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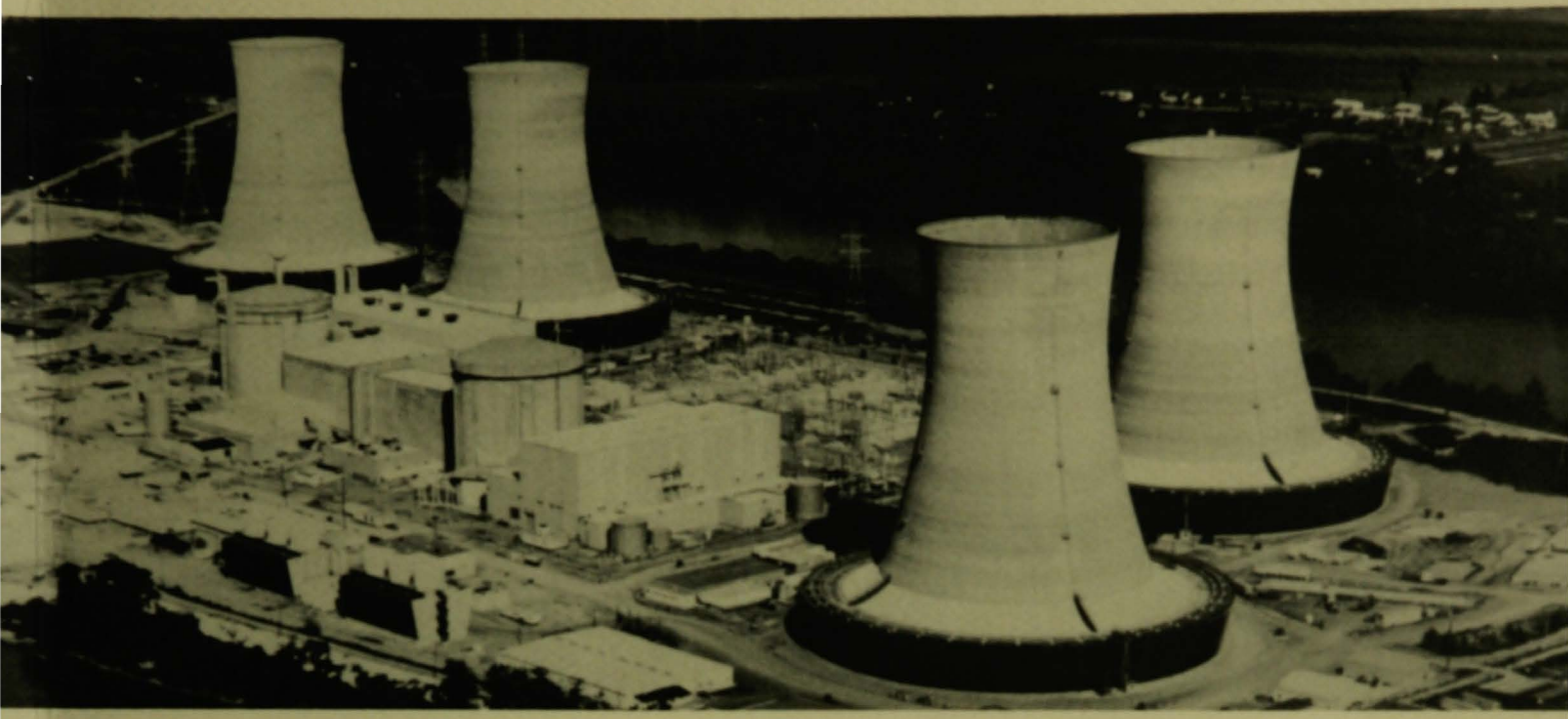

This is an informal report intended for use as a preliminary or working document

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TMI-2 SEQUENCE OF EVENTS DATA BASE VERSION 2.0

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Prepared for the
U.S. Department of Energy
Three Mile Island Operations Office
Under Contract No. DE-AC07-76ID01570

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1.0 INTRODUCTION

The Sequence of Events data base (SOE) has been developed by EG&G Idaho's Three Mile Island (TMI) Accident Evaluation Program to support the Department of Energy (DOE) sponsored TMI-2 standard problem[a], distributed near the end of FY-1986. The SOE contains a compilation of events that occurred at the TMI-2 facility that are considered significant to the progression of the accident. Contents of the SOE were derived from General Public Utilities (GPU) documents TDR-044 and TDR-261 (references 1, 2); these are considered the most complete and correct of any of the published sequence of events reports. The information includes events from March 28 through April 30, 1979. Minor errors found in the source documents have been corrected; where later analyses have yielded better insight to events, notations within the event descriptions will be or have been added.

The data base has been developed to operate on an IBM personal computer system (PC, XT or AT) or any wholly IBM compatible personal computer system. An EG&G Idaho scientific data base product, named SAGE, has been chosen as the data base management system. Applications routines are written (using overlay segmentation) in the Modula-2 structured programming language.

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a. Standard Problem - A formal exercise in which participants will apply their analytic methods to the TMI-2 accident using common data to (1) benchmark thermal hydraulic conditions (0 - 101 min.); (2) estimate core damage and relocation phenomena, hydrogen production and fission product releases (100 - 174 min.); (3) core geometry change, core-fluid interactions, core coolability phenomena (174 - 227 min); and, (4) interaction of molten core materials with lower core support structures and the inner surface or the lower head (227 - 300 min.)

This report discusses user interactions with the data base, emphasising the capability to generate data base textual reports. Section 2.0 describes how to acquire the SOE and how to install it, including system hardware requirements. Section 3.0 briefly describes the data base structure. Record selection methods and available report formats are the subject of Section 4.0. Modification of data base content is also briefly discussed in Section 4.0. A procedure for correction of SOE contents is outlined in the report summarization of Section 5.0. An appendix containing examples of the reports and tables that may be generated within SOE is also included.

Version 2.0 of the SOE differs operationally from the previously distributed Version 1.0 in that a PC configuration table has been added. Otherwise, the only difference between the two versions is that the data base has been recompiled to operate with a newer release of SAGE that has better block data handling routines.

2.0 SOE INSTALLATION

2.1 Data Base Acquisition

The TMI-2 SOE data base may be acquired free of charge to agencies connected with DOE sponsored TMI-2 research by written request to:

Manager, TMI-2 Accident Evaluations Program
EG&G Idaho, Inc.
P. O. Box 1625
Idaho Falls, ID, 83415

Upon approval, all data files and the execution software will be sent on six double sided or two high capacity diskettes described below.

2.2 Personal Computer Hardware Requirements

The personal computer system on which SOE Version 2.0 is to be installed must be an IBM (PC, XT, or AT) or 100% IBM compatible system. The host PC system must be operated under IBM Disk Operating System Version 2.1 (DOS 2.1), or newer software. In addition, the following hardware features are necessary:

- Diskette drive, double sided (320/360KB) or high capacity (1.2MB)
- Display (color preferred)
- 20MB internal fixed (hard) disk unit
- 640KB memory
- Math co-processor (8087 for PC, XT; 80287 for AT)

The SOE generates report outputs that are hardware dependent. The TMI data bases support those devices that are in common use at EG&G Idaho.

The data base software routines for output generation require that PC system hardware be defined in a file (PCSYS.CFG) located within the DOS directory of the system on which they operate. When a user attempts to perform any output option, this file is interrogated to determine if the user's PC system has an acceptable output device. Appropriate error indications are issued if the operation is not permitted.

The user is required to generate the configuration file using two configuration forms (Figures 1 and 2) prior to an initial attempt to use a TMI-2 SAGE data base product. Once the file exists, it need not be regenerated for installation of additional TMI-2 data bases. Should the user hardware configuration be changed, an option may be selected from the main menu that will permit changing the PCSYS.CFG file.

2.3 Data Base Installation

SOE 2.0 is made available to users on six write protected, double sided (320/360 KB) diskettes with the following contents:

Diskette 1 of 6 (installation and program overlay files):

SOE	BAT	INSTALL	BAT	INSTALLX	BAT
M2	EXE	SOE	DFL	SOEW	LOD
SOEW01	LOD	SOEW02	LOD	SOEW03	LOD
SOEW04	LOD	SOEW05	LOD	SOEW06	LOD
SOEC01	LOD	SOEC02	LOD	SOEC03	LOD
SOEC04	LOD	SOEC05	LOD	EDITR	LOD
DISKEN	LOD	SEARCH	LOD		

Diskette 2 of 6 (program overlay file):

SOE	LOD

The SOE.LOD files are organized in the configuration shown in Figure 3.

Diskette 3 of 6 (program data relations and indices)

SOE	BLK	NOTES	BLK	CONDS	DAT
CONDS	IDX	SYS	DAT	SYS	IDX
SUB	DAT	SUB	IDX	VALID	DAT
VALID	IDX	DBUSER	DAT	DBUSER	IOX
NOTES	DAT	NOTES	IDX	REF	DAT
REF	IDX				

Diskette 4 of 6 (program data relations and indices)

COMP	DAT	COMP	IDX	SOE	DAT
SOE	IOX				

Diskette 5 of 6 (text record index relation)

KEY	DAT

Diskette 6 of 6 (text record index)

KEY	IDX

Two high capacity diskettes (for IBM AT) hold the 43 SOE files; the contents of the first four diskettes are contained on one while the large KEY.DAT and KEY.IDX files are on the other. Fixed disk storage requirements for SOE Version 2.0 are 1.8 MB.

The file named INSTALL.BAT on diskette 1 is used to install SOE on the user's fixed disk system. To perform this installation, insert diskette 1 into diskette drive 'A:' and type 'install'. The installation batch file will create a SOE directory on the fixed disk ('C:') and will copy all files from diskette 1 into directory SOE on drive C:. Following this transfer, the user will be instructed to remove and install the other disks for transfer of their contents to the fixed disk. The INSTALL.BAT and INSTALLX.BAT file are deleted at the end of the installation process.

SAGE PC SYSTEM HARDWARE CONFIGURATION
<C>ontinue / Generate <R>eport / <E>xit .... [C]

The TMI-2 data base products developed by EG&G Idaho, Inc. have outputs (e.g., plots, reports,) which are device dependent. The data base software routines require that PC system hardware be defined in a file (PCSYS.CFG) located within the \DOS directory of the system on which they operate. Users must generate this file prior to their initial attempt to use a TMI-2 SAGE data base product but not thereafter unless their hardware changes.

The file is created through interaction with a form produced by entering "C" in the field at the top of this form. The main menu of each data base includes an option to edit hardware information in PCSYS.CFG. An "R" entry in the above option field generates a copy of the form in a file named SCREEN.CPY .

Use the ALT-H key combination to get general help or the ESC key to obtain specific field help while completing this procedure.

Figure 1. Instructions to Generate the PCSYS.CFG File

SAGE PC SYSTEM HARDWARE CONFIGURATION
<C>ontinue / Generate <R>eport / <E>xit .... [C]

1. PRINTER
   0 Other
   1 Other w/IBM font
   2 EPSON printer
   3 EPSON w/IBM font
   Definition [3]

2. DISPLAY
   (for plotting purposes)
   0 No graphics adapter
   1 Low resolution
   2 Enhanced graphics
   3 Professional graphics
   Definition [2]

3. PLOTTER
   (Hewlett Packard only)
   0 None
   1 HP7450 3 HP7475
   2 HP7470 4 HP7550
   Definition [2]
   Serial Port [2]

To obtain help, place the cursor in a field and depress the ESC key; use ENTER to return.

Figure 2. Identification of PC Hardware

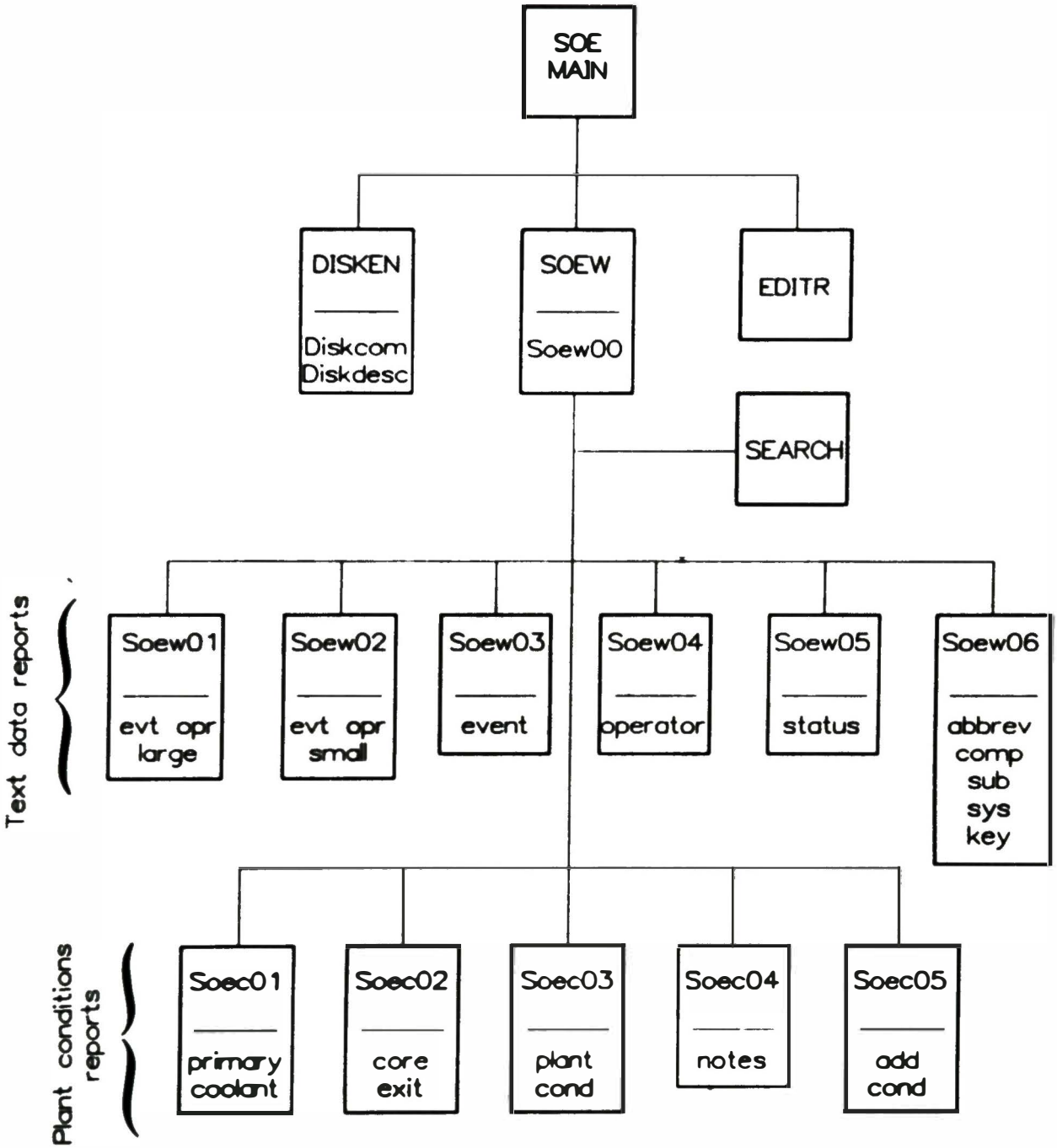

Figure 3. SOE Software Configuration

The SOE.BAT file remains resident on the user's PC system to direct execution of the SOE data base when "SOE" is entered from the system keyboard. At EG&G, the SOE.BAT file calls MENU upon exit from the SOE software. Note that MENU produces a screen that defines the available software and entry commands. This operation places the SOE user in the /DOS directory. Users installing SOE should consider the operations they wish taken upon exit from the data base software and modify SOE.BAT.

