CheatSheets
PSS®E 34.8.2

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Graphic Report Generator GRPG User's Ready Reference

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Chapter 1
GRPG User's Ready Reference

```
ABORT

APPEND LINE [FROM x,y] TO x,y

APPEND LINE FOR x,y

APPEND VECTOR [FROM x,y] FOR length [c] ANGLE angle [c]

APPEND BOX FROM x,y TO x,y [c] [RADIUS rad]

APPEND BOX CENTERED AT x,y WITH SIDES length-x BY length-y [c] [RADIUS
rad]

APPEND CIRCLE [c] AT x,y [c] RADIUS rad

APPEND ARC [c] AT x,y [c] RADIUS rad [c] FROM angle [c] TO angle
[c]

       |CLOCKWISE       |
APPEND |CW              | ELLIPSE FROM x,y TO x,y
       |COUNTERCLOCKWISE|
       |CCW             |

APPEND POLYGON[S] FROM filename [c] [OFFSET x,y] [c] [SCALE scale]

CLOSE POLYGON

COMMENT string

DECLARE |REAL  | &label [&label2...&label10]
        |STRING|

DEFINE MACRO macroname

DRAW LINE [FROM x,y] TO x,y

DRAW LINE FOR x,y

DRAW LOGO AT x,y WITH SIZE size [c] [ANGLE angle] [c]

DRAW VECTOR [FROM x,y] FOR length [c] ANGLE angle [c]

DRAW BOX FROM x,y TO x,y [c] [RADIUS rad]
```

```
DRAW BOX CENTERED AT x,y WITH SIDES length-x BY length-y [c] [RADIUS
rad]

DRAW CIRCLE [c] AT x,y [c] RADIUS rad

DRAW ARC [c] AT x,y [c] RADIUS rad [c] FROM angle [c] TO angle [c]

     |CLOCKWISE       |
DRAW |CW              | ELLIPSE FROM x,y TO x,y
     |COUNTERCLOCKWISE|
     |CCW             |

DRAW POLYGON[S] FROM filename [c] [OFFSET x,y] [c] [SCALE scale]

DRAW GRID FROM x,y TO x,y [c] DELTA x,y

ELSE

       |&label|      |&label|
ELSEIF |string| oper |string|
       |real  |      |real  |

   where "oper" is "EQ", "=", "NE", "<>", "GT", ">",  "GE",
">=", "LT", "<", "LE", or "<=".

END [c]

ENDIF

ENDMACRO

FLUSH ACCUMULATED POLYGON[S]

HELP [command]

   |&label|      |&label|
IF |string| oper |string|
   |real  |      |real  |

   where "oper" is "EQ", "=", "NE", "<>", "GT", ">", "GE", ">=",
"LT", "<", "LE", or "<=".

INCLUDE filename [c] [OFFSET x,y] [c] [SCALE scale]

INCLUDE [BINARY] ONE-LINE [c] FROM filename

INVOKE MACRO macroname USING p1 [p2...p9]

             |LEFT    |
JUSTIFY TEXT |RIGHT   |
```

```
             |CENTERED|

             |real  |
LET &label = |string|
             |&label|

LET &label = |real  |  oper |real  |
             |&label|       |&label|

   where "oper" is "PLUS", "+", "MINUS", "-", "TIMES", "*", "OVER",
or "/".

LET &label = THE CABS OF |real  | AND |real  |
                         |&label|     |&label|

LET &label2 = THE CASE TITLE

LET &label = THE NAME FOR |AREA| n
                          |ZONE|

LET &label2 = THE INTERCHANGE FROM AREA n TO AREA n

LET &label2 = THE INTERCHANGE FROM ZONE n TO ZONE n

LET &label2 = THE NET INTERCHANGE FROM |AREA| n
                                       |ZONE|

                  |GENERATION|
