WITH * BY DEFAULT: THE * NO LONGER HAS ANY MAGIC PROPERTIES. BLANKS MUST SURROUND BOTH CHARACTERS GIVEN. IF IT BECAME INCONVENIENT TO USE THE + FOR *'S PROPERTIES AND YOU NOW WANTED TO USE '=' INSTEAD, YOU MUST SAY '**SET AC * =**'. I.E., THE CHARACTER ON THE LEFT MUST BE ONE OF THE 3 DEFAULTS * $ OR /, EVEN IF THEIR MAGIC PROPERTIES HAVE PREVIOUSLY BEEN ASSIGNED TO ANOTHER CHARACTER. TO RETURN TO USING THE * FOR *, YOU MUST TYPE **SET AC * ***. NOTE - IT IS NOT POSSIBLE TO REMOVE MAGIC PROPERTIES, ONLY TO REASSIGN THEM TO A NEW CHARACTER.

SET CHARSET <CODE> - SET THE CHARACTER SET TO BE USED FROM NOW ON TO BE EITHER 7 BIT **ASCII** IN A 12 BIT FIELD (VIA **SET CHARSET ASCII**), OR 6-BIT CDC DISPLAY CODE (VIA **SET CHARSET DISPLAY**). THE CURRENT CONTENTS OF THE FILE ARE NOT REFORMATTED IN RESPONSE TO THIS COMMAND; IT AFFECTS ONLY THE FUTURE, NEVER THE PAST.

SET OUTMAX <NUMBER> - SET THE MAXIMUM NUMBER OF CHARACTERS IN ANY LINE PRINTED AT YOUR TERMINAL. THIS NUMBER INCLUDES THE COLUMNS TAKEN UP BY LINE NUMBERS. THIS DOES NOT AFFECT LINES THAT YOU INPUT, ONLY LINES PRINTED OUT. **SET OUTMAX** IS NORMALLY USED TO AVOID WRAP-AROUND ON LINES WIDER THAN THE TERMINAL. THE NUMBER YOU GIVE IS ROUNDED DOWN TO THE NEAREST MULTIPLE OF 10; IT IS THEREFORE NOT ADVISABLE TO USE THE COMMAND '**SET OUTMAX 9**', AS THIS WILL REDUCE LINES TO A WIDTH OF ZERO COLUMNS. THE COMMAND '**SET OUTMAX 85**' COULD BE USED TO AVOID WRAP-AROUND ON A TERMINAL WITH AN 80-COLUMN CARRIAGE. LINES LONGER THAN 80 CHARACTERS WILL BE TRUNCATED WHEN PRINTED OUT (BUT NOT IN THE FILE, OF COURSE). THE COMMAND '**SET OUTMAX 0**' RESTORES THE DEFAULT, WHICH IS 140 CHARACTERS).

SET PROMPT (**SET P**) - TELLS **POE** TO PROMPT YOU WITH A * WHEN IT IS READY TO RECEIVE INPUT. **SET -P** MEANS RETURN TO THE DEFAULT, I.E., CEASE PROMPTING. NOTE THAT, UNLIKE IN **NETED**, NO CARRIAGE RETURN IS SENT AFTER THE PROMPT, EXCEPT IN INPUT MODE. THIS COMMAND HAS THE SAME FUNCTION AS THE * TOGGLE (Q.V.).

SET VERBOSE (**SET V**) - LIKE THE **V** COMMAND - PRINTS OUT OPTIONAL RESPONSES TO CERTAIN COMMANDS. THIS IS THE DEFAULT. **SET -V** TURNS IT OFF. COMMANDS AFFECTED BY **SET -V** ARE - **A**, **AC**, **B**, **C**, **F**, **L**, **N**, **T**, AND IN CERTAIN CASES THE **O** AND **<NIL>** COMMANDS (DEPENDING ON THEIR USE).

THE POSSIBLE **SHOW** COMMANDS ARE -

SHOW FILE (**SHOW F**) - SHOWS NAME OF FILE CURRENTLY BEING EDITED. USEFUL AS A REMINDER.

SHOW INCARN (**SHOW I**) - SHOWS THE VERSION NUMBER OF THE **POE** PROGRAM YOU ARE USING. (THIS IS ALSO SHOWN WHEN YOU ENTER **POE**.)

THE * (PROMPT TOGGLE) COMMAND

THE * COMMAND IS A TOGGLE THE EDITOR USES TO PROMPT YOU WHEN IT IS READY FOR A NEW COMMAND OR LINE OF INPUT TEXT. INITIALLY, YOU WILL NOT BE PROMPTED. IF YOU ISSUE A * COMMAND, IT IS EQUIVALENT TO SAYING "SET P" (SEE THE SET/SHOW COMMANDS - POE ONLY - ABOVE). THE CHARACTER * IS THEN USED AS A PROMPT AND WILL APPEAR WHENEVER THE EDITOR IS READY FOR A COMMAND OR AN INPUT LINE. TO CEASE PROMPTING (I.E., TO RESET THE PROMPT TOGGLE TO ITS DEFAULT VALUE), TYPE THE COMMAND * AGAIN. THIS IS EQUIVALENT TO SAYING "SET -P" IN POE.