3.0 SOE STRUCTURE

Data in the SOE data base was extracted from GPU TDR-044 and TDR-261[1,2], considered to be the most complete of the published sequence of events reports on the TMI-2 accident. Information taken directly from TDR-044, covering the events of the first 20 hour period of the accident on March 28, 1979 include:

- Event (EVT) records - text records of varying length that describe plant response conditions. Attributes of these records include time (with notation of "approximate" depending upon the accuracy of the data source) and encrypted designation of the data source references.

- Information available to the operator (OPR) records - text records of varying length that describe information the operators had access to regarding an EVT record (there is a one to one correspondence). Attributes of these records are the same as those for EVT records.

- Plant status (STA) records - records of varying length that summarize the overall conditions existing in the TMI-2 plant at different times throughout the day. The time attributed to these records is that of the preceding event record.

- Reference descriptions - a relation between reference designations and a description of the source. Note that the reference designations have been changed in SOE with respect to those used in GPU TOR-044.

Information contained in the SOE, taken directly from GPU TDR-261, include:

- Event (EVT) records - text records that describe mainly actions taken with associated date, time and data source reference.

- Daily summaries of major plant events - these textual records have been defined as equivalent to plant status summaries (STA) within TDR-044. A time of 23:59:59 has been associated with each of these daily records.

- Daily plant conditions - data as recorded for (1) selected reactor coolant parameters (system pressure, hot and cold leg temperatures for both loops, pressurizer level and operating primary coolant pumps); (2) the five hottest incore thermocouple readings; (3) steam generator level and status for both loops; and (4) reactor building temperature pressure and hydrogen concentration. Notes associated with these parameters have been incorporated into SOE (example: "Steaming to the main condenser" as a status attribute of steam generator A on 03/30/79).

- Additional daily conditions (XCD) - text records of varying length included in TDR-261 as noteworthy plant conditions.

Time within the SOE data base has been stored as a relative Julian date (with respect to January 1, 1900). Time is output to or entered by the user either as a date + 24 hour wall clock time in the format MM/DD/YY + hh:mm:ss or as time relative to the start of the accident (04:00:37 on 03/28/79) in units of seconds, minutes, hours or days.

The text data (EVT, OPR, STA, and XCD) is stored in a block data file. Files (relations) have been defined to contain references plus descriptions, indices plus their descriptions, plant conditions data, and conditions notes. Basic data base organization showing these files and the main menu branching (discussed in section 4.0) are shown in Figure 4.

Indices to the text data records have been provided for selective retrieval of related records. First, a model composed of system, subsystem and component was developed using plant elements mentioned in sequence of events records. In general, two sets of component, subsystem, system triplets were associated with each element (measurement, pump, valve, filter, plant system, etc.) found in the SOE records; one set identified

the location of the component within the reactor systems, the other is related to the information content of the event record. Secondly, a keyword index system was provided to relate records that might be significant to some special purpose (example - thermal hydraulic standard problem analysis) to a single, user-defined, identifier for rapid retrieval. Appendix A to this report contains a description of the model indices. Some SOE records have comments included based upon current analyses of the accident; these are linked to the keyword 'MODIFIED'.

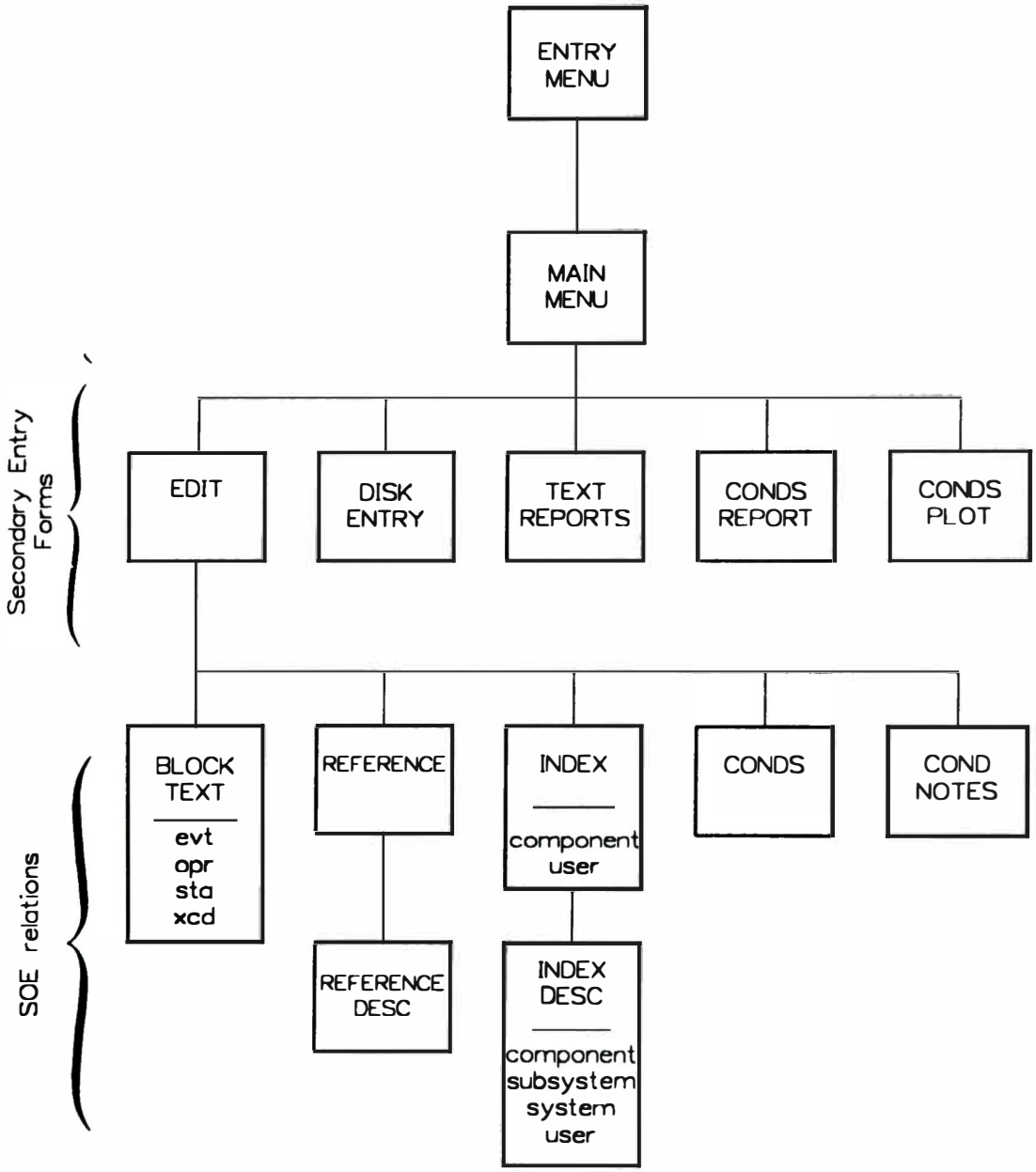

Figure 4. SOE Operational Diagram

4.0 USER INTERACTIONS

This section discusses operations of the SOE software through review of the forms used to select records and generate reports within SOE, explaining the options available to the user and the actions that result from each (see Figure 4). The fields in which the user inputs responses are identified in reverse video on a monochrome display and in a different color on a color monitor. A cursor (blinking dash) is used to identify the position within the form.

Movement between input fields is accomplished by:

1. completely filling in a field or by depressing the <TAB> key to cause a sequential transfer to the next field,

2. by using the backtab keys <Shift+TAB> to move to the previous field, or,

3. by selecting the <HOME> key to transfer to the first field.

A carriage return <CR> entry causes user-supplied information to be interpreted by the data base and requested operations to be performed. The four cursor control arrows (up, down, left, and right) on the numeric keyboard pad may also be used to move about the displayed form.

User entries are processed for legitimate response. When an error is detected (such as an incorrect format, an entry out of range, or <CR> when cursor is not in an entry field), a bell is sounded and a brief error statement is shown at the bottom of the display.

On-line help is available from the various fields of the forms by striking the <ESC> key. This causes a brief message to be printed on one/more screens that describes the options available or information to be entered for the field in which the cursor is currently located. Should the cursor not be located within an input field, the form entry position

message is displayed. A <CR> is used to return from help messages to the original position within the form (note that when multiple <ESC> key operations are required to complete a user help request, an equivalent number of <CR> operations are required to return to the form). Some general form options provided by SAGE are available in SOE; these options can be reviewed at any time by depressing the <ALT> and <H> keys simultaneously. When a master user (see definition in Paragraph 4.1) is working in a SAGE scroll edit field, help can be obtained by depressing the <ALT><H> keys.

4.1 Entry Form

This top form (Figure 5) is entered by typing SOE; it requires a user to enter a user-ID (set of initials) and a password for entry into the data base environment. The data base logs the number of times each user/password entry pair is exercised. Users are divided into two classes: 'M'aster users who have permission to edit data base relations and 'R'egular users who can utilize any of the data processing or output functions but are not permitted to modify data.

4.2 SOE Main Menu

The main menu (Figure 6) allows a user the option to:

1. edit the data base records,

2. enter data base records from ASCII data files on disk,

3. generate reports, or,

4. modify the PCSYS.CFG file.

The first two options are primarily used by master users to maintain the data base. Other users may exercise the edit option to inspect record contents but are not allowed to change content. Entry to the user or index records are reserved exclusively to users with master status.

TMI-2 SOE 2.0

Three Mile Island
Sequence of Events Data Base

Welcome to the TMI-2 data base system. Please enter your initials and your password for entry permission to be granted. If you have not yet entered the system, your initials and selected password will be recorded.

Initials [ ]
Password [ ]

Figure 5 SOE Entry Form

S O E 2.0

TMI-2 SEQUENCE OF
EVENTS DATA BASE

ENTER OPTION . . . [ ]

0) Exit
1) Edit data base records
2) Entry of SOE records from diskette
3) Produce SOE text reports
4) Produce post accident conditions reports
5) Plot conditions data (NOT YET AVAILABLE)

Figure 6. Main SOE Option Menu

4.3 Edit Branching

Edit branching (Figure 7) permits users to browse through data records and master users to change data records. All users may select Option 1 (sequence of events text records), Option 3 (reference descriptions), Option 4, (plant conditions), or Option 5 (descriptive notes). After entering any one of these options, any user may then select <L>ocate, <N>ext, <P>revious and <E>xit; the <A>dd, <M>odify, and <D>elete options are available only to master users. Figure 8 is an illustration of the form used to edit textual data records. In this example, event record 25 has been located and the text edit option has been selected to make the block data available for review.

To edit text record index records, a master user exercises Option 2 to generate an indexing form on which he can identify the record number, text data type, and index type (component/subsystem/system or keyword). Through the use of window forms, the master user can supply index descriptions and associate/disassociate other text records with the indices.

```
                    S O E  2.0

                TMI-2 SEQUENCE OF
                  EVENTS EDITING

ENTER OPTION . . .

0)   Exit
1)   Edit sequence of events text records
2)   Edit SOE record indices  ("M"aster status only)
3)   Edit reference description
4)   Edit plant conditions conditions
5)   Edit conditions descriptive notes
6)   Edit user  ("M"aster status only)
```

Figure 7. SOE Editing Form

```
                    SOE TEXT DATA EDIT FORM

<L>ocate / <N>ext / <P>revious / <A>dd / <M>odify / <D>elete
<T>ext Edit / <R>eference / <E>xit . . . . . . . . . . . . . . [T]

  Event Id                    [  25]
  Block Data Type             [EVT]  must be EVT, OPR, STA OR XCH
  Comment                     [Approximate Time                  ]
  Date        (mm/dd/yy)      [03/28/79]
  Time        (hh:mm:ss)      [04:01:02]

A "Water Hammer" was noted in the condensate pumps discharge pi
ping by an Auxiliary Operator.  The piping was displaced approximatel
y 2.5 to 3.0 feet according to the Auxiliary Operator.  The pipe mo
vement caused a leak in the flange joint on condensate booster pum
p [CO-P-2A].  It also severed an instrument air line which caused R
eject Inhibit Valve [CO-V57] to fail shut.

                 Alt H for HELP     Ctrl Z for RETURN
```

Figure 8. SOE Textual Record Editing Form

4.4 Entry of SOE Records from Disk

A form is provided to allow entry of SOE records from ASCII files constructed with other software programs (e.g., KEDIT or DBASE). Entry of the number that defines the record type calls software to interpret the contents of the file specified in the 'dev:lfn.ext' field and stores data within the data base relations (files).

4.5 Generation of SOE Text Record Reports

Production of reports containing event, operator information or plant status text records will be the most common application of the SOE data base. Selection of the 'produce SOE text report' option produces two forms

on which the user enters specifications for generation of reports. These forms are shown in Figures 9 and 10. Section 1 permits the user selection of five prepared report formats:

- <1> = Event and operator text records on 11 x 14 printer paper.

- <2> = Event and operator text records on 8 x 11 printer paper.

- <3> = Event only records (8 x 11 paper).

- <4> = Operator only records (8 x 11 paper).

- <5> = Plant status summary records (8 x 11 paper).

The next section allows selection of supplementary report information:

- <R> = References - generates a report listing reference numbers and descriptions for all references contained in any of the records selected for output.

- <C> = Components - generates a report listing all indices (component, subsystem, system, keyword) with which the records selected are associated.

- <B> = Both - generates both reference and component reports.

- <A> = Operator record abbreviations - produces a table of all abbreviations included in operator information records .

- <S> = System index - produces a list of all system indices and descriptions used in SOE.