LET &label2 = THE |LOAD      | FOR |AREA| n
                  |LOSSES    |     |ZONE|

LET &label2 = THE GENERATION AT BUS busid

LET &label2 = THE LOAD AT BUS busid [LOADID lid]

LET &label = THE ANGLE AT BUS busid

                         |GENERATION|
LET &label2 = THE SYSTEM |LOAD      |
                         |LOSSES    |

LET &label = THE [EXTENDED] NAME FOR BUS busid

LET &label = THE BASE VOLTAGE FOR BUS busid

LET &label = THE VOLTAGE AT BUS busid [ IN |PU| ]
                                      [    |KV| ]

LET &label = THE STATUS FOR |BRANCH| FROM BUS busid TO BUS busid
                            |LINE  |                      [CIRCUIT
cid]
```

```
LET &label2 = THE FLOW FOR |BRANCH| FROM BUS busid TO BUS busid
                           |LINE  |                       [CIRCUIT
cid]

LET &label2 = THE |INVERTER | FLOW FOR 2-TERMINAL DC LINE n
                  |RECTIFIER|

LET &label2 = THE |ACTUAL | |FIXED   | SHUNT AT BUS busid
                  |NOMINAL| |SWITCHED|

LET &label2 = THE CONVERTER FLOW AT BUS busid FOR N-TERMINAL
DC LINE n

LET &label = THE MW TRANSACTION FROM AREA n TO
AREA n [IDENTIFIER id]

LET &label = THE CONTROL MODE FOR |2-TERMINAL| DC LINE n
                                  |N-TERMINAL|

MOVE LINE TO x,y

MOVE LINE FOR x,y

MOVE VECTOR FOR length [c] ANGLE angle [c]

     |SCATTER PLOT  |
PLOT |STRAIGHT LINES| FROM filename
     |SPLINE CURVES |

ROTATE PLOT angle [c] AROUND x,y

SET |X| COORDINATE |PAPER   | LIMITS TO min AND max
    |Y|            |DATA    |
                   |PLOTTING|

SET UNITS TO |INCHES     |
             |CENTIMETERS|

SET ANGLE TO |DEGREES|
             |RADIANS|

         |TYPE |
SET LINE |WIDTH| TO integer
         |COLOR|

SET FONT TYPE TO |STANDARD |
                 |LOWERCASE|
                 |integer  |

SET PLOT ORIENTATION TO |PORTRAIT |
```

```
                        |LANDSCAPE|

SET PLOT SYMBOL TO integer

SET PRINT FORMAT TO integer,integer

SET |TEXT  | [HEIGHT TO size] [c] [ANGLE TO angle] [c]
    |SYMBOL|

SET SHADING PATTERN TO integer

SET SHADING OUTLINE |VISIBLE  |
                    |INVISIBLE|

SHADE BOX FROM x,y TO x,y [c] [RADIUS rad]

SHADE BOX CENTERED AT x,y WITH SIDES length-x BY length-y [c] [RADIUS
rad]

SHADE CIRCLE [c] AT x,y [c] RADIUS rad

SHADE ARC [c] AT x,y [c] RADIUS rad [c] FROM angle [c] TO angle
[c]

      |CLOCKWISE       |
SHADE |CW              | ELLIPSE FROM x,y TO x,y
      |COUNTERCLOCKWISE|
      |CCW             |

SHADE POLYGON[S] FROM filename [c] [OFFSET x,y] [c] [SCALE scale]

SHADE ACCUMULATED POLYGON[S]

START NEW PLOT

WRITE item1 [item2...item10] [AT x,y]

Each "item" may be a string, a reserved symbolic name (%name%),
or an ampersand label (&label) which was previously declared
and assigned a value.  Up to ten items may be output with a single
WRITE command.
```