THE TOGGLE COMMAND * MUST APPEAR IN COLUMN 1 OF A LINE AND MUST BE THE ONLY NON-BLANK CHARACTER OF THE LINE. IN NETED, A CARRIAGE RETURN WILL OCCUR AFTER YOU ARE PROMPTED WITH THE *, WHICH AVOIDS SOME CONFUSION IN COLUMN LINEUP BUT CAN BE CONFUSING IF YOU LIKE TO FILL THE RECC BUFFER WITH TWO LINES AT A TIME. IN POE, THE PROMPT CHARACTER * WILL APPEAR IN COLUMN 1 AND NO CARRIAGE RETURN IS GENERATED EXCEPT IN INPUT MODE. YOU WILL SEEM TO BE TYPING YOUR INPUT BEGINNING IN COLUMN 2 OF THE SAME LINE; HOWEVER, YOUR INPUT WILL BE INTERPRETED AS BEGINNING IN COLUMN 1, SO BOTH EDITOR AND RECC COMMANDS CAN BE EXECUTED NEXT TO THE PROMPT CHARACTER. WATCH OUT, THOUGH, IF YOU ARE USING RECC TABS WITH THE PROMPT TOGGLE SET - PROBLEMS IN ALIGNMENT MAY OCCUR.

THE V (VERBOSE TOGGLE) COMMAND

THE V COMMAND IS A TOGGLE THAT CONTROLS THE PRINTING OF "OPTIONAL RESPONSES" - I.E., TELETYPE OUTPUT GENERATED BY THE COMMANDS A, AC, B, C, F, L, N, T, AND IN CERTAIN CASES THE O AND «NIL» COMMANDS (DEPENDING ON THEIR USE). BY DEFAULT, THE RESPONSES TO THESE COMMANDS ARE PRINTED OUT - E.G., IF YOU ISSUE AN L COMMAND, THE LINE THE EDITOR LOCATED IS PRINTED OUT, OR IF YOU ISSUE AN A COMMAND, THE LINE OR LINES AFFECTED ARE PRINTED OUT SHOWING THE CHANGES MADE. IF FOR SOME REASON YOU FIND THESE RESPONSES DISTRACTING, OR ARE SURE ENOUGH OF YOUR EDITING PROWESS THAT YOU DON"T NEED TO SEE THE RESULTS OF YOUR COMMANDS, YOU CAN SUPPRESS OPTIONAL RESPONSES BY TYPING V. A SUBSEQUENT V COMMAND RETURNS YOU TO THE ORIGINAL STATE, WHICH IS THE PRINTING OF THESE RESPONSES.

THE V COMMAND TAKES NO PARAMETERS. IT MUST APPEAR IN COLUMN 1 OF A LINE AND MUST BE THE ONLY NON-BLANK CHARACTER ON THAT LINE. IF YOU INITIALLY ISSUE A V COMMAND, IT IS EQUIVALENT TO SAYING "SET -V" IN POE. A SUBSEQUENT V COMMAND IS EQUIVALENT TO SAYING "SET V" IN POE, WHICH RETURNS YOU TO THE DEFAULT CONDITION. (THE V TOGGLE COMMAND WORKS IN BOTH EDITORS, BUT SET COMMANDS ARE FOR POE ONLY.)

NOTE - IF YOU WANT TO SUPPRESS THE OUTPUT GENERATED BY THE CURRENTLY EXECUTING COMMAND ONLY, USE THE RECC COMMAND »INT. THIS INTERRUPTS THE OUTPUT SENT TO YOUR TELETYPE WITHOUT DISTURBING THE EXECUTION OF THE COMMAND.

THE O (OVER) COMMAND - POE ONLY

THE O COMMAND EXECUTES THE LAST COMMAND YOU TYPED OVER AGAIN, EXACTLY AS IF IT HAD BEEN TYPED IN AGAIN. E.G., IF YOU ISSUE THE COMMAND "F EOR" AND FOLLOW IT BY THE COMMAND O ALONE ON THE NEXT LINE, POE WILL LOOK FOR THE NEXT "EOR" IN COLUMN ONE AFTER IT HAS FOUND THE FIRST ONE.

THE O COMMAND CAN BE USED SEQUENTIALLY AS MANY TIMES AS NEEDED. THIS IS HANDY FOR LOCATING STRINGS IN SEQUENCE; E.G., YOU CAN SAY "L <STRING>" AND THEN KEEP ISSUING THE O COMMAND TO FIND THE NEXT OCCURRENCES OF THE STRING.

LINE SPECIFICATIONS - MAY TAKE UP TO 3 LINE SPECIFICATIONS. LINE SPECIFICATIONS GIVEN WITH THE O COMMAND REPLACE ANY PREVIOUS SPECIFICATION(S) ON THE COMMAND BEING REPEATED. E.G.,

```
14A/STRAW/GOLD
35O
```

(35 FOLLOWED BY ALPHABETIC "O", NOT ZERO) MAKES THE SAME ALTERATION ON LINE 35 THAT IT MADE ON LINE 14. NOTE THAT IF NO LINE SPECIFICATION IS GIVEN, THE COMMAND IS EXECUTED FROM OR AT <CURRENT>.

YOU CAN ALSO USE THE O COMMAND TO REPEAT ANOTHER O COMMAND. E.G.,

```
TP15
NO
O
```

SAYS, GO TO <TOF> AND PRINT 15 LINES (POINTER IS NOW AT LINE 15); THEN GO TO THE NEXT LINE AFTER THAT (N) AND PRINT 15 MORE (POINTER IS NOW AT LINE 30); THEN GO TO THE NEXT LINE AFTER THAT AND PRINT 15 MORE (POINTER IS NOW AT LINE 45). IN OTHER WORDS, THE FINAL "O" IS A REPEAT OF THE PREVIOUS COMMAND "NO", RATHER THAN THE ORIGINAL COMMAND, WHICH STARTED AT <TOF>. IF NO LINE SPECIFICATION IS GIVEN WITH THE O COMMAND, THE PREVIOUS COMMAND'S LINE SPECIFICATION, IF ANY, IS USED AGAIN (IN THE ABOVE EXAMPLE, THE SPECIFICATION "N" IS USED AGAIN).