- <U> = Subsystem index - produces a list of all subsystem indices and descriptions used in SOE.

```
***  SOE BLOCK DATA REPORT GENERATION (2 FORMS)  ***

<A>bort; <C>ontinue selection process; <R>eport generation:        [C]

1.  CHOOSE PRIMARY REPORT:                                          [1]
      1 = Event, Operator 11 x 14        4 = Operator Only
      2 = Event, Operator  8 x 11        5 = Plant Status Summary
      3 = Event Only

2.  CHOOSE SUPPLEMENTARY REPORT:                                    [B]
      R = References                     S = System Index
      C = Components                     U = Subsystem Index
      B = References + Components        O = Component Index
      A = Operator Record Abbreviations  K = Keyword Index

3.  OUTPUT SELECTION:
      Report title [REPORT 1                                      ]
      <P>rinter <S>creen or <D>isk [D]
      Disk Filename                [A:REPORT1.   ]
```

Figure 9. SOE Text Report Generation Form 1

```
<A>bort; <C>ontinue selection process; <R>eport generation:        [R]
4.  TIME SELECTION:
      Time      FROM:        Date - [03/29/79] TO. [04/15/79]
      Interval                Wall time - [00:00:00]  [23:59:59]
                OR:   Relative time - [          E          ]  TO. [          E          ]
                      Time Units (sc/mn/hr/dy)                   [   ]

5.  INDEX RETRIEVAL (help) [ ] SYSTEM [ ] SUBSYSTEM [ ] COMPONENT [ ] KEYWORD:

    [MOV                    ] + [BUILDINGS          ] + [AUX BLDG           ] + [                    ]
                                                        .OR.
    [RD-1-LT4               ] + [PCS                ] + [PZR                ] + [                    ]
                                                        .OR.
    [                       ] + [                   ] + [                   ] + [                    ]

6.  STRING SEARCH:
    Index1 [                    ] + String1 [                                                        ]
                                  .OR.
    Index2 [                    ] + String2 [                                                        ]
```

Figure 10. SOE Text Report Generation Form 2

- <D> = Component index - produces a list of all component indices and descriptions used in SOE. CAUTION - This report takes a long time to generate; it is included in Appendix A in its entirety.

- <K> = Keyword index - produces a list of all keyword indices and descriptions used in SOE. Note that there are no currently defined keyword indices.

In addition to the above, a report summary is produced that documents the selection criteria the user executed.

Section 3 is used to define the desired output destination. Users may specify a 40 character title for their report. The report may be sent directly to the printer, the PC screen (default device) or to disk. If disk is selected, a filename (device:filename.extension format) may be specified. If this field is left blank or if the report is sent to the screen, a file with a name of RPT.RPT is written on the default disk drive. The extension '.RPT' will be appended if a filename is specified without one (as shown in the Figure 9 example).

Report selection is continued on a second form (Figure 10) by entering a <CR> with a 'C' first (home) field of form 1 (Figure 9). The process continues with selection of the report time interval desired. Time may be entered either in date plus 24-hour wall clock format or in relative (to the turbine trip at 04:00:37 on 03/28/79) time in units of seconds, minutes, hours or days. The first event record occurs at 04:00:32 on March 3, 1979 and the last at 22:03:00 on April 30, 1979. Termination of the selection process at this point would result in preparation of a report with all appropriate records within the specified time interval. Note that selection of a time interval is necessary for the production of a report; error messages result when the interval is not present.

Section 5 permits selection of records within the time period defined based on record indices. The first four fields (system, subsystem, component, and keyword) are for help messages only (non-entry fields). A matrix is available for specification of desired record indices. The union (logical '.OR.' functions) of up to three intersections (logical '.AND.' functions) of four indices is permitted. A wildcard character (*) is permitted at the end of an index but, when used, must appear in the first field of an '.AND.' sequence (see Figure 10). Alternatively, records within the specified time interval may be selected as the union of two arbitrary 40 character strings that may also be '.AND.'ed with an index.

Report generation is initiated by placing an 'R' in the home field of either report form and executing a <CR> command. Messages are printed at the bottom of the CRT to inform the user of the operations being performed by SOE data base software. For the report specified on forms 6 and 7, the following messages appear:

'Generating report'.

'Searching for right records, ctrl A to abort' - the user can abort report production during this period by typing <CTRL> plus <A> and <CR>.

'31 Records found in search, Shall report cont (y/n)? - the user has option after viewing the number of records found in the search to abort the production by typing <N>.

'Generating report' - Assuming response above was <Y>, the program formats the report according to report selection in section 1; this process takes some time since restrictions are invoked in page formatting (example - word splitting across line boundaries is not permitted, continuation to a next page is dependent upon there being at least two lines of text, etc.).

'RefReport' - Since <B> was selected in section 2, a reference report is generated.

'Component report' - Again, since <B> was selected in section 2, a component report is prepared.

'Report summary' - Report generation is completed by writing a report summary form to the output file.

Control is returned to the main SOE form after completion of report production. Note that reports sent to a fixed disk will be under the SOE directory created when the SOE files were loaded from diskette.

The flexibility provided for record retrieval means that it takes some time to produce text reports from the data base. The generation time is primarily dependent upon the time interval selection since it is the primary search criteria. As an example, the report described on Figures 9 and 10 locates 31 records, which satisfy the search criteria. On an IBM AT system, the search requires 1.7 minutes and the report generation requires 2.6 minutes. The same report produced on an IBM XT or PC uses more than twice the total time (just over 9 minutes). For convenience, the report specified in Figures 9 and 10 plus reference and components are included in Appendix B.

4.6 Generation of SOE Plant Conditions Reports

The form contained in Figure 11 is used to generate reports containing plant condition data from day 2 to day 34 following the accident. The options available include:

- <0> = exit, return to the main menu.

- <1> = generate a report of notes pertaining to the conditions on the last report produced.

- <2> = generate a report of all conditions notes.

- <3> = generate a report of specified primary coolant system conditions. These include system pressure, A and B loop hot and cold leg temperatures, pressurizer level and operating primary coolant pumps. A date and time is associated with each entry from day 2 to day 34 following the accident.

- <4> = generate a report of the five hottest core exit thermocouples recorded from day 2 to day 34 following the accident. Position of the thermocouples are shown with temperature, a date and time are associated with each temperature set.

- <5> = generate a report containing miscellaneous plant conditions consisting of A and B loop steam generator levels plus reactor building temperature, pressure and hydrogen concentration data.

- <6> = additional conditions text data reports; when this option is selected, the user must enter a start and stop time (units of days) in the fields provided at the bottom of the form.

Examples of conditions report form output are included in Appendix B.

CONDITIONS REPORT SELECTION

Report Number [3]
<E>nglish or <M>etric [M]
<P>rinter <S>creen or <D>isk [D]
Disk Filename [APCS.RPT]

0 = Exit
1 = Notes from last report
2 = Notes
3 = Primary coolant system conditions
4 = Core exit thermocouple conditions
5 = Miscellaneous plant conditions
6 = Additional conditions text report
Relative time (days) – [ ] TO: [ ]

Figure 11. SOE Plant Conditions Reports Form

5.0 SUMMARY

The Sequence of Events data base has been developed by the EG&G TMI-2 Accident Evaluation Program using information from GPU Nuclear Technical Data Reports TDR-044 and TDR-261. The data base was developed to provide a means of retrieving sequence of event records associated with particular aspects of the accident according to user applications. In particular, it is intended to support the DOE TMI-2 standard problem that was distributed to participants at the end of FY-1986.

The data base is not considered static. Correction of any errors in the original GPU entries or in EG&G's transcription are welcomed. Noteworthy comments on the events as a result of analyses performed since GPU's original release of the information will be incorporated. User defined keywords to relate records pertaining to topics of common interest to TMI-2 researchers are welcomed. Please send recommended changes to Manager, TMI-2 Accident Evaluations Program at the address given in Section 2.0. Updates to SOE files will be sent to those who have the data base system as changes are made.

REFERENCES

1. T. L. VanWitbeck and J. Putnam, Annotated Sequence of Events, March 28, 1979, GPU Nuclear, Technical Data Report TDR-044, March 1981.

2. Robert Smith, Annotated Sequence of Events - March 29, 1979 thru April 30, 1979, GPU Services, Technical Data Report TDR-261, May 1981.

APPENDIX A

OPERATOR RECORD ABBREVIATIONS AND SOE RECORD INDEX SYSTEMS

APPENDIX A

CONTENTS

OPERATOR ABBREVIATION TABLE

Date 04/08/86 Page 1

ITEMS	DESCRIPTIONS
A	Amperage
AN	Annunciator
AP	Alarm Printer
C	Loop Cold Leg
DH-P	Decay Heat Pump
EF	Emergency Feedwater
EF-P	Emergency Feedwater Pump
ESF	Engineered Safety Features
F	Flow
FW-P	Feedwater Pump
H	Loop Hot Leg
L	Level
LD	Letdown
MR	Meter
MP	Multipoint Recorder
MS	Main Steam
ML-P	Makeup Pump
NI-1	Source Range Monitor
NI-3	Intermediate Range Monitor
NI-4	Intermediate Range Monitor
P	Pressure
PL	Control Room Panel
PZR	Pressurizer
RB	Reactor Building
RC	Reactor Coolant
RCDT	Reactor Coolant Drain Tank
RC-P	Reactor Coolant Pump
SC	Stripchart Recorder
SG	Steam Generator
ST	Electrical Status Light
T	Temperature
UP	Utility Printer
V	Vibration

SYSTEM INDEX TABLE

Date 04/08/86

System	Description
ALARM SYSTEMS	Alarm Indication System
BUILDINGS	Other Buildings or Locations
CONTAINMENT	Reactor Building System
MEASUREMENT	Measurements System
MISCELLANEOUS	Miscellaneous Systems
OPER ACTION	Operator Actions
PCS	Primary Coolant System
SCS	Secondary Coolant System

SUBSYSTEM INDEX TABLE

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SubSystem	Description
ACOUSTIC	Acoustic Monitors
ADV	Atmospheric Dump Valves
AP ALARM	Alarm Condition From Alarm Printer
AP TRIP	Trip Condition Indication on Alarm Printer
ATMOSPHERE	Reactor Building Atmosphere
ATTEMPT	Action with no result
AUTO	Start Automatic Mode
AUX BLDG	Auxiliary Building
BYPASS	Bypass System
C/FDW	Condensate/Feedwater System
CFS	Core Flood System
CLOSE	Close Component
COMPUTER	Plant Computer Measurement Listings
CONCENTRATION	Concentration (e.g., Boron) Measurements
CONTAIN ALARM	Reactor Building Alarms
CONTROL & SERV	Control & Service Building
CRS	Control Rod System
DECAY HEAT	Decay Heat
DECLARATION	Accident Information Release
DEFEAT ESF	Defeat Engineered Safety Feature
DIESEL BLDG	Diesel Generator Building
DIRECTOR	Emergency Director

SUBSYSTEM INDEX TABLE

Date 04/08/86

SubSystem	Description
EMERG CONTROL	Emergency Control Status
ESF ACTUATION	Engineered Safety Features Actuation
ESF RESET	Engineered Safety Features Reset
FAIL	Failure of Instrument System
FLOW	Flow Measurements
FUEL HANDLING	Fuel Handling Building
GRS	Gaseous Radwaste System
HPI/MAKEUP	High Pressure Injection, Makeup and Purification System
ICS SETPOINT	Integrated Control System Setpoint
INCREASE	Increase Current Status (e.g., Flow, Pressure, etc.)
INFO	Current Status
ISOL & COOLING	Reactor Building Isolation & Cooling System
ISOLATE	Isolate System
IWTS	Industrial Waste Treatment System
LEVEL	Level, Differential Pressure Measurements
LOOSE PARTS	Loose Parts Monitors
LPIS	Low Pressure Injection System
LRWTS	Liquid Radioactive Waste Treatment System
LTDN	Letdown System
MANUAL	Start Manual Mode
MDCT	Mechanical Draft Cooling Towers
MISC ALARM	Miscellaneous Alarms
NDCT	Natural Draft Cooling Towers

SUBSYSTEM INDEX TABLE

Date 04/08/86 Page 3

SubSystem	Description
NRC	Nuclear Regulatory Commission
OFFSITE	Offsite Locations
ONSITE	Onsite Locations
OPEN	Open Component (e.g., Valve)
PCS ALARM	Primary Coolant System Alarms
POSITION	Position (e.g., Valve) Measurements
POWER	Power (e.g., Source, Intermediate Range) Measurements
PRESSURE	Pressure Measurements
PUMP	Pump Operation Measurements
PZR	Pressurizer
PZR ALARM	Pressurizer System Alarms
RADCHEM	Radiation/Chemistry Analysis
RADIATION	Radiation Measurements
RADIATION ALARM	Radiation Alarms
RB SPRAY	Reactor Building Spray System
RB SUMP	Reactor Building Sump
RC PIPING	Reactor Coolant Piping
RCDT	Reactor Coolant Drain Tank
RCP	Reactor Coolant Pumps
REACTIMETER	Measurement Recorder
REDUCE	Reduce Current Status (e.g., Flow, Pressure, etc.)
REMOVE BYPASS	Remove Bypass Action
REMOVE DEFEAT	Remove ESF Defeat Action

SUBSYSTEM INDEX TABLE

Date 04/08/86

SubSystem	Description
RESET	Reset Equipment, System
REVIEW	Review Operating History
RIVER	Susquehanna River
RV	Reactor Vessel
SCS ALARM	Secondary Coolant System Alarms
SGA	Steam Generator A
SGB	Steam Generator B
START	Start Equipment, System (e.g., RCP Pump)
STOP	Stop Equipment, System
TELEPHONE	Telephone Conversation
TEMPERATURE	Temperature Measurements
TRANSFER	Move Liquid Between Systems
TURBINE	Turbine Building
UNIT I	TMI Unit I Reactor Complex
VENT	Vent Gases

COMPONENTS INDEX TABLE

Date 04/08/96

Component	SubSystem	System
2-32A Motor Control Center 2-32A	AUX BLDG	BUILDINGS
2-32A Motor Control Center 2-32A	START	OPER ACTION
2-32A-42A Motor Control Centers 32A & 42A	AUX BLDG	BUILDINGS
2-32A-42A Motor Control Centers 32A & 42A	INFO	OPER ACTION
AH-E Fuel Handling Bldg Exhaust Ventilation Flow	FUEL HANDLING	BUILDINGS
AH-E Fuel Handling Bldg Exhaust Ventilation Flow	INFO	OPER ACTION
AH-E Respirators	TURBINE	BUILDINGS
AH-E-1 Ventilation Isolation System	CLOSE	OPER ACTION
AH-E-1 Ventilation Isolation System	TURBINE	BUILDINGS
AH-E-10A Fuel Handling Bldg Exhaust Fan 10A	FUEL HANDLING	BUILDINGS
AH-E-10A Fuel Handling Bldg Exhaust Fan 10A	INFO	OPER ACTION
AH-E-10A Fuel Handling Bldg Exhaust Fan 10A	START	OPER ACTION
AH-E-10A Fuel Handling Bldg Exhaust Fan 10A	STOP	OPER ACTION
AH-E-10B Fuel Handling Bldg Exhaust Fan 10B	FUEL HANDLING	BUILDINGS