1.1. NOTES:

1. [c] => Optional comments
2. | | => "or" - pick one from list
3. [ ] => optional argument
4. Lower case words are variable fields. For more information on a specific variable, refer to Section C.4.1 of the *PSS®E Program Operation Manual*.
5. Words in CAPITALS must be entered exactly as shown.
6. Commas and "=" can be used in lieu of spaces for clarity.
7. If "CIRCUIT cid" is not specified, default is circuit "1". If "LOADID lid" is not specified, default is load "1".
8. "busid" may be specified as either the extended bus name enclosed in single quotes or the bus number.
9. A $ is used to continue a GRPG command on the following line.
10. &label2 is used to show which statements will return 2 values.
11. If "IDENTIFIER id" is not specified for MW TRANSACTION, default is 1.

1.2. GRPG Command Help

Entering the command "HELP" while executing GRPG causes the list of GRPG commands to be displayed on the user terminal. "HELP, command" causes the format for the specified command to be displayed.

1.3. GRPG Input Files

Commands may be taken from a file as well as from the terminal. If a file is to be used for input, the commands are entered in the file exactly as they would be from the terminal. When GRPG has processed all input file commands (the "END" command has been reached), the program prompts the user for a valid plotting device on which the resulting picture will be generated. If any errors are encountered while processing the input file, an error message is sent to the terminal and the input line is ignored. The resulting drawing, without the erroneous commands, may be displayed.

1.4. To Execute GRPG From PSSLF4

Type "GRPG" to the prompt "ACTIVITY?".

GRPG requests input and output filenames. To enter commands interactively, type a carriage return to the input file request. GRPG prompts with "GRPG:" when ready for a new command.

1.5. Sample GRPG Command File

```
DECLARE REAL &LOADP, &LOADQ, &GENP, &GENQ

DRAW LINE FROM 0,2.5 TO 0,4.5

DRAW LINE TO 1.5,4.5

DRAW LINE TO 1.5,6

DRAW LINE TO 7,6

DRAW LINE TO 7,2.5

DRAW LINE TO 0,2.5

SET TEXT HEIGHT TO 0.25

SET TEXT ANGLE TO 90.

JUSTIFY TEXT CENTERED

WRITE 'AREA 1' AT 2.5,4.25

SET TEXT HEIGHT TO 0.1

JUSTIFY TEXT LEFT

LET &LOADP = THE LOAD FOR AREA 1

LET &GENP = THE GENERATION FOR AREA 1

WRITE 'LOAD =',&LOADP,'MW<CR>', AT 4.25,3.25

WRITE ' ',&LOADQ,'MVAR<CR><CR>'

WRITE 'GEN =',&GENP,'MW<CR>'

WRITE ' ',&GENQ,'MVAR'

END
```