SUFFIXES - THE O COMMAND CAN ONLY TAKE SUFFIX "O" (HENCE THE COMMAND OO), WHICH NEGATES THE OLD LINE SPECIFICATION USED AS A PREFIX. THUS,

```
TP23
OO
```

SAYS, GO TO <TOF> AND PRINT 23 LINES (LINE 23 IS NOW <CURRENT>); THEN PRINT 23 MORE LINES STARTING AT <CURRENT>, RATHER THAN AT <TOF>.

WARNING - PROBLEMS IN COLUMN ALIGNMENT CAN OCCUR IF THE O COMMAND IS USED TO RE-EXECUTE AN AC COMMAND. YOU ARE ADVISED AGAINST USING THE O COMMAND AFTER AN AC.

THE J (JUST) COMMAND - POE ONLY

THE J COMMAND IS USED TO RESTRICT EDITING TO A PARTICULAR RANGE OF LINES IN THE FILE. THIS IS HANDY IF, FOR EXAMPLE, YOU WANT TO DO GLOBAL CHANGES ON ONLY A CERTAIN SECTION OF YOUR FILE. INITIALLY, TWO LINE SPECIFICATIONS ARE USED TO PRECEDE THE J COMMAND; THESE REFERENCE THE BLOCK TO WHICH ALL EDITING COMMANDS WILL NOW APPLY. A J COMMAND WITH NO LINE SPECIFICATION PRECEDING IT CALLS THE ENTIRE FILE BACK INTO ACTION. A SINGLE LINE SPECIFICATION BEFORE THE J COMMAND ALSO CALLS THE ENTIRE FILE BACK INTO ACTION, PLUS IT MOVES THE POINTER TO THE LINE SPECIFIED. WHENEVER A J COMMAND IS ISSUED, POE GIVES A MESSAGE SAYING HOW MANY LINES ARE NOW ACTIVE.

WHEN A J COMMAND IS PRECEDED BY TWO LINE SPECIFICATIONS, THE FIRST LINE OF THE RANGE INDICATED BECOMES <CURRENT>. ALL EDITING COMMANDS NOW APPLY ONLY WITHIN THE RANGE. THE ORIGINAL LINE NUMBERS WILL BE MAINTAINED; FOR EXAMPLE, IF YOU SPECIFY 10,20J AND THEN ISSUE A "PA" COMMAND (PRINT ALL LINES), THE LINES IN THE BLOCK WILL APPEAR WITH LINE NUMBERS 10 THROUGH 20 BESIDE THEM. IF LINES ARE INSERTED, THE BLOCK IS EXPANDED BY THE CORRESPONDING NUMBER OF LINES.

A LINE NUMBER SMALLER THAN THE NUMBER OF THE FIRST LINE IN THE BLOCK REFERENCES A PSEUDO-<TOF> THAT IS TEMPORARILY IN FRONT OF THE BLOCK WHILE THE J RESTRICTION IS IN EFFECT. HOWEVER, A LINE NUMBER LARGER THAN THE NUMBER OF THE LAST LINE IN THE BLOCK REFERENCES THAT LAST LINE (NOT <BOF>). THUS, IN THE ABOVE EXAMPLE, IF YOU ISSUED THE COMMAND "22D", LINE 20 WOULD BE DELETED. BE CAREFUL, THEREFORE, IF YOU USE A TOO-LARGE LINE NUMBER WHILE EDITING A J BLOCK, OR THE OUTCOME MAY BE SINGULARLY VOID OF POETIC JUSTICE.

TO AVOID CONFUSION, IT IS ADVISABLE TO CALL THE ENTIRE FILE BACK INTO ACTION AFTER EACH SESSION OF BLOCK EDITING WITH THE J COMMAND. BENEVOLENTLY, A SAVE OR QW COMMAND ISSUED WHILE A J RESTRICTION IS IN EFFECT WILL SAVE THE ENTIRE FILE AS IF IT HAD EXPLICITLY BEEN CALLED BACK INTO ACTION. HOWEVER, USE CAUTION WHEN WRITING OR QUITTING THE FILE WITH A J RESTRICTION IN EFFECT.

THE X (EXIT) COMMAND - POE ONLY

THE X COMMAND ALLOWS YOU TO EXIT TEMPORARILY FROM AN EDITING SESSION INTO SESAME, THEN RETURN TO EDITING WITH THE POINTER UNDISTURBED. THIS FEATURE IS USEFUL IF, FOR EXAMPLE, YOU ARE RUNNING SHORT OF CU'S WHILE EDITING, AND WANT TO INCREASE THE CU LIMIT (OR THE JOB PRIORITY) USING THE SCP CONTROL CARD. IT IS ALSO USEFUL FOR ATTACHING FILES (WITH LIBCOPY, GETTAPE, COMMON, ETC.) TO MERGE INTO THE FILE YOU HAVE BEEN EDITING; OR FOR EXECUTING OTHER CONTROL CARDS (FILES, WHO, ETC.). THE ADVANTAGE OF THE X COMMAND IS THAT POE DOES NOT HAVE TO REMAKE A WORKING COPY OF THE FILE BEFORE RESUMING THE EDITING SESSION.

YOU MAY EXECUTE ANY NUMBER OF CONTROL CARDS AFTER ISSUING AN X COMMAND; THE ONLY RESTRICTIONS ARE THAT YOU SHOULD NOT POE ANOTHER FILE WHILE YOU ARE "IN LIMBO," AND YOU SHOULD NOT TOUCH EITHER OF THE

FILES ZZZZZCO OR POE (WHICH ARE BOTH CREATED WHENEVER POE IS USED).