COMPONENTS INDEX TABLE

Date 04/08/96

Component	SubSystem	System
AH-E-10B Fuel Handling Bldg Exhaust Fan 10B	INFO	OPER ACTION
AH-E-10B Fuel Handling Bldg Exhaust Fan 10B	START	OPER ACTION
AH-E-10B Fuel Handling Bldg Exhaust Fan 10B	STOP	OPER ACTION
AH-E-10C Fuel Handling Bldg Exhaust Fan 10C	FUEL HANDLING	BUILDINGS
AH-E-10C Fuel Handling Bldg Exhaust Fan 10C	INFO	OPER ACTION
AH-E-10C Fuel Handling Bldg Exhaust Fan 10C	START	OPER ACTION
AH-E-10C Fuel Handling Bldg Exhaust Fan 10C	STOP	OPER ACTION
AH-E-10D Fuel Handling Bldg Exhaust Fan 10D	FUEL HANDLING	BUILDINGS
AH-E-10D Fuel Handling Bldg Exhaust Fan 10D	INFO	OPER ACTION
AH-E-10D Fuel Handling Bldg Exhaust Fan 10D	START	OPER ACTION
AH-E-10D Fuel Handling Bldg Exhaust Fan 10D	STOP	OPER ACTION
AH-E-35 Ventilation Isolation System	CLOSE	OPER ACTION
AH-E-35 Ventilation Isolation System	TURBINE	BUILDINGS
AH-E-4B Control Room Bypass Filter Fan 4B	CONTROL & SERV	BUILDINGS
AH-E-4B Control Room Bypass Filter Fan 4B	START	OPER ACTION

COMPONENTS INDEX TABLE

Component	SubSystem	System
AH-E-8 Auxiliary Bldg	AUX BLDG Exhaust Fans	BUILDINGS
AH-E-8 Auxiliary Bldg	MISC Exhaust Fans	ALARM SYSTEMS
AH-E-8 Auxiliary Bldg	START Exhaust Fans	OPER ACTION
AH-E-8(FIRE) Auxiliary Bldg	AUX BLDG Fire Alarm Panel	BUILDINGS
AH-E-8(FIRE) Auxiliary Bldg	BYPASS Fire Alarm Panel	OPER ACTION
AH-E-8A Auxiliary Bldg	AUX BLDG Exhaust Unit A Filter Fire Alarm	BUILDINGS
AH-E-8A Auxiliary Bldg	ISOLATE Exhaust Unit A	OPER ACTION
AH-E-8A Auxiliary Bldg	MISC Exhaust Unit A Filter Fire Alarm	ALARM SYSTEMS
AH-E-8C Auxiliary Bldg	AUX BLDG Exhaust Fan 8C	BUILDINGS
AH-E-8C Auxiliary Bldg	INFO Exhaust Fan 8C	OPER ACTION
AH-E-8C Auxiliary Bldg	MISC ALARM Exhaust Fan 8C	ALARM SYSTEMS
AH-E-8C Auxiliary Bldg	START Exhaust Fan 8C	OPER ACTION
AH-E-8C Auxiliary Bldg	STOP Exhaust Fan 8C	OPER ACTION
AH-E-8D Auxiliary Bldg	AUX BLDG Exhaust Fan 8D	BUILDINGS
AH-E-8D Auxiliary Bldg	INFO Exhaust Fan 8D	OPER ACTION

COMPONENTS INDEX TABLE

Component	SubSystem	System
AH-E-8D Auxiliary Bldg Exhaust Fan 8D	MISC ALARM	ALARM SYSTEMS
AH-E-8D Auxiliary Bldg Exhaust Fan 8D	START	OPER ACTION
AH-E-8D Auxiliary Bldg Exhaust Fan 8D	STOP	OPER ACTION
AH-E-9A Fuel Handling Bldg Supply Fan 9A	FUEL HANDLING	BUILDINGS
AH-E-9A Fuel Handling Bldg Supply Fan 9A	RADIATION	MEASUREMENT
AH-E-9B Fuel Handling Bldg Supply Fan 9B	FUEL HANDLING	BUILDINGS
AH-E-9B Fuel Handling Bldg Supply Fan 9B	RADIATION	MEASUREMENT
AH-E-A Auxiliary Bldg Ventilation	AUX BLDG	BUILDINGS
AH-E-A Auxiliary Bldg Ventilation	INFO	OPER ACTION
AH-E-A Auxiliary Bldg Ventilation	START	OPER ACTION
AH-E-A Auxiliary Bldg Ventilation	STOP	OPER ACTION
AH-E-C Control Bldg	CONTROL & SERV	BUILDINGS
AH-E-C Control Bldg	INFO	OPER ACTION
AH-E-C Control Bldg	ISOLATE	OPER ACTION
AH-E-CR Control Room Ventilation System	CONTROL & SERV	BUILDINGS

COMPONENTS INDEX TABLE

Component	SubSystem	System
AH-E-CR Control Room Ventilation System	ESF ACTUATION	ALARM SYSTEMS
AH-E-FH Fuel Handling Bldg Ventilation	FUEL HANDLING	BUILDINGS
AH-E-FH Fuel Handling Bldg Ventilation	START	OPER ACTION
AH-E-FH Fuel Handling Bldg Ventilation	STOP	OPER ACTION
AH-E-T Turbine Bldg Ventilation	INFO	OPER ACTION
AH-E-T Turbine Bldg Ventilation	ISOLATE	OPER ACTION
AH-E-T Turbine Bldg Ventilation	STOP	OPER ACTION
AH-E-T Turbine Bldg Ventilation	TURBINE	BUILDINGS
AH-E-TE Station Instrumentation	FAIL	MEASUREMENT
AH-E-TE Station Instrumentation	ONSITE	BUILDINGS
AH-TE Reactor Building Temperature	ATMOSPHERE	CONTAINMENT
AH-TE Reactor Building Temperature	PRESSURE	MEASUREMENT
AH-V101 Ventilation Isolation Valves	ATMOSPHERE	CONTAINMENT
AH-V101 Ventilation Isolation Valves	OPEN	OPER ACTION
AH-V108 Ventilation Isolation Valves	ATMOSPHERE	CONTAINMENT

COMPONENTS INDEX TABLE

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Component	SubSystem	System
AH-V108	OPEN	OPER ACTION
Ventilation Isolation Valves		
AH-V2B	CLOSE	OPER ACTION
Hydrogen Recombiner Isolation Valves		
AH-V2B	FUEL HANDLING	BUILDINGS
Hydrogen Recombiner Isolation Valves		
AH-V3B	CLOSE	OPER ACTION
Hydrogen Recombiner Isolation Valves		
AH-V3B	FUEL HANDLING	BUILDINGS
Hydrogen Recombiner Isolation Valves		
AP	AP ALARM	ALARM SYSTEMS
Alarm Printer		
AP	CONTROL & SERV	BUILDINGS
Alarm Printer		
AP	INFO	OPER ACTION
Alarm Printer		
AP	START	OPER ACTION
Alarm Printer		
AP	TRANSFER	ALARM SYSTEMS
Alarm Printer		
AP	TRANSFER	OPER ACTION
Alarm Printer		
AUX BOILER	ONSITE	BUILDINGS
Auxiliary Boiler		
AUX BOILER	START	OPER ACTION
Auxiliary Boiler		
AUX-B	AUX BLDG	BUILDINGS
Auxiliary Bldg Model Room Door		
AUX-B	ISOLATE	OPER ACTION
Auxiliary Bldg Model Room Door		

COMPONENTS INDEX TABLE

Component	SubSystem	System
B-ANALYSIS Reactor Coolant Boron Analysis	RADCHEM	MISCELLANEOUS
B-ANALYSIS Reactor Coolant Boron Analysis	RC PIPING	PCS
B-ANALYSIS Reactor Coolant Boron Analysis	RC PIPING	PSC
BAST Boric Acid Storage Tank	AUX BLDG	BUILDINGS
BAST Boric Acid Storage Tank	TRANSFER	OPER ACTION
BS-P-1A Reactor Bldg Spray Pump 1A	ESF ACTUATION	ALARM SYSTEMS
BS-P-1A Reactor Bldg Spray Pump 1A	RB SPRAY	CONTAINMENT
BS-P-1A Reactor Bldg Spray Pump 1A	STOP	OPER ACTION
BS-P-1B Reactor Bldg Spray Pump 1B	ESF ACTUATION	ALARM SYSTEMS
BS-P-1B Reactor Bldg Spray Pump 1B	RB SPRAY	CONTAINMENT
BS-P-1B Reactor Bldg Spray Pump 1B	STOP	OPER ACTION
BS-PR Reactor Bldg Pressure	ATMOSPHERE	CONTAINMENT
BS-PR Reactor Bldg Pressure	ATMOSPHERE	REACTOR BLDG
BS-PR Reactor Bldg Pressure	PRESSURE	MEASUREMENT
BS-PR(H2) Hydrogen Burn	ATMOSPHERE	CONTAINMENT

COMPONENTS INDEX TABLE

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Component	SubSystem	System
BS-PR(H2) Hydrogen Burn	CONTAIN ALARM	ALARM SYSTEMS
BWST Borated Water Storage Tank	HPI/MAKEUP	PCS
BWST Borated Water Storage Tank	PSC ALARM	ALARM SYSTEMS
BWST Borated Water Storage Tank	RADCHEM	MISCELLANEOUS
BWST Borated Water Storage Tank	TRANSFER	OPER ACTION
CA-P-4A Boric Acid Transfer Pump 4A	HPI/MAKEUP	PCS
CA-P-4A Boric Acid Transfer Pump 4A	START	OPER ACTION
CA-P-4B Boric Acid Transfer Pump 4B	HPI/MAKEUP	PCS
CA-P-4B Boric Acid Transfer Pump 4B	START	OPER ACTION
CA-T Sodium Hydroxide Tank	AUX BLDG	BUILDINGS
CA-T Sodium Hydroxide Tank	ISOLATE	OPER ACTION
CA-T Sodium Hydroxide Tank	RADCHEM	MISCELLANEOUS
CA-T Sodium Hydroxide Tank	TRANSFER	OPER ACTION
CA-T-1 Boric Acid Mix Tank	HPI/MAKEUP	PCS
CA-T-1 Boric Acid Mix Tank	TRANSFER	OPER ACTION

COMPONENTS INDEX TABLE

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Component	SubSystem	System
CA-V-10 RCS Isolation Valve	OPEN	OPER ACTION
CA-V-10 RCS Isolation Valve	RC PIPING	PCS
CA-V-3 RCS Isolation Valve	OPEN	OPER ACTION
CA-V-3 RCS Isolation Valve	RC PIPING	PCS
CA-V-4A Steam Generator A Isolation Valve	OPEN	OPER ACTION
CA-V-4A Steam Generator A Isolation Valve	SGA	SCS
CA-V-4B Steam Generator B Isolation Valve	OPEN	OPER ACTION
CA-V-4B Steam Generator B Isolation Valve	SGB	SCS
CA-V-6 RCS Isolation Valve	OPEN	OPER ACTION
CA-V-6 RCS Isolation Valve	RC PIPING	PCS
CA-V-9 Steam Generator B Isolation Valve	OPEN	OPER ACTION
CA-V-9 Steam Generator B Isolation Valve	SGB	SCS
CF-T-1 Core Flood System	CFS	PCS
CF-T-1 Core Flood System	PRESSURE	MEASUREMENT
CF-T-1 Core Flood System	STOP	OPER ACTION

COMPONENTS INDEX TABLE

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Component	SubSystem	System
CF-T-1A Core Flood Tank 1A	AP ALARM	ALARM SYSTEMS
CF-T-1A Core Flood Tank 1A	CFS	PCS
CF-T-1A Core Flood Tank 1A	INCREASE	OPER ACTION
CF-T-1A Core Flood Tank 1A	INFO	OPER ACTION
CF-T-1A Core Flood Tank 1A	LEVEL	MEASUREMENT
CF-T-1A Core Flood Tank 1A	TRANSFER	OPER ACTION
CF-T-1B Core Flood Tank 1B	CFS	PCS
CF-T-1B Core Flood Tank 1B	INCREASE	OPER ACTION
CF-T-1B Core Flood Tank 1B	INFO	OPER ACTION
CF-V1A Core Flood Isolation Valve 1A	CFS	PCS
CF-V1A Core Flood Isolation Valve 1A	INFO	OPER ACTION
CF-V1B Core Flood Isolation Valve 1B	CFS	PCS
CF-V1B Core Flood Isolation Valve 1B	INFO	OPER ACTION
CF-V1B Core Flood Isolation Valve 1B	INFO	OPER ACTION
CO Condenser	C/FDW	SCS

COMPONENTS INDEX TABLE

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Component	SubSystem	System
CO Condenser	START	OPER ACTION
CO-DEMIN Condensate Polishing Demineralizers	ATTEMPT	OPER ACTION
CO-DEMIN Condensate Polishing Demineralizers	C/FDW	SCS
CO-LT-[illegible] Condenser Hotwell Level	C/FDW	SCS
CO-LT-[illegible] Condenser Hotwell Level	LEVEL	MEASUREMENT
CO-LT-[illegible](LO) Condenser Hotwell Low Level Alarm	SCS ALARM	ALARM SYSTEMS
CO-LT-[illegible](HI) Condenser Hotwell High Level Alarm	C/FDW	SCS
CO-LT-[illegible](HI) Condenser Hotwell High Level Alarm	SCS ALARM	ALARM SYSTEMS
CO-LT-[illegible](LOW) Condenser Hotwell Low Level Alarm	C/FDW	SCS
CO-LT-[illegible](LOW) Condenser Hotwell Low Level Alarm	SCS ALARM	ALARM SYSTEMS
CO-LT-73 Condensate Storage Tank 1B Normal Level Alarm	C/FDW	SCS
CO-LT-73 Condensate Storage Tank 1B Normal Level Alarm	SCS ALARM	ALARM SYSTEMS
CO-LT-73(LOW) Condensate Storage Tank 1B Low Level Alarm	C/FDW	SCS
CO-LT-73 LOW) Condensate Storage Tank 1B Low Level Alarm	SCS ALARM	ALARM SYSTEMS
CO-P-1 Condensate Pumps	C/FDW	SCS