Simulation Run Assembler PSAS User’s Ready Reference

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PSAS User's Ready Reference

```
         |MWP  |
         |MWI  |
|ALTER | |MWY  |                                              [ |MW
| ]
|CHANGE| |MVARQ| LOAD [n] BUS (bus id) [L0AD(id)] TO (R) [ |MVAR|
]
         |MVARI|
         |MVARY|

|ALTER | |MWG  | |LOAD |                                        [
|MW  | ]
|CHANGE| |MVARB| |SHUNT| [n] BUS (bus id) [SHUNT (id)] TO (R) [
|MVAR| ]

|ALTER |
|CHANGE| BUS (bus id) CODE TO (I)

|ALTER | |R|
  [|CKT    |     ]
|CHANGE| |X| TO (R) [n] FROM [n] BUS (bus id) TO [n] BUS (bus id)
[|CIRCUIT| (id)]
         |B|

                                [|Y         |           |MVA
|             ]
APPLY FAULT [n] BUS (bus id) [n] [|ADMITTANCE| (R1) (R2) |MHO[S]|
[BASEKV (R)]]

                                [|Z        |
           ]
APPLY FAULT [n] BUS (bus id) [n] [|IMPEDANCE| (R1) (R2) OHM[S] [BASEKV
(R)]]


                |LINE  |
   [|CKT    |     ]
APPLY FAULT [n] |TIE   | [n] FROM [n] BUS (bsid) TO [n] BUS (bsid)
[|CIRCUIT| (id)] [n]
                |BRANCH|
                                                        [|Y
    |           |MVA   |             ]
                                                        [|ADMITTANCE|
(R1) (R2) |MHO[S]| [BASEKV (R)]]
```

```
                |LINE  |
   [|CKT    |     ]
APPLY FAULT [n] |TIE   | [n] FROM [n] BUS (bsid) TO [n] BUS (bsid)
[|CIRCUIT| (id)] [n]
                |BRANCH|
                                                              [|Z
      |                              ]
                                                              [|IMPEDANCE|
(R1) (R2) OHM[S] [BASEKV (R)]]


     |L-G  |
SCMU |L-L  | FAULT [n] BUS (bsid) [n] [ZL-G (R1) (R2)] [n] [ZL-L
(R3) (R4)]
     |L-L-G|

     [n] [CONVERTDC] [n] [APPLYZCOREC]


     |L-G   |
     |L-L   |
       [|CKT    |     ]
SPCB |L-L-G | FAULT (R1) [n] FROM [n] BUS (bsid) TO [n] BUS (bsid)
[n] [|CIRCUIT| (id)]
     |3PHASE|
                           [n] [ZL-G (R2) (R3)] [n] [ZL-L (R4) (R5)]
[n] [CONVERTDC] [n] [APPLYZCOREC]


                                                                 [|CKT
   |     ]
SPCB 2PHASE OPEN [n] FROM [n] BUS (bsid) TO [n] BUS (bsid) [n] [|CIRCUIT|
(id)]


     [n] [CONVERTDC] [n] [APPLYZCOREC]



                                                                 [|CKT
   |     ]
SPCB 1PHASE OPEN [n] FROM [n] BUS (bsid) TO [n] BUS (bsid) [n] [|CIRCUIT|
(id)]

                              [n] [PATH (R1) [ [n] [ZL-G (R2) (R3)]
] [n] [CONVERTDC] [n] [APPLYZCOREC]
```

```
                                                                    [|CKT
   |     ]
SPCB BREAKER OPEN [n] AT [n] BUS (bsid) TO [n] BUS (bsid) [n] [|CIRCUIT|
(id)]

                              [n] [PATH (R1) [ [n] [ZL-G (R2) (R3)]
] [n] [CONVERTDC] [n] [APPLYZCOREC]

|BLOCK  |
|UNBLOCK| DCLINE (dc id)

CLEAR FAULT [n] [BUS (bus id)]

CLEAR BUS [FAULT] [n] [BUS (bus id)]

      |LINE  |
CLEAR |TIE   | FAULT [n]
      |BRANCH|

CONVERT [n] MW TO (R) (R) [MVAR TO (R) (R)]

|RECONNECT| |LINE  |
   [|CKT    |     ]
|CLOSE    | |TIE   | [n] FROM [n] BUS (bus id) TO [n] BUS (bus id)
[|CIRCUIT| (id)]
|RECLOSE  | |BRANCH|

|DISCONNECT| |LINE  |
    [|CKT    |     ]
|TRIP      | |TIE   | [n] FROM [n] BUS (bus id) TO [n] BUS (bus
id) [|CIRCUIT| (id)]
|OPEN      | |BRANCH|

|RECONNECT|
                      [|CKT          ]
|CLOSE    | THREEWINDING [n] FROM [n] BUS (bsid) TO [n] BUS (bsid)
TO [n] BUS (bsid) [|CIRCUIT| (id)]
|RECLOSE  |

|DISCONNECT|