THE FOLLOWING IS AN EXAMPLE IN WHICH "SARTRE" IS THE NAME OF THE FILE YOU ARE EDITING AND WANT TO EXIT. POE'S MESSAGES ARE IN BOLDFACE; YOUR INPUT IS IN LIGHTFACE.

```
POE,SARTRE.

POE 2.15
1145 LINES.  EDIT.

     .
     .
     .

X

EXITING FROM POE.  TYPE "POE" TO RETURN.

SCP,A=1000.
FILES.
POE.

RE-ENTERING POE.
SARTRE BEING EDITED.
```

IF YOU TYPED X AFTER HAVING MADE CHANGES TO "SARTRE" SINCE THE LAST WRITE, POE'S MESSAGE "EXITING FROM POE." WOULD BE PRECEDED BY THE REMINDER

```
(NO WRITE SINCE LAST CHANGE)
```

YOU NEED NOT WRITE THE FILE BEFORE EXITING, UNLESS YOU WANT TO USE THE FILE YOU ARE EDITING AND WANT THE FILE TO REFLECT THE CHANGES YOU HAVE MADE.

NO LINE SPECIFICATIONS, SUFFIXES, OR ARGUMENTS ARE ALLOWED WITH THIS COMMAND.

INTRODUCTION TO LINE SPECIFICATIONS

POE COMMANDS MAY BE PREFIXED BY 0, 1, 2, OR 3 LINE SPECIFICATIONS. IF 2 OR 3 SPECIFICATIONS ARE GIVEN, THEY ARE USUALLY SEPARATED BY COMMAS. A SEMICOLON MAY BE USED TO SEPARATE TWO LINE SPECIFICATIONS; SEE THE SECTION "THE SEMICOLON CONVENTION" BELOW. EITHER THE SECOND SPECIFICATION MUST REFERENCE A LINE BELOW THE LINE THAT THE FIRST SPECIFICATION REFERENCES, OR THE FIRST AND SECOND LINE SPECIFICATIONS MUST REFERENCE THE SAME LINE (AS IN THE COMMAND "10,10MV"). MOST COMMANDS TAKE A MAXIMUM OF 2 LINE SPECIFICATIONS, WITH THE EXCEPTION OF THE MV AND MC COMMANDS (Q.V.), WHICH USE 3 SPECIFICATIONS TO MOVE BLOCKS OF LINES.

THE FIRST LINE SPECIFICATION YOU GIVE ALWAYS CAUSES THE POINTER TO MOVE IMMEDIATELY TO THE ADDRESSED LINE, WHICH BECOMES <CURRENT> JUST BEFORE THE COMMAND IS EXECUTED. IF A SECOND LINE SPECIFICATION IS GIVEN, THEN THE TWO REPRESENT THE RANGE OF LINES (INCLUSIVE) TO WHICH THE COMMAND APPLIES.

THERE ARE 3 DISTINCT TYPES OF LINE SPECIFICATIONS THAT CAN BE USED; THESE ARE - ACTUAL LINE NUMBERS, SYMBOLIC LINE REPRESENTATIONS, AND TEXT STRINGS BOUNDED BY EITHER //"S OR ??"S. AN EXAMPLE OF THE USE OF SPECIFIC LINE NUMBERS IS 1,23P - PRINT LINES 1-23 OF THE FILE. AN EXAMPLE OF THE USE OF SYMBOLS IS -,BP - PRINT ALL THE LINES STARTING AT THE LINE JUST BEFORE <CURRENT> (-) AND ENDING AT THE BOTTOM OF THE FILE (B). AN EXAMPLE OF A TEXT STRING SPECIFICATION IS /CORDELIA/D - FIND THE FIRST LINE AFTER <CURRENT> THAT CONTAINS THE STRING "CORDELIA" AND DELETE THAT LINE. (REMEMBER THAT /CORDELIA/ REPRESENTS THE ENTIRE LINE ON WHICH THAT STRING IS FOUND, NOT MERELY THAT WORD WITHIN THE LINE.)

3.1 LINE SPECIFICATIONS AND "P" - AN EXAMPLE

THIS SECTION USES THE P COMMAND TO ILLUSTRATE THE USE OF THE 3 DIFFERENT TYPES OF LINE SPECIFICATIONS (NUMBERS, SYMBOLS, AND CONTEXTS). IT ALSO DISCUSSES SUCCESSIVE LINE SPECIFICATIONS, AND THE USE OF THE SEMICOLON TO SEPARATE MULTIPLE LINE SPECIFICATIONS.

IN POE, THE P COMMAND NEED NOT BE EXPLICITLY ISSUED IN ORDER TO PRINT LINES. IF 1 OR 2 LINE SPECIFICATIONS ARE GIVEN WITH NO COMMAND FOLLOWING THEM, THE P COMMAND IS IMPLICITLY ISSUED FOR THAT LINE OR RANGE OF LINES. THUS, FOR EXAMPLE, THE COMMAND 1,10P CAN BE ABBREVIATED TO 1,10 AND RETAIN ITS MEANING - I.E., PRINT LINES 1-10. AND TYPING A SINGLE LINE SPECIFICATION WITHOUT A COMMAND FOLLOWING IT WILL RESULT IN THAT LINE BEING PRINTED.