COMPONENTS INDEX TABLE

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Component	SubSystem	System
CO-P-1 Condensate Pumps	REVIEW	OPER ACTION
CO-P-1A Condensate Pump 1A	AP TRIP	ALARM SYSTEMS
CO-P-1A Condensate Pump 1A	C/FDW	SCS
CO-P-1A Condensate Pump 1A	RESET	OPER ACTION
CO-P-1A Condensate Pump 1A	START	OPER ACTION
CO-P-1A Condensate Pump 1A	STOP	OPER ACTION
CO-P-1B Condensate Pump 1B	C/FDW	SCD
CO-P-1B Condensate Pump 1B	C/FDW	SCS
CO-P-1B Condensate Pump 1B	FLOW	MEASUREMENT
CO-P-1B Condensate Pump 1B	INFO	OPER ACTION
CO-P-1B Condensate Pump 1B	PRESSURE	MEASUREMENT
CO-P-1B Condensate Pump 1B	START	OPER ACTION
CO-P-1B Condensate Pump 1B	STOP	OPER ACTION
CO-P-2 Condensate Booster Pumps	C/FDW	SCS
CO-P-2 Condensate Booster Pumps	REVIEW	OPER ACTION

COMPONENTS INDEX TABLE

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Component	SubSystem	System
CO-P-2A Condensate Booster Pump 2A	AP TRIP	ALARM SYSTEMS
CO-P-2A Condensate Booster Pump 2A	C/FDW	SCS
CO-P-2A Condensate Booster Pump 2A	INFO	OPER ACTION
CO-P-2A Condensate Booster Pump 2A	SCS ALARM	ALARM SYSTEMS
CO-P-2B Condensate Booster Pump 2B	AP TRIP	ALARM SYSTEMS
CO-P-2B Condensate Booster Pump 2B	C/FDW	SCS
CO-P-2B Condensate Booster Pump 2B	SCS ALARM	ALARM SYSTEMS
CO-PT-1112 Condensate Booster Pump Low Discharge Pressure Alarm	C/FDW	SCS
CO-PT-1112 Condensate Booster Pump Low Discharge Pressure Alarm	SCS ALARM	ALARM SYSTEMS
CO-PT-1141 Condensate Booster Pump Suction Header Pressure	C/FDW	SCS
CO-PT-1141 Condensate Booster Pump Suction Header Pressure	PRESSURE	MEASUPEMENT
CO-PT-1141(LOW) Condensate Booster Pump Suction Header Low Pressure Alarm	C/FDW	SCS
CO-PT-1141(LOW) Condensate Booster Pump Suction Header Low Pressure Alarm	SCS ALARM	ALARM SYSTEMS
CO-PT-98 Feedwater Pump Low Suction Header Pressure Alarm	C/FDW	SCS
CO-PT-98 Feedwater Pump Low Suction Header Pressure Alarm	SCS ALARM	ALARM SYSTEMS

COMPONENTS INDEX TABLE

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Component	SubSystem	System
CO-T-1 Condensate Storage Tank	C/FDW	SCS
CO-T-1 Condensate Storage Tank	TRANSFER	OPER ACTION
CO-T-1A Condensate Storage Tank 1A	C/FDW	SCS
CO-T-1A Condensate Storage Tank 1A	ESF ACTUATION	ALARM SYSTEMS
CO-T-1A Condensate Storage Tank 1A	TRANSFER	OPER ACTION
CO-T-1B Condensate Storage Tank 1B	C/FDW	SCS
CO-T-1B Condensate Storage Tank 1B	ESF ACTUATION	ALARM SYSTEMS
CO-T-1B Condensate Storage Tank 1B	TRANSFER	OPER ACTION
CO-TE-3970 Condensate High Temperature Alarm	C/FDW	SCS
CO-TE-3970 Condensate High Temperature Alarm	SCS ALARM	ALARM SYSTEMS
CO-V Condensate Polisher Outlet Valves	C/FDW	SCS
CO-V Condensate Polisher Outlet Valves	ESF ACTUATION	ALARM SYSTEMS
CO-V Condensate Polisher Outlet Valves	FLOW	MEASUREMENT
CO-V12 Condensate Polisher Bypass Valve	ATTEMPT	OPER ACTION
CO-V12 Condensate Polisher Bypass Valve	C/FDW	SCS

COMPONENTS INDEX TABLE

Component	SubSystem	System
CO-V12 Condensate Polisher Bypass Valve	OPEN	OPER ACTION
CO-V27A Condensate Booster Pump 2A Suction Valve	C/FDW	SCS
CO-V27A Condensate Booster Pump 2A Suction Valve	CLOSE	OPER ACTION
CO-V57 Reject Inhibit Valve	C/FDW	SCS
CO-V57 Reject Inhibit Valve	ESF ACTUATION	ALARM SYSTEMS
CO-V57 Reject Inhibit Valve	OPEN	OPER ACTION
CO-V60 Reject Isolation Valve	C/FDW	SCS
CO-V60 Reject Isolation Valve	REDUCE	OPER ACTION
CO-V62 Condensate Storage Tank Drain Valve	C/FDW	SCS
CO-V62 Condensate Storage Tank Drain Valve	CLOSE	OPER ACTION
CO-V76A Condensate Storage Tank Drain Valve	C/FDW	SCS
CO-V76A Condensate Storage Tank Drain Valve	OPEN	OPER ACTION
CRDM Control and Safety Rods	CRS	PCS
CRDM CRD Breakers	INFO	OPER ACTION
CRDM Control and Safety Rods	REVIEW	OPER ACTION

COMPONENTS INDEX TABLE

Date 04/08/86

Component	SubSystem	System
CW-P Circulating Water Pump House	MISC	ALARM SYSTEMS
CW-P Circulating Water Pump House	ONSITE	BUILDINGS
CW-P-1B Circulation Water Pump 1B	C/FDW	SCS
CW-P-1B Circulating Water Pump 1B	START	OPER ACTION
CW-P-1B Circulation Water Pump 1B	STOP	OPER ACTION
CW-P-1C Circulation Water Pump 1C	C/FDW	SCS
CW-P-1C Circulation Water Pump 1C	STOP	OPER ACTION
CW-P-1D Circulation Water Pump 1D	C/FDW	SCS
CW-P-1D Circulation Water Pump 1D	STOP	OPER ACTION
CW-P-1E Circulation Water Pump 1E	C/FDW	SCS
CW-P-1E Circulating Water Pump 1E	START	OPER ACTION
CW-P-1E Circulation Water Pump 1E	STOP	OPER ACTION
DATA Computer Summary Reactor Coolant & Makeup Pumps	CONTROL & SERV	BUILDINGS
DATA Computer Summary Reactor Coolant & Makeup Pumps	REVIEW	OPER ACTION
DATA(MTR) Memory Trip Review	CONTROL & SERV	BUILDINGS

COMPONENTS INDEX TABLE

Component	SubSystem	System
DATA(MTR)	REVIEW	OPER ACTION
Memory Trip Review		
DATA(REACT)	CONTROL & SERV	BUILDINGS
Reactimeter Data Acquisition System		
DATA(REACT)	INFO	OPER ACTION
Reactimeter Data Acquisition System		
DATA(SOE)	CONTROL & SERV	BUILDINGS
Sequence of Events Review		
DATA(SOE)	REVIEW	OPER ACTION
Sequence of Events Review		
DATA(TREND)	CONTROL & SERV	BUILDINGS
Plant Computer Group Trend		
DATA(TREND)	REVIEW	OPER ACTION
Plant Computer Group Trend		
DC-P-1A	DECAY HEAT	CONTAINMENT
Decay Heat Closed Cooling Water Pump 1A		
DC-P-1A	ESF ACTUATION	ALARM SYSTEMS
Decay Heat Closed Cooling Water Pump 1A		
DC-P-1A	START	OPER ACTION
Decay Heat Closed Cooling Water Pump 1A		
DC-P-1B	DECAY HEAT	CONTAINMENT
Decay Heat Closed Cooling Water Pump 1B		
DC-P-1B	ESF ACTUATION	ALARM SYSTEMS
Decay Heat Closed Cooling Water Pump 1B		
DC-P-1B	START	OPER ACTION
Decay Heat Closed Cooling Water Pump 1B		
DC-R-0099	ATMOSPHERE	CONTAINMENT
Decay Heat Closed A Loop Radiation Monitor		
DC-R-0099	RADIATION	MEASUREMENT
Decay Heat Closed A Loop Radiation Monitor		

COMPONENTS INDEX TABLE

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Component	SubSystem	System
DC-R-3400 Decay Heat Closed B Loop Radiation Monitor	ATMOSPHERE	CONTAINMENT
DC-R-3400 Decay Heat Closed B Loop Radiation Monitor	RADIATION	MEASUREMENT
DF-X-1 Unit II Diesel Fire Pump	DIESEL BLDG	BUILDINGS
DF-X-1 Unit II Diesel Fire Pump	MISC	ALARM SYSTEMS
DF-X-1A Diesel Generator 1A	DIESEL BLDG	BUILDINGS
DF-X-1A Diesel Generator 1A	ESF ACTUATION	ALARM SYSTEMS
DF-X-1A Diesel Generator 1A	START	OPER ACTION
DF-X-1A Diesel Generator 1A	STOP	OPER ACTION
DF-X-1A(TEST) Surveillance Test	DIESEL BLDG	BUILDINGS
DF-X-1A(TEST) Surveillance Test	START	OPER ACTION
DF-X-1B Diesel Generator 1B	DIESEL BLDG	BUILDINGS
DF-X-1B Diesel Generator 1B	ESF ACTUATION	ALARM SYSTEMS
DF-X-1B Diesel Generator 1B	START	OPER ACTION
DF-X-1B Diesel Generator 1B	STOP	OPER ACTION
DF-X-1B(TEST) Surveillance 2300-M150	DIESEL BLDG	BUILDINGS

COMPONENTS INDEX TABLE

Component	SubSystem	System
DF-C-1B(TEST)	START	OPER ACTION
Surveillance 2303-M16D		
DH-P-1A	DECAY HEAT	CONTAINMENT
Decay Heat Removal Pump 1A		
DH-P-1A	ESF ACTUATION	ALARM SYSTEMS
Decay Heat Removal Pump 1A		
DH-P-1A	INFO	OPER ACTION
Decay Heat Removal Pump 1A		
DH-P-1A	STOP	OPER ACTION
Decay Heat Removal Pump 1A		
DH-P-1B	DECAY HEAT	CONTAINMENT
Decay Heat Removal Pump 1B		
DH-P-1B	ESF ACTUATION	ALARM SYSTEMS
Decay Heat Removal Pump 1B		
DH-P-1B	INFO	OPER ACTION
Decay Heat Removal Pump 1B		
DH-P-1B	STOP	OPEN ACTION
Decay Heat Removal Pump 1B		
DH-P-1B	STOP	OPER ACTION
Decay Heat Removal Pump 1B		
DH-V-13T	DECAY HEAT	CONTAINMENT
Decay Heat Valve		
DH-V-13T	OPEN	OPER ACTION
Decay Heat Valve		
DT-1A	LRWTS	BUILDINGS
Contaminated Drain Tank "A"		
DT-1A	TRANSFER	OPER ACTION
Contaminated Drain Tank "A"		
DWST	AUX BLDG	BUILDINGS
Unit 1: Demineralized Water Storage Tank		

COMPONENTS INDEX TABLE

Component	SubSystem	System
DWST Unit II Demineralized Water Storage Tank	TRANSFER	OPER ACTION
DWST(UNITI) Unit I Demineralized Water Storage Tank	TRANSFER	OPER ACTION
DWST(UNITI) Unit I Demineralized Water Storage Tank	UNIT I	BUILDINGS
DWT-1 Demineralized Water Tank	AUX BLDG	BUILDINGS
DWT-1 Demineralized Water Tank	TRANSFER	OPER ACTION
EF-P-1 Emergency Feedwater Pump 1	AP ALARM	ALARM SYSTEMS
EF-P-1 Emergency Feedwater Pump 1	C/FDW	SCS
EF-P-1 Emergency Feedwater Pump 1	SCS ALARM	ALARM SYSTEMS
EF-P-1 Emergency Feedwater Pump 1	STOP	OPER ACTION
EF-P-2A Emergency Feedwater Pump 2A	AP ALARM	ALARM SYSTEMS
EF-P-2A Emergency Feedwater Pump 2A	C/FDW	SCS
EF-P-2A Emergency Feedwater Pump 2A	SCS ALARM	ALARM SYSTEMS
EF-P-2A Emergency Feedwater Pump 2A	START	OPER ACTION
EF-P-2A Emergency Feedwater Pump 2A	STOP	OPER ACTION
EF-P-2B Emergency Feedwater Pump 2B	AP ALARM	ALARM SYSTEMS

COMPONENTS INDEX TABLE

Component	SubSystem	System
EF-P-2B Emergency Feedwater Pump 2B	C/FDW	SCS
EF-P-2B Emergency Feedwater Pump 2B	SCS ALARM	ALARM SYSTEMS
EF-P-2B Emergency Feedwater Pump 2B	START	OPER ACTION
EF-P-2B Emergency Feedwater Pump 2B	STOP	OPER ACTION
EF-V11A Emergency Feedwater Valve 11A	C/FDW	SCS
EF-V11A Emergency Feedwater Valve 11A	ICS SETPOINT	ALARM SYSTEMS
EF-V11B Emergency Feedwater Valve 11B	C/FDW	SCS
EF-V11B Emergency Feedwater Valve 11B	CLOSE	OPER ACTION
EF-V11B Emergency Feedwater Valve 11B	ICS SETPOINT	ALARM SYSTEMS
EF-V12A Emergency Feedwater Block Valve 12A	C/FDW	SCS
EF-V12A Emergency Feedwater Block Valve 12A	OPEN	OPER ACTION
EF-V12A Emergency Feedwater Block Valve 12A	POSITION	MEASUREMENT
EF-V12B Emergency Feedwater Block Valve 12B	C/FDW	SCS
EF-V12B Emergency Feedwater Block Valve 12B	CLOSE	OPER ACTION
EF-V12B Emergency Feedwater Block Valve 12B	OPEN	OPER ACTION