                       [|CKT          ]
|TRIP      | THREEWINDING [n] FROM [n] BUS (bsid) TO [n] BUS (bsid)
TO [n] BUS (bsid) [|CIRCUIT| (id)]
|OPEN      |

|DISCONNECT|
                     [|CKT          ]
|TRIP      | THREEWINDING [n] AT [n] BUS (bsid) TO [n] BUS (bsid)
TO [n] BUS (bsid) [|CIRCUIT| (id)]
|OPEN      |
```

```
DISCONNECT BUS (bus id) [n]



     |UNIT     |
     |GENERATOR|
DROP |MACHINE  | (id) [n] BUS (bus id)
     |LOAD     |
     |SHUNT    |

          |UNIT     |
          |GENERATOR|
RECONNECT |MACHINE  | (id) [n] BUS (bus id)
          |LOAD     |
          |SHUNT    |

DROP PLANT [n] BUS (bus id)

RECONNECT PLANT [n] BUS (bus id)

                                          [NOW
           ]
HOLD [n] IN (filename-1) AND (filename-2) [SIZE[S] (I1) (I2) (I3)
(I4) (I5)]

                     |ON |
CONVERGENCE MONITOR  |OFF|

|INITIALIZE| OUTPUT |(filename)| [SNAPSHOT |(filename)|]
|START     |        |NONE      | [         |NONE      |]

|INITIALIZE| EXTENDED [n] OUTPUT |(filename)| [n]
|START     |                     |NONE      |

NEXT [CHANNEL[S] (I)] [VAR[S] (I)] [ICON[S] (I)]


      |FLOWP  |                                        [|CKT    |
    ]
PLACE |FLOWPQ | [n] BUS (bus id) TO [n] BUS (bus id) [|CIRCUIT|
(id)]
      |FLOWMVA|
      |RELAY2 |
                                              IN CHANNEL[S] [WITH
IDENTIFIER[S] (ident) [AND (ident)]]


      |3WNDFLOWP  |
            [|CKT    |     ]
PLACE |3WNDFLOWPQ | [n] BUS (bus id) TO [n] BUS (bus id) TO [n]
BUS (bus id) [|CIRCUIT| (id)]
```

```
      |3WNDFLOWMVA|
      |3WNDRELAY3 |
                                                IN CHANNEL[S] [WITH
IDENTIFIER[S] (ident) [AND (ident)]]


PLACE quantity [n] BUS (bus id) [MACHINE (id)] IN CHANNEL[S] [WITH
IDENTIFIER[S] (ident) [AND (ident)]]

      where "quantity" is one of the following mnemonics:
          ANGLE  PELEC   QELEC   ETERM    ECOMP     EFD        PMECH
      VREF
          SPEED  XADIFD  VOTHSG  VUEL     VOEL      MACHITERM  MACHAPPIMP



      |PLOAD|
PLACE |QLOAD| [n] BUS (bus id) [LOAD (id)]IN CHANNEL [WITH IDENTIFIER
(ident)]


      |BSFREQ  |
PLACE |VOLTAGE | [n] BUS (bus id) IN CHANNEL[S] [WITH IDENTIFIER[S]
(ident) [AND (ident)]]
      |VOLT&ANG|


PLACE quantity [n] BUSES (I1) THRU (I2) IN CHANNEL[S]

      where "quantity" is one of the following mnemonics:
          ANGLE  PELEC   QELEC   ETERM    ECOMP     EFD        PMECH
      VREF
          SPEED  XADIFD  VOTHSG  VUEL     VOEL      MACHITERM  MACHAPPIMP

          PLOAD  QLOAD   BSFREQ  VOLTAGE  VOLT&ANG


      |VAR[S]  |
PLACE |STATE[S]| (I1) [THRU (I2)] IN CHANNEL[S]

RECOVER [n] FROM (snapshot-filename) AND (saved-case-filename) [NOFACT]
[NOTYSL] [NORETURN]

        |TO |     |CYCLE[S] |
RUN [n] |FOR| (R) |SECOND[S]| [PRINT (I)] [PLOT (I)] [CRTPLT (I)]

                       |POWER   |
                       |CURRENT |
SET [n] DCLINE (dc id) |SETPOINT| TO (R)
                       |SCHEDULE|
                       |VOLTAGE |
```

```
        |VAR
SET [n] |CON| (I) TO (R)

                      |(C)|
SET [n] ICON (I) TO |(I)|

        |VAR[S]|
SET [n] |CON[S]| (I1) THRU (In) TO (R1) ... (Rn)

                                    |(C1) ... (Cn)|
SET [n] ICON[S] (I1) THRU (In) TO |(I1) ... (In)|

                           [|CYCLE[S] |]
SET [n] STEP TO (R) (n) [|SECOND[S]|] [n]

SHED LOAD [n] BUS (bus id)

|PSS     |
|PASS    |
|PASSTHRU|

FIN

ABORT

CHECK

WATCH |ON |
      |OFF|

|USE |
|COPY| (response-file-filename) [arg1...[arg9]]
|IDEV|

EXECUTE (iplan-program-filename)

HELP [(command)]

END
```