LINE NUMBERS

IF THE FILE YOU ARE EDITING IS LARGE YOU MAY FIND IT EASIEST TO HAVE LINE NUMBERS PRINTED BY DEFAULT (VIA SET N) SO THAT YOU CAN SPECIFY LINES BY THESE NUMBERS. THIS WAY YOU AVOID HAVING TO USE THE SUFFIX "N" AFTER EACH COMMAND IF YOU WANT TO KNOW THE LINE NUMBERS.

THE COMMAND

10P8

MEANS GO TO LINE 10 AND PRINT 8 LINES INCLUDING LINE 10, I.E., LINES 10-17. THE COMMAND

10,17P (OR SIMPLY 10,17)

IS EXACTLY EQUIVALENT TO THE ABOVE COMMAND (10P8), BUT IT USES 2 LINE NUMBERS AS SPECIFICATIONS - 10 AND 17. THESE NUMBERS REPRESENT THE RANGE OF LINES TO WHICH THE COMMAND APPLIES. THE REDUNDANT SPECIFICATION 10,17P8 WOULD BE IN ERROR.

SYMBOLIC LINE SPECIFICATIONS

THE SYMBOLS T, B, +, N, -, U, AND K CAN BE USED AS LINE SPECIFICATIONS. T REFERENCES THE PSEUDO-LINE <TOF> (TOP OF FILE), AND B REFERENCES THE LAST LINE IN THE FILE. THUS THE COMMAND "TP15" MEANS GO TO <TOF> AND PRINT 15 LINES STARTING THERE.

THE LINE JUST AFTER <CURRENT> CAN BE REFERENCED BY + OR N; THE LINE JUST BEFORE <CURRENT> CAN BE REFERENCED BY - OR U. FOR EXAMPLE, THE COMMAND -P20 PRINTS 20 LINES STARTING AT THE LINE JUST BEFORE <CURRENT>.

+, N, -, AND U CAN ALSO BE USED TO SPECIFY AN INCREMENT OR DECREMENT OF <CURRENT>'S LINE NUMBER. FOR EXAMPLE, THE COMMAND

-5,+5P (OR SIMPLY -5,+5)

PRINTS THE 11 LINES BEGINNING 5 BEFORE <CURRENT>, AND ENDING 5 AFTER WHAT HAD BEEN <CURRENT>. THE COMMA BETWEEN THE 2 SPECIFICATIONS MEANS THAT <CURRENT> SERVES AS A REFERENCE POINT FOR THE SECOND AS WELL AS THE FIRST SPECIFICATION. I.E., THE INCREMENT FOR THE SECOND BEGINS AT <CURRENT> JUST AS THE INCREMENT FOR THE FIRST DID. (CONCEPTUALLY, IT MEANS «CURRENT»-5,«CURRENT»+5P.)

THE COMMANDS

U5,N5P AND U5,+5 AND -5P11

ARE ALL EXACTLY EQUIVALENT TO THE ABOVE.

IN MOST CASES, IF YOU SPECIFY A DECREMENT OF <CURRENT> THAT IS GREATER THAN <CURRENT>'S LINE NUMBER (E.G., IF LINE 10 IS THE CURRENT LINE AND YOU USE -15 AS A LINE SPECIFICATION), THE SPECIFICATION WILL REFERENCE THE FIRST LINE OF THE FILE (LINE 1). THIS DOES NOT APPLY IF THE LINE SPECIFICATION IS FOLLOWED BY THE TOGGLE SWITCH . OR THE COMMANDS I, L, OR M; FOR THESE COMMANDS A TOO-LARGE DECREMENT REFERENCES PSEUDO-LINE 0 «TOF».

SIMILARLY, IF YOU SPECIFY AN INCREMENT OF <CURRENT> THAT IS BEYOND THE <BOF>, OR IF YOU GIVE AN EXPLICIT LINE NUMBER THAT IS GREATER THAN THE NUMBER OF LINES IN THE FILE, THE SPECIFICATION USUALLY REFERENCES THE LAST LINE IN THE FILE. THIS DOES NOT APPLY IF THE LINE SPECIFICATION IS FOLLOWED BY THE COMMAND L OR P; FOR THESE COMMANDS A TOO-LARGE INCREMENT REFERENCES PSEUDO-LINE «BOF».

THE "N" SYMBOL HAS THE SPECIAL PROPERTY OF BEING IN MOST CASES INTERCHANGEABLE WITH A SINGLE BLANK. THUS, IT IS POSSIBLE TO SIMPLY PRESS THE CARRIAGE RETURN (HEREAFTER REFERRED TO AS «CR») TO PRINT THE LINE IMMEDIATELY FOLLOWING <CURRENT>. IN THIS CASE, POE ACTUALLY INTERPRETS THE <CR> AS A SINGLE BLANK FOLLOWED BY A <CR>. THIS CHARACTERISTIC CAN ALSO BE USED WITHIN A LINE SPECIFICATION. E.G., THE COMMAND

1, P

(I.E., WITH A BLANK BETWEEN THE , AND THE P) MEANS PRINT LINE 1 THROUGH THE LINE AFTER <CURRENT>. THE COMMAND

(BLANK)P23

(I.E., A BLANK IN COLUMN ONE FOLLOWED BY THE COMMAND P23 BEGINNING IN COLUMN 2) MEANS PRINT 23 LINES STARTING WITH THE ONE AFTER <CURRENT>. ONLY ONE BLANK CAN BE USED IN THIS WAY PER LINE SPECIFICATION.

THE +, -, N, AND U SPECIFICATIONS CAN BE REPEATED INDEFINITELY TO BE INTERPRETED AS FOLLOWS -

--- MEANS THE SAME AS -3 OR U3
NN MEANS THE SAME AS +2 OR N2 OR TWO SUCCESSIVE «CR»'S
ETC.