COMPONENTS INDEX TABLE

Component	SubSystem	System
EF-V12B Emergency Feedwater Block Valve 12B	POSITION	MEASUREMENT
EF-V5B Emergency Feedwater Crossconnect Valve 5B	C/FDW	SCS
EF-V5B Emergency Feedwater Crossconnect Valve 5B	CLOSE	OPER ACTION
ELEC(C&S) Breakers, Bldg Sump Pumps	CONTROL & SERV	BUILDINGS
ELEC(C&S) Breakers, Bldg Sump Pumps	OPEN	OPER ACTION
ELEC(FH) Heater Breaker, Recombiner	FUEL HANDLING	BUILDINGS
ELEC(FH) Heater Breaker, Recombiner	INFO	OPER ACTION
EMERG(DIR) Emergency Director	CONTROL & SERV	BUILDINGS
EMERG(DIR) Emergency Director	DIRECTOR	MISCELLANEOUS
EMERG(ECS) Emergency Control Station	DECLARATION	MISCELLANEOUS
EMERG(ECS) Emergency Control Station	DIRECTOR	MISCELLANEOUS
EMERG(ECS) Emergency Control Station	EMERG CONTROL	BUILDINGS
EMERG(ECS) Emergency Control Station	UNIT I	BUILDINGS
EMERG(GEN) General Emergency	DECLARATION	MISCELLANEOUS
EMERG(GEN) General Emergency	EMER CONTROL	BUILDINGS

COMPONENTS INDEX TABLE

Component	SubSystem	System
EMERG(SITE) Site Emergency	CONTROL & SERV	BUILDINGS
EMERG(SITE) Site Emergency	DECLARATION	MISCELLANEOUS
EMERG(SITE) Site Emergency	INFO	OPER ACTION
ESF Safety Injection	CONTROL & SERV	BUILDINGS
ESF Safety Injection	ESF ACTUATION	ALARM SYSTEMS
ESF RPS Functional Test	INFO	OPER ACTION
ESF(A) Engineered Safety Features Train A	BYPASS	OPER ACTION
ESF(A) Engineered Safety Features Train A	CONTROL & SERV	BUILDINGS
ESF(A) Engineered Safety Features Train A	DEFEAT ESF	OPER ACTION
ESF(A) Engineered Safety Features Train A	ESF ACTUATION	ALARM SYSTEMS
ESF(A) Engineered Safety Features Train A	ESF RESET	ALARM SYSTEMS
ESF(A) Engineered Safety Features Train A	HPI/MAKEUP	PCS
ESF(A) Engineered Safety Features Train A	REMOVE BYPASS	OPER ACTION
ESF(A) Engineered Safety Features Train A	REMOVE DEFEAT	OPER ACTION
ESF(A) Engineered Safety Features Train A	START	OPER ACTION

COMPONENTS INDEX TABLE

Component	SubSystem	System
ESF(B) Engineered Safety Features Train B	BYPASS	OPER ACTION
ESF(B) Engineered Safety Features Train B	CONTROL & SERV	BUILDINGS
ESF(B) Engineered Safety Features Train B	DEFEAT ESF	OPER ACTION
ESF(B) Engineered Safety Features Train B	ESF ACTUATION	ALARM SYSTEMS
ESF(B) Engineered Safety Features Train B	ESF RESET	ALARM SYSTEMS
ESF(B) Engineered Safety Features Train B	INFO	OPER ACTION
ESF(B) Engineered Safety Features Train B	REMOVE BYPASS	OPER ACTION
ESF(B) Engineered Safety Features Train B	REMOVE DEFEAT	OPER ACTION
ESF(B) Engineered Safety Features Train B	START	OPER ACTION
FA Fire Alarm	AUX BLDG	BUIDLINGS
FA Fire Alarm	AUX BLDG	BUILDINGS
FA Fire Alarm	ISOLATE	OPER ACTION
FA Fire Alarm	MISC	ALARM SYSTEMS
FFA False Fire Alarm	MISC	ALARM SYSTEMS
FFA False Fire Alarm	ONSITE	BUILDINGS

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Component	SubSystem	System
FFA False Fire Alarm	TURBINE	BUILDINGS
FS-P-2 Fire Service Pump	MISC	ALARM SYSTEMS
FS-P-2 Fire Service Pump	ONSITE	BUILDINGS
FW(A) "A" Feedwater	C/FDW	SCS
FW(A) "A" Feedwater	INFO	OPER ACTION
FW(NORM) Normal Lineup	C/FDW	SCS
FW(NORM) Normal Lineup	INFO	OPER ACTION
FW-9-FE Feedwater	C/FDW	SCS
FW-9-FE Feedwater	INFO	OPER ACTION
FW-9A-FE Feedwater Flow Steam Generator A	C/FDW	SCS
FW-9A-FE Feedwater Flow Steam Generator A	FLOW	MEASUREMENT
FW-9A-FE Feedwater Flow	STOP	OPER ACTION
FW-9B-FE Feedwater Flow Steam Generator B	C/FDW	SCS
FW-9B-FE Feedwater Flow Steam Generator B	FLOW	MEASUREMENT
FW-P-1 Steam Generator Feedwater Pumps	C/FDW	SCS

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Component	SubSystem	System
FW-P-1 Steam Generator Feedwater Pumps	REVIEW	OPER ACTION
FW-P-1A Feedwater Pump 1A	C/FDW	SCS
FW-P-1A Feedwater Pump 1A	TRIP	ALARM SYSTEMS
FW-P-1B Feedwater Pump 1B	AP TRIP	ALARM SYSTEMS
FW-P-1B Feedwater Pump 1B	C/FDW	SCS
GEN Main Generator	TURBINE	BUILDINGS
GEN Main Generator	VENT	OPER ACTION
GEN(H2) Hydrogen	TURBINE	BUILDINGS
GEN(H2) Hydrogen	VENT	OPER ACTION
GOV Meeting with Pennsylvania Governor	DECLARATION	MISCELLANEOUS
GOV Meeting with Pennsylvania Governor	EMERG CONTROL	BUILDING
HD-P-1 Heater Drain Pumps	C/FDW	SCS
HD-P-1 Heater Drain Pumps	STOP	OPER ACTION
HEISE Heise Gauge	LEVEL	MEASUREMENT
HEISE Heise Gauge	PRESSURE	MEASUREMENT

COMPONENTS INDEX TABLE

Component	SubSystem	System
HEISE Heise Gauge	PZR	PCS
HEISE Heise Gauge	RC PIPING	PCS
HG01 Pressurizer Heater Group 1	PZR	PCS
HG01 Pressurizer Heater Group 1	PZR ALARM	ALARM SYSTEMS
HG01 Pressurizer Heater Group 1	START	OPER ACTION
HG01 Pressurizer Heater Group 1	STOP	OPER ACTION
HG01 - 5 Pressurizer Heater Group 1 - 5	ESF RESET	ALARM SYSTEMS
HG01 - 5 Pressurizer Heater Group 1 - 5	OPEN	OPER ACTION
HG01 - 5 Pressurizer Heater Group 1 - 5	PZR	PCS
HG01 - 5 Pressurizer Heater Group 1 - 5	START	OPER ACTION
HG01 - 5 Pressurizer Heater Group 1 - 5	STOP	OPER ACTION
HG02 Pressurizer Heater Group 2	PZR	PCS
HG02 Pressurizer Heater Group 2	PZR ALARM	ALARM SYSTEMS
HG02 Pressurizer Heater Group 2	START	OPER ACTION
HG02 Pressurizer Heater Group 2	STOP	OPER ACTION

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Component	SubSystem	System
HG03 Pressurizer Heater Group 3	PZR	PCS
HG03 Pressurizer Heater Group 3	PZR ALARM	ALARM SYSTEMS
HG04 Pressurizer Heater Group 4	PZR	PCS
HG04 Pressurizer Heater Group 4	PZR ALARM	ALARM SYSTEMS
HG05 Pressurizer Heater Group 5	PZR	PCS
HG05 Pressurizer Heater Group 5	PZR ALARM	ALARM SYSTEMS
HG08 Pressurizer Heater Group 8	PZR	PCS
HG08 Pressurizer Heater Group 8	PZR ALARM	ALARM SYSTEMS
HG10 Pressurizer Heater Group 10	PZR	PCS
HG10 Pressurizer Heater Group 10	PZR ALARM	ALARM SYSTEMS
HGO Pressurizer Heater Breakers	PZR	PCS
HGO Pressurizer Heater Breakers	RESET	OPER ACTION
HGO Pressurizer Heaters	STOP	OPER ACTION
HGO(GAS) Gas Bubble	PRESSURE	MEASUREMENT
HGO(GAS) Gas Bubble	PZR	PCS

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Component	SubSystem	System
HP-R Radiation	ATMOSPHERE	CONTAINMENT
HP-R Radiation	RADIATION	MEASUREMENT
HP-R(AUX) Auxiliary Bldg Heating & Ventilation Radiation Monitor	AUX BLDG	BUILDINGS
HP-R(AUX) Auxiliary Bldg Heating & Ventilation Radiation Monitor	RADIATION	MEASUREMENT
HP-R(AUXI) Auxiliary Bldg Heating & Ventilation Radiation Monitor	RADIATION	MEASUREMENT
HP-R(AUXI) Auxiliary Bldg Heating & Ventilation Radiation Monitor	UNIT I	BUILDINGS
HP-R(CR) Control Room Radiation Monitor Panel	CONTROL & SERV	BUILDINGS
HP-R(CR) Control Room	INFO	OPER ACTION
HP-R(CR) Control Room Radiation Monitor Panel	RADIATION ALARM	ALARM SYSTEM
HP-R(CRI) Unit I Control Room Radioactivity Level	RADIATION	MEASUREMENT
HP-R(CRI) Unit I Control Room Radioactivity Level	UNIT I	BUILDINGS
HP-R(OFF) Offsite Radiation	OFFSITE	BUILDINGS
HP-R(OFF) Offsite Radiation	RADIATION	MEASUREMENT
HP-R-201 Unit 2 Control Room Radioactivity Level	CONTROL & SERV	BUILDINGS
HP-R-201 Unit 2 Control Room Radioactivity Level	RADIATION	MEASUREMENT

COMPONENTS INDEX TABLE

Component	SubSystem	System
HP-R-204	ATMOSPHERE	CONTAINMENT
Reactor Bldg Emergency Cooling Booster Pump Area Monitor		
HP-R-204	RADIATION	MEASUREMENT
Reactor Bldg Emergency Cooling Booster Pump Area Monitor		
HP-R-206	ATMOSPHERE	CONTAINMENT
Makeup Tank Area Monitor		
HP-R-206	RADIATION	MEASUREMENT
Makeup Tank Area Monitor		
HP-R-207	ATMOSPHERE	CONTAINMENT
Intermediate Cooling Pump Area Monitor		
HP-R-207	RADIATION	MEASUREMENT
Intermediate Cooling Pump Area Monitor		
HP-R-210	ATMOSPHERE	CONTAINMENT
Fuel Handling Bldg Bridge South Monitor		
HP-R-210	RADIATION	MEASUREMENT
Fuel Handling Bldg Bridge South Monitor		
HP-R-212	ATMOSPHERE	CONTAINMENT
Reactor Bldg Dome Radiation Monitor		
HP-R-212	RADIATION	MEASUREMENT
Reactor Bldg Dome Radiation Monitor		
HP-R-213	ATMOSPHERE	CONTAINMENT
Incore Instrument Panel Area Monitor		
HP-R-213	RADIATION	MEASUREMENT
Incore Instrument Panel Area Monitor		
HP-R-214	ATMOSPHERE	CONTAINMENT
Reactor Bldg Dome Monitor		
HP-R-214	RADIATION	MEASUREMENT
Reactor Bldg Dome Monitor		
HP-R-215	FUEL HANDLING	BUILDINGS
Fuel Handling Bldg Radiation Monitor		

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Component	SubSystem	System
HP-R-215	RADIATION	MEASUREMENT
Fuel Handling Bldg Radiation Monitor		
HP-R-218	FUEL HANDLING	BUILDINGS
Fuel Handling Bldg Area Monitor		
HP-R-218	RADIATION	MEASUREMENT
Fuel Handling Bldg Area Monitor		
HP-R-219	CONTROL & SERV	BUILDINGS
Station Vent Monitor		
HP-R-219	DEFEAT ESF	OPER ACTION
Station Vent Monitor		
HP-R-219	RADIATION	MEASUREMENT
Station Vent Monitor		
HP-R-219	REMOVE DEFEAT	OPER ACTION
Station Vent Monitor		
HP-R-220	CONTROL & SERV	BUILDINGS
Control Room Intake Duct Radiation Monitor		
HP-R-220	RADIATION	MEASUREMENT
Control Room Intake Duct Radiation Monitor		
HP-R-221	FUEL HANDLING	BUILDINGS
Fuel Handling Bldg Exhaust Duct A & B Monitor		
HP-R-221	RADIAITON	MEASUREMENT
Fuel Handling Bldg Exhaust Duct A & B Monitor		
HP-R-2213	RADIATION	MEASUREMENT
Fuel Handling Bldg Exhaust Filter Outlet Radiation Monitor		
HP-R-221A	FUEL HANDLING	BUILDINGS
Fuel Handling Bldg Exhaust Duct Monitor		
HP-R-221A	INFO	OPER ACTION
Fuel Handling Bldg Exhaust Duct Monitor		
HP-R-221A	RADIATION	MEASUREMENT
Fuel Handling Bldg Exhaust Duct Monitor		

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Component	SubSystem	System
HP-R-221B Fuel Handling Bldg Exhaust Duct Monitor	FUEL HANDLING	BUILDINGS
HP-R-221B Fuel Handling Bldg Exhaust Duct Monitor	INFO	OPER ACTION
HP-R-221B Fuel Handling Bldg Exhaust Duct Monitor	RADIATION	MEASUREMENT
HP-R-222 Auxiliary Bldg Purge Air Exhaust Duct Monitor	AUX BLDG	BUILDINGS
HP-R-222 Auxiliary Bldg Purge Air Exhaust Duct Monitor	INFO	OPER ACTION
HP-R-222 Auxiliary Bldg Purge Air Exhaust Duct	RADIATION	MEASUREMENT
HP-R-222 Auxiliary Bldg Purge Air Exhaust Duct	RADIATION ALARM	ALARM SYSTEMS
HP-R-225 Reactor Bldg Purge Air Exhaust Duct A Monitor	ATMOSPHERE	CONTAINMENT
HP-R-225 Reactor Bldg Purge Air Exhaust Duct A Monitor	RADIATION	MEASUREMENT
HP-R-225 Reactor Bldg Purge Air Exhaust Duct A Radiation Monitor	RADIATION ALARM	ALARM SYSTEMS
HP-R-226 Reactor Bldg Purge Air Exhaust Duct B Monitor	ATMOSPHERE	CONTAINMENT
HP-R-226 Reactor Bldg Purge Air Exhaust Duct B	RADIATION	MEASUREMENT
HP-R-226 Reactor Bldg Purge Air Exhaust Duct B	RADIATION ALARM	ALARM SYSTEMS
HP-R-227 Reactor Bldg Air Sample Line Monitor	ATMOSPHERE	CONTAINMENT
HP-R-227 Reactor Bldg Air Sample Line Monitor	OPEN	OPER ACTION