1.1. NOTES:

1. [n] => Optional comments
2. | | => "or" - pick one from list
3. [ ] => optional argument
4. (I) => INTEGER value to be entered
5. (R) => REAL value to be entered
6. (C) => quoted CHARACTER value to be entered (1 or 2 characters)
7. Words in CAPITALS must be entered exactly as shown.
8. Commas and "=" can be used in lieu of spaces for clarity.
9. Default PSAS output file is PSASnnn.IDV.
10. If "CIRCUIT (ID)" is not specified, default is circuit "1". If "LOAD (id)" is not specified, default is load "1".
11. BASEKV optional with PU. BASEKV required with OHMS or MHOS unless BASEKV is stored with working case.
12. BUS-ID is sensitive to the name/number input options switch of PSS®E (names must be enclosed in quotes and include the voltage field).
13. A $ is used to continue a PSAS command on the following line.
14. Section 16.15.2 of the *PSS® E Program Operation Manual* contains detailed instructions on the use of each PSAS command.

1.2. PSAS Command Help

Entering the command "HELP" while executing PSAS will cause the list of PSAS commands to be displayed on the user terminal. "HELP, command" will cause the format for that command to be displayed.

1.3. User-Entered PSS®E Commands

To enter a series of PSS®E commands into the output file, type "PSS". PSAS responds with the "PASSTHRU:" prompt, indicting pass-thru mode. Each line entered is passed to the output file as ENTERED. To terminate the PSS®E pass-thru mode, type "FIN", the "PSAS:" prompt is then issued. This mode of input is accepted both from the terminal and from input files.

1.4. PSAS Input Files

Commands may be taken from a file as well as from the terminal. If a file is to be used for input, the commands are entered in the file exactly as they would be from the terminal. When PSAS has processed all input file commands (the "END" command has been reached), PSAS exits to the PSS®E dynamics activity selector. If any errors are encountered while processing the input file, an error message is sent to the terminal and the input line is ignored. Execution of the generated response file is not attempted if any errors are detected.

1.5. To Execute PSAS From PSSDS4

Type "PSAS" or "PSAS,CHECK" to the prompt "ACTIVITY?".

PSAS requests input and output filenames. To enter commands interactively, type a carriage return to the input file request. PSAS prompts with "PSAS:" when ready for a new command. If the optional suffix "CHECK" is included, PSAS does not attempt to execute the generated response file.

1.6. Sample PSAS Command File

```
RECOVER data FROM SNU1 AND SME2

PLACE PMECH at BUS 100 IN CHANNEL

START, OUTPUT=OUT1

RUN pre-fault conditions TO 0 SECONDS

APPLY FAULT at BUS 201 z=.05,0 OHMS

RUN with fault FOR 3 CYCLES, PLOT=1

CLEAR FAULT

TRIP LINE FROM BUS 200 TO BUS 201

RUN post-fault conditions TO.5 SECONDS

RECLOSE LINE FROM BUS 201 TO BUS 200

RUN TO 5 SECONDS

HOLD final conditions IN STEMP AND LTEMP

END
```

1.7. NOTES:

1. Optional text is shown in lower case.
2. Commas and equal signs are used only to clarify the dialog. They are not required.