K REPRESENTS THE CURRENT LINE; IF NO SPECIFICATION IS MADE IT IS

ASSUMED THAT THE COMMAND REFERS TO, OR BEGINS AT, <CURRENT>. THE COMMAND

-,KP (OR -,K)

HAS THE SAME MEANING AS

-,P (OR -,)

WHICH IS TO PRINT THE LINE BEFORE <CURRENT> AND <CURRENT>. (THIS IS BECAUSE K IS THE DEFAULT SPECIFICATION.) A MORE STRIKING EXAMPLE OF THE USE OF <CURRENT> AS THE DEFAULT IS PERHAPS THE COMMAND

,,

WHICH REPRESENTS "K,K.", AND MEANS DELETE <CURRENT> THROUGH <CURRENT> (I.E., <CURRENT>) AND GO INTO INPUT MODE. (REMEMBER THAT 2 LINE SPECIFICATIONS BEFORE A "." COMMAND DELETE THE LINES IN THAT RANGE BEFORE GOING INTO INPUT MODE.)

INCREMENTS AND DECREMENTS CAN ALSO BE USED WITH THE K DEFAULT; THIS IS OFTEN VERY USEFUL. E.G., THE COMMAND

-5,P (OR SIMPLY -5,)

PRINTS ALL THE LINES FROM 5 BEFORE <CURRENT> UP TO AND INCLUDING <CURRENT>. THE COMMAND

-P (OR SIMPLY -)

WOULD PRINT ONLY THE LINE BEFORE <CURRENT>. (OF COURSE, THE LETTER U MAY BE SUBSTITUTED FOR THE - THROUGHOUT.)

CONTEXTS AS LINE SPECIFICATIONS

TEXT STRINGS, OR CONTEXTS, CAN BE SEARCHED FOR BEFORE EXECUTION OF A COMMAND. THE DELIMITERS // AND ?? ARE FOR FORWARDS AND BACKWARDS PATTERN SEARCHING, RESPECTIVELY. A STRING BOUNDED BY //'S MUST NOT CONTAIN ANY /'S AS CHARACTERS; SIMILARLY, ONE BOUNDED BY ??'S MUST NOT CONTAIN ANY ?'S. IT IS NOT POSSIBLE TO ESCAPE THESE CHARACTERS.

THE COMMAND

/RASKOLNIKOV/L SONIA

MOVES THE POINTER TO THE FIRST OCCURRENCE OF "RASKOLNIKOV" AFTER <CURRENT> AND THEN LOOKS FROM THERE FOR THE FIRST OCCURRENCE OF "SONIA".

THESE SEARCHES WRAP AROUND FROM B TO T AND VICE-VERSA. THUS, IF A STRING BOUNDED BY //'S IS NOT FOUND BETWEEN <CURRENT> AND <BOF>, BUT EXISTS BEFORE WHAT WAS <CURRENT>, IT WILL BE FOUND ANYWAY. WHEN THE SEARCH REACHES THE BOTTOM IT GOES TO THE TOP AND CONTINUES. THE SAME HOLDS FOR UPWARDS SEARCHING WITH ??'S IF THE STRING EXISTS AFTER WHAT

WAS <CURRENT>; WHEN THE SEARCH REACHES THE TOP IT GOES TO THE BOTTOM AND CONTINUES UPWARD.

IF A STRING BOUNDED BY //'S OR ??'S IS NOT FOUND, THE MESSAGE "STRING NOT FOUND" WILL APPEAR, AND THE POINTER IS BACK AT THE LINE WHERE IT RESIDED WHEN THE COMMAND WAS ISSUED. POE ALSO ISSUES THE SPURIOUS ERROR MESSAGE "BAD COMMAND" WHEN A STRING IS NOT FOUND; THIS SHOULD BE IGNORED.

SUPPOSE THERE WAS ONLY ONE LINE IN A FILE THAT CONTAINED THE STRING "FRANNY". THEN THE COMMAND

```
/FRANNY/P15
```

WOULD BE EXACTLY EQUIVALENT TO

```
?FRANNY?P15
```

NO MATTER WHERE IN THE FILE THE POINTER WAS LOCATED BEFORE THE COMMAND WAS EXECUTED. THIS IS BECAUSE THE SEARCH WRAPS AROUND TO FIND THAT SINGLE OCCURRENCE.

SUPPOSE THE STRING "ZOOEY" OCCURS MORE THAN ONCE IN A FILE. THE COMMAND

```
/ZOOEY/P15
```

FINDS THE FIRST LINE AFTER <CURRENT> THAT CONTAINS THE STRING (OR WRAPS AROUND TO <TOF> AND FINDS THE FIRST LINE AFTER <TOF> THAT CONTAINS IT). IT THEN PRINTS THE 15 LINES INCLUDING AND FOLLOWING THAT LINE. THE COMMAND

```
?ZOOEY?P15
```

FINDS THE FIRST LINE BEFORE <CURRENT> IN WHICH "ZOOEY" OCCURS AND PRINTS 15 LINES STARTING THERE (OR IT WRAPS AROUND TO <EOF> AND CONTINUES THE UPWARD SEARCH FROM THERE TO FIND THE LINE). THUS THE DIFFERENCE BETWEEN USING ??'S AND //'S DEPENDS ON WHETHER THERE ARE MULTIPLE OCCURRENCES OF THAT STRING IN THE FILE. IT ALSO MIGHT BE MORE TIME-EFFICIENT TO SEARCH IN ONE DIRECTION RATHER THAN THE OTHER, IF YOU HAVE A LARGE FILE AND YOU KNOW WHETHER THE STRING IS ABOVE OR BELOW <CURRENT>.