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Component	SubSystem	System
HP-R-227 Reactor Bldg Air Sample Line Monitor	RADCHEM	MISCELLANEOUS
HP-R-227 Reactor Bldg Air Sample Line Monitor	RADIATION	MEASUREMENT
HP-R-227(I) Reactor Building Air Sample Monitor - iodine	ATMOSPHERE	CONTAINMENT
HP-R-227(I) Reactor Building Air Sample Monitor - iodine	RADIATION	MEASUREMENT
HP-R-228 Aux Bldg Purge Air Exhaust Filter Monitor	AUX BLDG	BUILDINGS
HP-R-228 Aux Bldg Purge Air Exhaust Filter Monitor	INFO	OPER ACTION
HP-R-229 Hydrogen Purge Duct Monitor	ATMOSPHERE	CONTAINMENT
HP-R-229 Hydrogen Purge Duct Monitor	RADIATION	MEASUREMENT
HP-R-232 Auxiliary Bldg Access Corridor Radiation Monitor	AUX BLDG	BUILDINGS
HP-R-232 Auxiliary Bldg Access Control Corridor Radiation Monitor	RADIATION	MEASUREMENT
HP-R-234 Control & Services Bldg Radiation Monitor	CONTROL & SERV	BUILDINGS
HP-R-234 Control & Services Bldg Corridor Radiation Monitor	RADIATION	MEASUREMENT
HP-R-236 Reactor Bldg Purge Unit Area Monitor	ATMOSPHERE	CONTAINMENT
HP-R-236 Reactor Bldg Purge Unit Area Monitor	RADIATION	MEASUREMENT
HP-R-240 Fuel Handling Bldg Exhaust Unit Area Monitor	FUEL HANDLING	BUILDINGS

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Component	SubSystem	System
HP-R-3240	RADIATION	MEASUREMENT
Fuel Handling Bldg Exhaust Unit Area Monitor		
HP-R-3240	RADIATION LEVEL	MEASUREMENT
Fuel Handling Bldg Exhaust Unit Area Monitor		
HP-R-GE	ONSITE	BUILDINGS
Radiation Level at Detectors GE8 and GE9		
HP-R-GE	RADIATION	MEASUREMENT
Radiation Level at Detectors GE8 and GE9		
HR	FUEL HANDLING	BUILDINGS
Hydrogen Recombiner		
HR	INFO	OPER ACTION
Hydrogen Recombiner		
HR	ISOLATE	OPER ACTION
Hydrogen Recombiner		
HR	MISC	ALARM SYSTEMS
Hydrogen Recombiner		
HR	START	OPER ACTION
Hydrogen Recombiner		
HR(LOW)	FUEL HANDLING	BUILDINGS
Reaction Chamber Gas Low Temperature Alarm		
HR(LOW)	MISC	ALARM SYSTEMS
Reaction Chamber Gas Low Temperature Alarm		
HR-2	FUEL HANDLING	BUILDINGS
#2 Hydrogen Recombiner		
HR-2	STOP	OPER ACTION
#2 Hydrogen Recombiner		
IC-P-1A	C/FDW	SCS
Intermediate Cooling Pump 1A		
IC-P-1A	ESF ACTUATION	ALARM SYSTEMS
Intermediate Cooling Pump 1A		

COMPONENTS INDEX TABLE

Component	SubSystem	System
IC-P-1A	START	OPER ACTION
Intermediate Cooling Pump 1A		
IC-P-1B	C/FDW	SCS
Intermediate Cooling Pump 1B		
IC-P-1B	ESF ACTUATION	ALARM SYSTEMS
Intermediate Cooling Pump 1B		
IC-P-1B	START	OPER ACTION
Intermediate Cooling Pump 1B		
IC-P-1B	STOP	OPER ACTION
Intermediate Cooling Pump 1B		
IC-R-1091	AUX BLDG	BUILDINGS
Intermediate Cooling Letdown Cooler B Radiation Monitor		
IC-R-1091	RADIATION	MEASUREMENT
Intermediate Cooling Letdown Cooler B Radiation Monitor		
IC-R-1091	RADIATION ALARM	ALARM SYSTEMS
Intermediate Cooling Letdown Cooler B Radiation Monitor		
IC-R-1092	AUX BLDG	BUILDINGS
Intermediate Cooling Letdown Cooler A Radiation Monitor		
IC-R-1092	RADIATION	MEASUREMENT
Intermediate Cooling Letdown Cooler A Radiation Monitor		
IC-R-1092	RADIATION ALARM	ALARM SYSTEMS
Intermediate Cooling Letdown Cooler A Radiation Monitor		
IC-R-1093	AUX BLDG	BUILDINGS
Intermediate Cooling Letdown Cooler Outlet Radiation Monitor		
IC-R-1093	RADIATION	MEASUREMENT
Intermediate Cooling Letdown Cooler Outlet Radiation Monitor		
IC-TC	RV	PCS
Incore Thermocouple Outlet Temperatures		
IC-TC	TEMPERATURE	MEASUREMENT
Incore Thermocouple Outlet Temperatures		

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Component	SubSystem	System
IC-TC(R-10)	RV	PCS
Incore Thermocouple R-10		
IC-TC(R-10)	TEMPERATURE	MEASUREMENT
Incore Thermocouple R-10		
IC-V1A	CLOSE	OPER ACTION
Intermediate Closed Cooling Water Valve		
IC-V1A	HPI/MAKEUP	PCS
Intermediate Closed Cooling Water Valve		
IWTS		
Industrial Waste Treatment System		
IWTS	ISOLATE	OPER ACTION
Industrial Waste Treatment System		
IWTS	LEVEL	MEASUREMENT
Industrial Waste Treatment System		
IWTS	START	OPER ACTION
Industrial Waste Treatment System		
IWTS	STOP	OPER ACTION
Industrial Waste Treatment System		
IWTS	TRANSFER	OPER ACTION
Industrial Waste Treatment System		
LPMS	ACOUSTIC	MEASUREMENT
Sound Analysis Personnel		
LPMS	LOOSE PARTS	MEASUREMENT
Loose Part Monitoring System		
LPMS	RC PIPING	PCS
Loose Part Monitoring System		
MO-T-1A	C/FDW	SCS
Condensate Reheater		
MO-T-1A	INFO	OPER ACTION
Condensate Reheater		

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Component	SubSystem	System
MO-T-2A Condensate Reheater	C/FDW	SCS
MO-T-2A Condensate Reheater	INFO	OPER ACTION
MS Steam Lines	INFO	OPER ACTION
MS Steam Lines	SGA	SCS
MS-SRV Steam Generator Safety Valves	ESF RESET	ALARM SYSTEMS
MS-SRV Steam Generator Safety Valves	SGA	SCS
MS-SRV-A Steam Generator A Safety Valves	ESF ACTUATION	ALARM SYSTEMS
MS-SRV-A Steam Generator A Safety Valves	SGA	SCS
MS-SRV-B Steam Generator B Safety Valves	ESF ACTUATION	ALARM SYSTEMS
MS-SRV-B Steam Generator B Safety Valves	SGB	SCS
MS-V15B Turbine Bypass Isolation Valve 15B	CLOSE	OPER ACTION
MS-V15B Turbine Bypass Isolation Valve 15B	TURBINE	BUILDINGS
MS-V25A Turbine Bypass Valve 25A	ESF ACTUATION	ALARM SYSTEMS
MS-V25A Turbine Bypass Valve 25A	INCREASE	OPER ACTION
MS-V25A Turbine Bypass Valve 25A	MANUAL	OPER ACTION

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Component	SubSystem	System
MS-V25A Turbine Bypass	OPEN Valve 25A	OPEN ACTION
MS-V25A Turbine Bypass	OPEN Valve 25A	OPER ACTION
MS-V25A Turbine Bypass	POSITION Valve 25A	MEASUREMENT
MS-V25A Turbine Bypass	PRESSURE Valve 25A	MEASUREMENT
MS-V25A Turbine Bypass	REDUCE Valve 25A	OPER ACTION
MS-V25A Turbine Bypass	TURBINE Valve 25A	BUILDINGS
MS-V25B Turbine Bypass	Valve 25B	
MS-V25B Turbine Bypass	CLOSE Valve 25B	OPER ACTION
MS-V25B Turbine Bypass	ESF ACTUATION Valve 25B	ALARM SYSTEMS
MS-V25B Turbine Bypass	MANUAL Valve 25B	OPER ACTION
MS-V25B Turbine Bypass	OPEN Valve 25B	OPER ACTION
MS-V25B Turbine Bypass	PRESSURE Valve 25B	MEASUREMENT
MS-V25B Turbine Bypass	TURBINE Valve 25B	BUILDINGS
MS-V26A Turbine Bypass	ESF ACTUATION Valve 26A	ALARM SYSTEMS
MS-V26A Turbine Bypass	INCREASE Valve 26A	OPER ACTION

COMPONENTS INDEX TABLE

Component	SubSystem	System
MS-V26A Turbine Bypass Valve 26A	MANUAL	OPER ACTION
MS-V26A Turbine Bypass Valve 26A	POSITION	MEASUREMENT
MS-V26A Turbine Bypass Valve 26A	PRESSURE	MEASUREMENT
MS-V26A Turbine Bypass Valve 26A	REDUCE	OPER ACTION
MS-V26A Turbine Bypass Valve 26A	TURBINE	BUILDINGS
MS-V26B Turbine Bypass Valve 26B	ESF ACTUATION	ALARM SYSTEMS
MS-V26B Turbine Bypass Valve 26B	MANUAL	OPER ACTION
MS-V26B OTSG "B" Turbine Bypass Valve Controller	OPEN	OPER ACTION
MS-V26B Turbine Bypass Valve 26B	POSITION	MEASUREMENT
MS-V26B Turbine Bypass Valve 26B	PRESSURE	MEASUREMENT
MS-V26B Turbine Bypass Valve 26B	TURBINE	BUILDINGS
MS-V3A Power Operated Emergency Main Steam Dump Valve 3A	CLOSE	OPER ACTION
MS-V3A Power Operated Emergency Main Steam Dump Valve 3A	ESF ACTUATION	ALARM SYSTEMS
MS-V3A Power Operated Emergency Main Steam Dump Valve 3A	OPEN	OPER ACTION
MS-V3A Power Operated Emergency Main Steam Dump Valve 3A	REMOVE BYPASS	OPER ACTION

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Component	SubSystem	System
MS-V3A Power Operated Emergency Main Steam Dump Valve 3A	TURBINE	BUILDINGS
MS-V3B Power Operated Emergency Main Steam Dump Valve 3B	ESF ACTUATION	ALARM SYSTEMS
MS-V3B Power Operated Emergency Main Steam Dump Valve 3B	REMOVE BYPASS	OPER ACTION
MS-V3B Power Operated Emergency Main Steam Dump Valve 3B	TURBINE	BUILDINGS
MS-V4B Steam Generator B Steam Isolation Valve 4B	CLOSE	OPER ACTION
MS-V4B Steam Generator B Steam Isolation Valve 4B	SGB	SCS
MS-V4B Steam Generator B Steam Isolation Valve 4B	START	OPER ACTION
MS-V7B Steam Generator B Steam Isolation Valve 7B	CLOSE	OPER ACTION
MS-V7B Steam Generator B Steam Isolation Valve 7B	OPEN	OPER ACTION
MS-V7B Steam Generator B Steam Isolation Valve 7B	SGB	SCS
MS-VAB Turbine Bypass Valves	CLOSE	OPER ACTION
MS-VAB Turbine Bypass Valves	TURBINE	BUILDINGS
MU-4-DPT Letdown Flow	ATTEMPT	OPER ACTION
MU-4-DPT Letdown Flow	FLOW	MEASUREMENT
MU-4-DPT Letdown Flow	INCREASE	OPER ACTION

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Component	SubSystem	System
MU-4-DPT Letdown Flow	LTDN	PCS
MU-4-DPT Letdown Flow	START	OPER ACTION
MU-4-DPT Letdown Flow	TRANSFER	OPER ACTION
MU-C-1A Letdown Cooler 1A	AP ALARM	ALARM SYSTEMS
MU-C-1A Letdown Cooler 1A	LTDN	PCS
MU-C-1A Letdown Cooler 1A	TEMPERATURE	MEASUREMENT
MU-C-TE Letdown Cooler 1A High Temperature	LTDN	PCS Alarm
MU-C-TE Letdown Cooler 1A High Temperature	REDUCE	OPER ACTION Alarm
MU-DPT Letdown Prefilters	LTDN	PCS
MU-DPT Letdown Prefilters	PRESSURE	MEASUREMENT
MU-P-1 High Pressure Injection	HPI/MAKEUP	PCS
MU-P-1 High Pressure Injection	INFO	OPER ACTION
MU-P-1 High Pressure Injection	START	OPER ACTION
MU-P-1A Reactor Coolant Makeup Pump 1A	AP TRIP	ALARM SYSTEMS
MU-P-1A Reactor Coolant Makeup Pump 1A	ATTEMPT	OPER ACTION

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Component	SubSystem	System
MU-P-1A Reactor Coolant Makeup Pump 1A	DEFEAT ESF	OPER ACTION
MU-P-1A Reactor Coolant Makeup Pump 1A	HPI/MAKEUP	PCS
MU-P-1A Reactor Coolant Makeup Pump 1A	INFO	OPER ACTION
MU-P-1A Reactor Coolant Makeup Pump 1A	START	OPER ACTION
MU-P-1A Reactor Coolant Makeup Pump 1A	STOP	OPER ACTION
MU-P-1B Reactor Coolant Makeup Pump 1B	ESF ACTUATION	ALARM SYSTEMS
MU-P-1B Reactor Coolant Makeup Pump 1B	HPI/MAKEUP	PCS
MU-P-1B Reactor Coolant Makeup Pump 1B	START	OPER ACTION
MU-P-1C Reactor Coolant Makeup Pump 1C	ATTEMPT	OPER ACTION
MU-P-1C Reactor Coolant Makeup Pump 1C	DEFEAT ESF	OPER ACTION
MU-P-1C Reactor Coolant Makeup Pump 1C	ESF ACTUATION	ALARM SYSTEMS
MU-P-1C Reactor Coolant Makeup Pump 1C	ESF ALARM	ALARM SYSTEMS
MU-P-1C Reactor Coolant Makeup Pump 1C	HPI/MAKEUP	PCS
MU-P-1C Reactor Coolant Makeup Pump 1C	INFO	OPER ACTION
MU-P-1C Reactor Coolant Makeup Pump 1C	START	OPER ACTION