Engineering Basic PSEB User’s Ready Reference

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PSEB User's Ready Reference

```
ABORT


         |MW   |
         |MWP  |
         |MWI  |
|ALTER | |MWY  |                                                  [ |MW
 | ]
|CHANGE| |MVAR | LOAD [n] BUS (bus id) [LOAD (id)] TO (R) [ |MVAR|
]
         |MVARQ|
         |MVARI|
         |MVARY|

         |MW   |
|ALTER | |MWG  |                                                    [|MW
 |]
|CHANGE| |MVAR | SHUNT [n] BUS (bus id) [SHUNT (id)] TO (R) [|MVAR|]
         |MVARB|

|ALTER |
|CHANGE| BUS (bus id) CODE TO (I)

|ALTER | |R|
  [|CKT    |     ]
|CHANGE| |X| TO (R) [n] FROM [n] BUS (bus id) TO [n] BUS (bus id)
[|CIRCUIT| (id)]
         |B|

|BLOCK  |
|UNBLOCK| DCLINE (dc id)


CHECK


|RECONNECT| |LINE  |
   [|CKT    |     ]
|CLOSE    | |TIE   | [n] FROM [n] BUS (bus id) TO [n] BUS (bus id)
[|CIRCUIT| (id)]
|RECLOSE  | |BRANCH|

|RECONNECT|
```

```
                     [|CKT          ]
|CLOSE    | THREEWINDING [n] FROM [n] BUS (bsid) TO [n] BUS (bsid)
TO [n] BUS (bsid) [|CIRCUIT| (id)]
|RECLOSE  |

     |UNIT     |
DROP |GENERATOR| (id) [n] BUS (bus id)
     |MACHINE  |
     |LOAD     |
     |SHUNT    |

          |UNIT     |
RECONNECT |GENERATOR| (id) [n] BUS (bus id)
          |MACHINE  |
          |LOAD     |
          |SHUNT    |

DROP PLANT [n] BUS (bus id)

RECONNECT PLANT [n] BUS (bus id)


END


FIN


HELP [(command)]


HOLD [n] IN (saved-case-filename) [NOW]


|USE |
|COPY| (response-file-filename) [arg1...[arg9]]
|IDEV|

EXECUTE (iplan-program-filename)

|DISCONNECT| |LINE  |
                  [|CKT    |     ]
|TRIP      | |TIE   | [n] FROM [n] BUS (bus id) TO [n] BUS (bus
id) [|CIRCUIT| (id)]
|OPEN      | |BRANCH|


|DISCONNECT|
                     [|CKT          ]
|TRIP      | THREEWINDING [n] FROM [n] BUS (bsid) TO [n] BUS (bsid)
TO [n] BUS (bsid) [|CIRCUIT| (id)]
```

```
|OPEN      |

|DISCONNECT|
                    [|CKT          ]
|TRIP      | THREEWINDING [n] AT [n] BUS (bsid) TO [n] BUS (bsid)
TO [n] BUS (bsid) [|CIRCUIT| (id)]
|OPEN      |

DISCONNECT BUS (bus id) [n]

                   |BUS  |
NET GENERATION [n] |BUSES| (bus id) [(bus id)...[(bus id)]]

NET GENERATION [n] FOR BUSES (I) THRU (I)


|PSS     |
|PASS    |
|PASSTHRU|


RECOVER [n] FROM (saved-case-filename)


                   |SETPOINT|
SET DCLINE (dc id) |SCHEDULE| TO (R)


SET LOADFLOW TITLE LINE |1| TO '(title)'
                        |2|


SET SOLUTION OPTION[S] TO DEFAULT


SET SOLUTION OPTION[S] TO [|DISCRETE-TAP|],[|AREA-LOCKED|],[FLAT-START],[|DC-LOCKED|],
                          [|DIRECT-TAP  |] [|AREA-INTCHG|]
        [|DC-ADJUST|]
                          [|TAP-LOCKED  |] [|TIES&LOADS |]

     [|SHUNT-LOCKED|],[|PHASE-SHIFT |]

     [|SHUNT-ADJUST|] [|PSHFT-LOCKED|]

     [|SHN-ADJ-CONT|]


SHED LOAD [n] BUS (bus id)


                |FNSL|
```

```
                |FDNS| [                    |AFTER (I) [ITERATION[S]]|]
SOLVE [n] USING |NSOL| [WITH VAR LIMITS [n] |IMMEDIATE[LY]
     |]
                |SOLV| [                    |IGNORED
     |]
                |MSLV|
                |INLF|


WATCH [OFF]
```