SUCCESSIVE LINE SPECIFICATIONS

LINE SPECIFICATIONS OF ANY OF THE THREE ABOVE-DESCRIBED FORMS (NUMBERS, SYMBOLS, AND CONTEXTS) MAY BE COMBINED TOGETHER TO REFERENCE A SINGLE LINE. THESE ARE CALLED SUCCESSIVE OR CASCADING LINE SPECIFICATIONS, AND ARE HANDY FOR LOCATING A SPECIFIC INSTANCE OF A FREQUENTLY-OCCURRING STRING. WITH SUCCESSIVE LINE SPECIFICATIONS, YOU CAN TELL POE THAT THE STRING YOU ARE LOOKING FOR IS BEFORE A CERTAIN OTHER STRING, 15 LINES AFTER ANOTHER STRING, ETC.

SUCCESSIVE LINE SPECIFICATIONS SHOULD NOT BE THOUGHT OF AS MULTIPLE

LINE SPECIFICATIONS, SINCE THE SUCCESSION ULTIMATELY REFERENCES A SINGLE LINE AS OPPOSED TO A RANGE OF LINES. THE POINTER IS IMPLICITLY MOVED AFTER EACH SUCCESSIVE SPECIFICATION IS EVALUATED; THEN THE SEARCH FOR THE NEXT IS UNDERTAKEN. FOR EXAMPLE, THE COMMAND

```
100/HOLDEN/?PHOEBE?-4P20
```

SAYS, GO TO LINE 100 OF THE FILE, FIND THE FIRST OCCURRENCE OF "HOLDEN" AFTER THAT LINE, LOOK UPWARDS FROM THERE FOR THE FIRST OCCURRENCE OF "PHOEBE", GO BACK 4 LINES AND PRINT 20 LINES STARTING AT THAT POINT.

FOR CONVENIENCE, WHEN COMBINING THE +, -, N, OR U SPECIFICATIONS WITH THE T OR B SPECIFICATIONS, THE + OR - (OR "N" OR "U") NEED NOT BE EXPLICITLY USED. THUS T15 REFERENCES THE LINE 15 LINES AFTER <TOF> (I.E., T+15, WHICH IS LINE 15). B37 MEANS B-37, AND REFERENCES THE LINE 37 LINES BEFORE THE LAST LINE IN THE FILE.

THE SEMICOLON CONVENTION

A SEMICOLON MAY BE USED INSTEAD OF A COMMA TO SEPARATE 2 LINE SPECIFICATIONS. WHEN A COMMA IS USED, AS IN THE EXAMPLE -5,+10P, BOTH THE FIRST SPECIFICATION (-5) AND THE SECOND SPECIFICATION (+10) ARE EVALUATED RELATIVE TO <CURRENT> (SO 16 LINES ARE PRINTED - 5 BEFORE <CURRENT>, <CURRENT>, AND THE 10 LINES FOLLOWING <CURRENT>). THUS <CURRENT> DETERMINES THE VALUE OF +10 AS WELL AS -5.

A SEMICOLON SEPARATING THESE SAME 2 SPECIFICATIONS WOULD MEAN THAT THE FIRST SPECIFICATION, RATHER THAN <CURRENT>, IS USED TO DETERMINE THE VALUE OF THE SECOND SPECIFICATION. THUS

```
-5;+10P
```

MEANS GO BACK 5 LINES AND PRINT THAT LINE PLUS THE 10 LINES FOLLOWING IT.

WHEN 2 LINE NUMBERS ARE USED AS SPECIFICATIONS (E.G., 6,25P), THE SEMICOLON AND THE COMMA CAN BE USED INTERCHANGEABLY, SINCE LINE NUMBERS ARE ABSOLUTE AND DO NOT REQUIRE EVALUATION ACCORDING TO <CURRENT> OR ANY OTHER LINE.

THE FOLLOWING LINES WILL BE USED TO FURTHER ILLUSTRATE THE USE OF THE SEMICOLON AND ITS DIFFERENCES FROM THE COMMA.

```
0   <TOF>
1   WHEN DAISIES PIED AND VIOLETS BLUE
2   AND LADY-SMOCKS ALL SILVER-WHITE
3   AND CUCKOO-BUDS OF YELLOW HUE
4   DO PAINT THE MEADOWS WITH DELIGHT,
5   THE CUCKOO THEN ON EVERY TREE
6   MOCKS MARRIED MEN, FOR THUS SINGS HE,
7   CUCKOO,
8   CUCKOO, CUCKOO - O WORD OF FEAR,
9   UNPLEASING TO A MARRIED EAR.
```

SUPPOSE THE PCINTER IS AT <TOF>. IF YOU ISSUE THE CCMMAND

```
/CUCKOO/;N4P
```

THE FIRST OCCURRENCE OF "CUCKOO" IS FOUND ON LINE 3, AND THAT LINE PLUS THE 4 LINES FOLLCWING IT (I.E., LINES 3-7) ARE PRINTED. THE SAME COMMAND WITH A CCMMA INSTEAD OF A SEMICOLCN FINDS THE FIRST OCCURRENCE OF "CUCKCO", THEN FINDS THE LINE 4 BELOW <TOF>, WHICH IS THE ORIGINAL <CURRENT>, AND PRINTS THE LINES BETWEEN AND INCLUDING THOSE 2 LINES (I.E., LINES 3-4 ARE PRINTED).

IF THE POINTER IS STILL AT <TOF>, THE CCMMAND

```
/CUCKOO/;/CUCKCO/P
```

PRINTS ALL THE LINES FRCM THE FIRST THRCUGH THE SECOND CCCURRENCE OF "CUCKOO" - I.E., LINES 3-5. THE SAME CCMMAND WITH A COMMA PRINTS ONLY ONE LINE, SINCE THE SECCND SPECIFICATION IS EVALUATED FFOM <TOF> JUST AS THE FIRST SPECIFICATICN IS. THUS THE COMMAND **/CUCKOC/,/CUCKOO/P** IS EQUIVALENT TO THE CCMMANC **3,3P**.

SUPPOSE LINE 6 IS <CURRENT>. THE COMMAND

```
/LADY-SMOCKS/,/CUCKOO/D
```

DELETES LINES 2-7, WHEREAS THE COMMAND

```
/LADY-SMOCKS/;/CUCKOO/D
```

DELETES ONLY LINES 2-3.

A MORE USEFUL EXAMPLE CF THIS AT BKY IS PERHAPS THE FOLLCWING -

```
T/LINK -/;/EOR/D
```

WHICH SAYS, GO TO <TOF>, LOOK FOR THE FIRST "LINK -", LCOK DOWN FROM THAT POINT FOF THE NEXT EOR, AND DELETE THE LINES BETWEEN AND INCLUDING THOSE TWO SPECIFICATIONS. THUS THE FIRST LOAC MAP IS REMOVED FROM AN OUTPUT FILE.

IN THE FOLLOWING TABLE, A PLUS (+) IN THE POE AND/OR NET (FOR NETED) COLUMNS INDICATES THAT THE CORRESPONDING COMMAND WORKS IN THAT EDITOR.

IN THE COLUMN "LINES" (POE ONLY), A DOT (.) REPRESENTS A LINE SPECIFICATION, AND A COMMA (,) REPRESENTS A SEPARATOR BETWEEN EACH SPECIFICATION. THE TOTAL NUMBER OF DOTS IS THE MAXIMUM NUMBER OF LINE SPECIFICATIONS THE COMMAND CAN TAKE; LESS CAN ALSO BE USED WITH MOST COMMANDS. THE BRACKETS SERVE AS A REMINDER THAT LINE SPECIFICATIONS ARE OPTIONAL.

THE SUFFIXES COLUMN ALSO APPLIES ONLY TO POE.

IN THE ARGUMENT COLUMN, <STR> MEANS <STRING>, AND <NUM> MEANS <NUMBER>. EXCEPT WITH THE AC COMMAND, THE "$" STANDS FOR A SEPARATOR OR A DELIMITER, BLANK OR NON-BLANK, AND THE BRACKETS MEAN THE CHARACTER IS OPTIONAL. NETED USERS ARE REMINDED THAT NETED DOES NOT ACCEPT NON-BLANK DELIMITERS EXCEPT IN THE C COMMAND.

POE	NET	LINES	COMMAND	SUFFIXES	ARGUMENT
+		[.,.]	A (ALTER)	A, F, FU, G, L, LU, N, V	$<STR>$<STR>[$]
+		[.,.]	AC (ALTER IN COLUMNS)	-	[STRINGS] [/<STR>/] [$] [*]
+	+	-	B (BOTTOM)	N	[ANY APPROPRIATE POE COMMAND]
+	+	[.,.]	C (CHANGE)*	N	$<S>$<S>[$] <N> G
+	+	[.,.]	D (DELETE)	F, FU, L, LU, N, P	<NUM> OR $<STR>[$]
+	+	-	DTOP	-	-
+	+	[.,.]	F (FIND IN COLUMN 1)	A, N, U	$<STR>[$]
+		-	G (GO BACK)	N, P	-
+	+	-	H (HELP)	-	-
+	+	[.]	I (INSERT)	I, M, N, P	$<LINE>[$]
+		[.,.]	J (JUST)	-	-
+	+	[.,.]	L (LOCATE)	A, N, U	$<STR>[$]

* IN THIS LINE, <S> STANDS FOR <STRING> AND <N> STANDS FOR <NUMBER>.

TABLE CONTINUES .

POE	NET	LINES	COMMAND	SUFFIXES	ARGUMENT
+	+	[.]	M (MERGE)	-	<FILENAME>
+		[.,.,.]	MC (MOVE A COPY)	-	<NUM>
+		[.,.,.]	MV (MOVE)	-	<NUM>
+	+	[.]	N (NEXT)	-	<NUM> (ANY POE COMMAND)
+		[.,.,.]	O (OVER)	O	-
+	+	[.,.]	P (PRINT)	A, N	<NUM>
+		-	Q (QUIT)	D, F, W	-
+	+	-	QUIT	-	-
+	+	[.,.]	R (REPLACE)	N, P	$<LINE>[$]
+	+	-	SAVE	-	-
+		-	SET	-	AC <CLC> <NEW> CHARSET <CODE> NUMBERS CUTMAX <NUMBER> PROMPT VERBOSE
+		-	SHOW	-	FILE, INCARN
+	+	-	T (TOP)	P	(ANY APPROPRIATE POE COMMAND)
+	+	-	V (VERBOSE)	-	-
+	+	[.,.]	W (WRITE)	E	[<FILENAME>]
+	+	-	WTOP	-	<FILENAME>
+		-	X (EXIT)	-	-
+	+	-	? (HUH?)	-	-
+		[.]	= (LINE NO.)	-	-
+	+	[.,.]	. (INPUT/EDIT TOGGLE)	I	-
+	+	-	* (PROMPT TOGGLE)	-	-
+		[.,.]	<NIL> (GO TO AND PRINT)	-	-