1.1. NOTES:

1. [n] => Optional comments
2. | | => "or" - pick one from list
3. [ ] => optional argument
4. (I) => INTEGER value to be entered
5. (R) => REAL value to be entered
6. Words in CAPITALS must be entered exactly as shown.
7. Commas and "=" can be used in lieu of spaces for clarity.
8. Default PSEB output file is PSEBnnn.IDV.
9. If "CIRCUIT (id)" is not specified, default is circuit "1". If "LOAD (id)" is not specified, default is load "1".
10. BUS-ID is sensitive to the name/number input options switch of ®E (names must be enclosed in quotes and include the base voltage field).
11. A $ is used to continue a PSEB command on the following line.
12. (title) => a quoted string specifying the 60 character title line.
13. Section 16.4.2 of the ®*E Program Operation Manual* contains detailed instructions on the use of each PSEB command.

1.2. PSEB Command Help

Entering the command "HELP" while executing PSEB will cause the list of PSEB commands to be displayed on the user terminal. "HELP, command" will cause the format for that command to be displayed.

1.3. User-Entered PSS®E Commands

To enter a series of PSS®E commands into the output file, type "PSS". PSEB responds with the "PASSTHRU:" prompt, indicting pass-thru mode. Each line entered is passed to the output file as ENTERED. To terminate the PSS®E pass-thru mode, type "FIN", the "PSEB:" prompt is then issued. This mode of input is accepted both from the terminal and from input files.

1.4. PSEB Input Files

Commands may be taken from a file as well as from the terminal. If a file is to be used for input, the commands are entered in the file exactly as they would be from the terminal. When PSEB has processed all input file commands (the "END" command has been reached), PSEB exits to the PSS®E power flow activity selector. If any errors are encountered while processing the input file, an error message is sent to the terminal and the input line is ignored. Execution of the generated response file is not attempted if any errors are detected.

1.5. To Execute PSEB From PSSLF4

Type "PSEB" or "PSEB,CHECK" to the prompt "ACTIVITY?".

PSEB requests input and output filenames. To enter commands interactively, type a carriage return to the input file request. PSEB prompts with "PSEB:" when ready for a new command. If the optional suffix "CHECK" is included, PSEB does not attempt to execute the generated responses.

1.6. Sample PSEB Command File

```
RECOVER network FROM SAVNW.SAV

SET SOLUTION OPTIONS TO DIRECT-TAP, $

   AREA-INT, SHUNT-LOCKED

TRIP BRANCH FROM BUS 153 TO BUS 154 CKT 2

SOLVE USING FDNS WITH VAR LIMITS applied $

   AFTER 2 ITERATIONS

HOLD network IN SAVNEW.SAV

END
```

1.7. NOTES:

1. Optional text is shown in lower case.
2. Commas and equal signs are used only to clarify the dialog. They are not required.