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Component	SubSystem	System
MU-P-1C Reactor Coolant Makeup Pump 1C	STOP	OPER ACTION
MU-R-3 Letdown High Pressure Relief Valve	LTDN	PCS
MU-R-3 Letdown High Pressure Relief Valve	PCS ALARM	ALARM SYSTEMS
MU-R-720 HI Primary Coolant Letdown Hi Radiation Monitor	ATMOSPHERE	CONTAINMENT
MU-R-720 HI Primary Coolant Letdown Hi Radiation Monitor	RADIATION	MEASUREMENT
MU-R-720 LO Primary Coolant Letdown Lo Radiation Monitor	ATMOSPHERE	CONTAINMENT
MU-R-720 LO Primary Coolant Letdown Lo Radiation Monitor	RADIATION	MEASUREMENT
MU-T-1 Reactor Coolant Makeup Tank	HPI/MAKEUP	PCS
MU-T-1 Reactor Coolant Makeup Tank	LEVEL	MEASUREMENT
MU-T-1 Reactor Coolant Makeup Tank	RADIATION	MEASUREMENT
MU-T-1 Reactor Coolant Makeup Tank	STOP	OPER ACTION
MU-T-1 Reactor Coolant Makeup Tank	TRANSFER	OPER ACTION
MU-T-1 Reactor Coolant Makeup Tank	VENT	OPER ACTION
MU-T-1 (VENT) Vent Header	AUX BLDG	BUILDINGS
MU-T-1 (VENT) Vent Header	PRESSURE	MEASUREMENT

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Component	SubSystem	System
MU-T-1(VENT) Vent Header	VENT	OPER ACTION
MU-TE Letdown Temperature	LTDN	PCS
MU-TE Letdown Temperature	TEMPERATURE	MEASUREMENT
MU-V10 Makeup Addition Valve 10	HPI/MAKEUP	PCS
MU-V10 Makeup Addition Valve 10	START	OPER ACTION
MU-V100 Letdown Block Orfice Bypass Valve	LTDN	PCS
MU-V100 Letdown Block Orfice Bypass Valve	OPEN	OPER ACTION
MU-V127 Makeup Addition Valve 127	HPI/MAKEUP	PCS
MU-V127 Makeup Addition Valve 127	START	OPER ACTION
MU-V13 Makeup Tank Vent Valve	CLOSE	OPER ACTION
MU-V13 Makeup Tank Vent Valve	HPI/MAKEUP	PCS
MU-V13 Makeup Tank Vent Valve	OPEN	OPER ACTION
MU-V16A High Pressure Injection Isolation Valve 16A	HPI/MAKEUP	PCS
MU-V16A High Pressure Injection Isolation Valve 16A	REDUCE	OPER ACTION
MU-V16B High Pressure Injection Isolation Valve 16B	HPI/MAKEUP	PCS

COMPONENTS INDEX TABLE

Component	SubSystem	System
MU-V16B High Pressure Injection Isolation Valve 16B	OPEN	OPER ACTION
MU-V16B High Pressure Injection Isolation Valve 16B	REDUCE	OPER ACTION
MU-V18 Makeup Valve	HPI/MAKEUP	PCS
MU-V18 Makeup Valve	OPEN	OPER ACTION
MU-V28 Letdown Valve	LTDN	PCS
MU-V29 Letdown Valve	OPEN	OPER ACTION
MU-V376 Letdown Isolation Valve	CLOSE	OPER ACTION
MU-V376 Letdown Isolation Valve	LTDN.	PCS
NDCT Circulating Water Flume		
NDCT Circulating Water Flume	LEVEL	MEASUREMENT
NDCT Circulating Water Flume	STOP	OPER ACTION
NDCT Circulating Water Flume	TRANSFER	OPER ACTION
NI-1 Source Range Channel	POWER	MEASUREMENT
NI-1 Source Range Channel	RV	PCS
NI-1-2 Source Range Channel Functional Test	POWER	MEASUREMENT

COMPONENTS INDEX TABLE

Component	SubSystem	System
NI-1-2	RV	PCS
Source Range Channel Functional Test		
NI-2	POWER	MEASUREMENT
Source Range Detector		
NI-2	RV	PCS
Source Range Detector		
NI-3	POWER	MEASUREMENT
Intermediate Range Channel		
NI-3	RV	PCS
Intermediate Range Channel		
NI-4	POWER	MEASUREMENT
Intermediate Range Channel		
NI-4	RV	PCS
Intermediate Range Channel		
NRC		
NRC Region I Inspection Team		
NRC	EMERG CONTROL	BUILDINGS
NRC Region I Inspection Team		
NS-R-3401	ATMOSPHERE	CONTAINMENT
Nuclear Service Closed Cooling Radiation Monitor		
NS-R-3401	RADIATION	MEASUREMENT
Nuclear Service Closed Cooling Radiation Monitor		
OTSGA	INFO	OPER ACTION
"A" OTSG		
OTSGA	LEVEL	MEASUREMENT
"A" OTSG		
OTSGA	PRESSURE	MEASUREMENT
Steam Generator A		
OTSGA	SGA	SCS
Steam Generator A		

COMPONENTS INDEX TABLE

Component	SubSystem	System
R/C ANAL(ATM) Atmosphere	RADCHEM	MISCELLANEOUS
R/C ANAL(COND) Radiation/chemistry Sample Analysis Condenser	C/FDW	SCS
R/C ANAL(COND) Radiation/chemistry Sample Analysis Condenser	RADCHEM	MISCELLANEOUS
R/C ANAL(CR) Contact Readings	AUX BLDG	BUILDINGS
R/C ANAL(CR) Contact Readings	RADCHEM	MISCELLANEOUS
R/C ANAL(H2) Hydrogen Concentration	ATMOSPHERE	CONTAINMENT
R/C ANAL(H2) Hydrogen Concentration	RADCHEM	MISCELLANEOUS
R/C ANAL(NAOH) Sodium Hydroxide Tank Sample	AUX BLDG	BUILDINGS
R/C ANAL(NAOH) Sodium Hydroxide Tank Sample	RADCHEM	MISCELLANEOUS
R/C ANAL(RBAIR) Reactor Bldg Air Sample Line	ISOL & COOLING	CONTAINMENT
R/C ANAL(RBAIR) Reactor Bldg Air Sample Line	ISOLATE	OPER ACTION
R/C ANAL(RBATM) Reactor Bldg Atmosphere	ATMOSPHERE	CONTAINMENT
R/C ANAL(RBATM) Reactor Bldg Atmosphere	RADCHEM	MISCELLANEOUS
R/C ANAL(RC) Reactor Coolant Sample	RADCHEM	MISCELLANEOUS
R/C ANAL(RC) Reactor Coolant Sample	RC PIPING	PCS

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Component	SubSystem	System
R/C ANAL(SGA) Steam Generator A Sample	RADCHEM	MISCELLANEOUS
R/C ANAL(SGA) Steam Generator A Sample	SGA	SCS
R/C ANAL(SGB) Steam Generator B Radiation Sample	RADCHEM	MISCELLANEOUS
R/C ANAL(SGB) Steam Generator B Radiation Sample	SGB	SCS
R/C ANAL(VALVE) Aligned Valves	ATMOSPHERE	CONTAINMENT
R/C ANAL(VALVE) Aligned Valves	RADCHEM	MISCELLANEOUS
R/C ANAL(WGDT) Waste Gas Decay Tank	GRS	BUILDINGS
R/C ANAL(WGDT) Waste Gas Decay Tank	RADCHEM	MISCELLANEOUS
RC-1-LT Pressurizer Level	INFO	OPER ACTION
RC-1-LT Pressurizer Level	LEVEL	MEASUREMENT
RC-1-LT Pressurizer Level	PZR	PCS
RC-1-LT Pressurizer Level	VENT	OPER ACTION
RC-1-LT(HI) Pressurizer High Level Alarm	PZR	PCS
RC-1-LT(HI) Pressurizer High Level Alarm	PZR ALARM	ALARM
RC-1-LT(HI) Pressurizer High Level Alarm	PZR ALARM	ALARM SYSTEMS

COMPONENTS INDEX TABLE

Component	SubSystem	System
RC-1-LT1	FAIL	MEASUREMENT
Pressurizer Level Transmitter		
RC-1-LT1	PZR	PCS
Pressurizer Level Transmitter		
RC-1-LT2	FAIL	MEASUREMENT
Pressurizer Level Transmitter		
RC-1-LT2	PZR	PCS
Pressurizer Level Transmitter		
RC-1-LT3	FAIL	MEASUREMENT
Pressurizer Level Transmitter		
RC-1-LT3	LEVEL	MEASUREMENT
Pressurizer Level Transmitter		
RC-1-LT3	PZR	PCS
Pressurizer Level Transmitter		
RC-1-PT	PRESSURE	MEASUREMENT
Pressurizer Pressure		
RC-1-PT	PZR	PCS
Pressurizer Pressure		
RC-10-TE	AP ALARM	ALARM SYSTEMS
Pressurizer Safety Valves Discharge Line High Temp Alarms		
RC-10-TE	PZR	PCS
Pressurizer Safety Valves Discharge Line High Temp Alarms		
RC-10-TE1	PZR	PCS
Electromatic Relief Valve Outlet Temperature		
RC-10-TE1	TEMPERATURE	MEASUREMENT
Electromatic Relief Valve Outlet Temperature		
RC-10-TE1 - 3	PZR	PCS
Electromatic Relief Valve Outlet Temperatures		
RC-10-TE1 - 3	REVIEW	OPER ACTION
Electromatic Relief Valve Outlet Temperatures		

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Component	SubSystem	System
RC-10-TE1 - 3	TEMPERATURE	MEASUREMENT
Electromatic Relief Valve Outlet Temperatures		
RC-10-TE3	PZR	PCS
Pressurizer Safety Valve 1B Outlet Temperature		
RC-10-TE3	TEMPERATURE	MEASUREMENT
Pressurizer Safety Valve 1B Outlet Temperature		
RC-14B-DPT	FAIL	MEASUREMENT
Reactor Coolant Flow Loop "B" Indicator		
RC-14B-DPT	RC PIPING	PCS
Reactor Coolant Flow Loop "B" Indicator		
RC-2-MS	PZR	PCS
Pressurizer Temperature		
RC-2-MS	TEMPERATURE	MEASUREMENT
Pressurizer Temperature		
RC-3-PT	AP TRIP	ALARM SYSTEMS
Reactor Coolant Pressure		
RC-3-PT	ESF ACTUATION	ALARM SYSTEMS
Reactor Coolant Pressure		
RC-3-PT	PRESSURE	MEASUREMENT
Reactor Coolant Pressure		
RC-3-PT	RC PIPING	PCS
Reactor Coolant Pressure		
RC-3-PT	RC-PIPING	PCS
Reactor Coolant Pressure		
RC-3-PT(RATE)	PRESSURE	MEASUREMENT
Pressure Drop Rate		
RC-3-PT(RATE)	RC PIPING	PCS
Pressure Drop Rate		
RC-4-TE	RC PIPING	PCS
Hot Leg Temperatures		

COMPONENTS INDEX TABLE

Component	SubSystem	System
RC-4-TE Hot Leg Temperatures	TEMPERATURE	MEASUREMENT
RC-4A-TE Loop A Hot Leg Temperature	RC PIPING	PCS
RC-4A-TE Loop A Hot Leg Temperature	TEMPERATURE	MEASUREMENT
RC-4B-TE Loop B Hot Leg Temperature	RC PIPING	PCS
RC-4B-TE Loop B Hot Leg Temperature	TEMPERATURE	MEASUREMENT
RC-5-TE Cold Leg Temperatures	PC PIPING	PCS
RC-5-TE Cold Leg Temperatures	RC PIPING	PCS
RC-5-TE Cold Leg Temperatures	TEMPERATURE	MEASUREMENT
RC-5A-TE Loop A Cold Leg Temperature	RC PIPING	PCS
RC-5A-TE Loop A Cold Leg Temperature	TEMPERATURE	MEASUREMENT
RC-L-PT Pressurizer Pressure	PRESSURE	MEASUREMENT
RC-L-PT Pressurizer Pressure	PZR	PCS
RC-LR RCS Leak Rate	FLOW	MEASUREMENT
RC-LR RCS Leak Rate	RC PIPING	PCS
RC-P Reactor Coolant Pump	INFO	OPER ACTION

COMPONENTS INDEX TABLE

Component	SubSystem	System
RC-P Reactor Coolant Pump	RCP	PCS
RC-P(LIFT) Reactor Coolant Pump Lift Pumps	INFO	OPER ACTION
RC-P(LIFT) Reactor Coolant Pump Lift Pumps	RCP	PCS
RC-P-1A Reactor Coolant Pump 1A	AP ALARM	ALARM SYSTEMS
RC-P-1A Reactor Coolant Pump 1A	ATTEMPT	OPER ACTION
RC-P-1A Reactor Coolant Pump 1A	INFO	OPER ACTION
RC-P-1A Reactor Coolant Pump 1A	PCS ALARM	ALARM SYSTEMS
RC-P-1A Reactor Coolant Pump 1A	RCP	PCS
RC-P-1A Reactor Coolant Pump 1A	START	OPER ACTION
RC-P-1A Reactor Coolant Pump 1A	STOP	OPER ACTION
RC-P-1B Reactor Coolant Pump 1B	AP ALARM	ALARM SYSTEMS
RC-P-1B Reactor Coolant Pump 1B	ATTEMPT	OPER ACTION
RC-P-1B Reactor Coolant Pump 1B	PCS ALARM	ALARM SYSTEMS
RC-P-1B Reactor Coolant Pump 1B	PUMP	MEASUREMENT
RC-P-1B Reactor Coolant Pump 1B	RCP	PCS

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Component	SubSystem	System
RC-P-1B Reactor Coolant Pump 1B	STOP	OPER ACTION
RC-P-2A Reactor Coolant Pump 2A	AP ALARM	ALARM SYSTEMS
RC-P-2A Reactor Coolant Pump 2A	ATTEMPT	OPER ACTION
RC-P-2A Reactor Coolant Pump 2A	PCS ALARM	ALARM SYSTEMS
RC-P-2A Reactor Coolant Pump 2A	RCP	PCS
RC-P-2A Reactor Coolant Pump 2A	START	OPER ACTION
RC-P-2A Reactor Coolant Pump 2A	STOP	OPER ACTION
RC-P-2A(OIL) Reactor Coolant Pump 2A Oil Pump	RCP	PCS
RC-P-2A(OIL) Reactor Coolant Pump 2A Oil Pump	START	OPER ACTION
RC-P-2B Reactor Coolant Pump 2B	AP ALARM	ALARM SYSTEMS
RC-P-2B Reactor Coolant Pump 2B	INFO	OPER ACTION
RC-P-2B Reactor Coolant Pump 2B	PUMP	MEASUREMENT
RC-P-2B Reactor Coolant Pump 2B	RCP	PCS
RC-P-2B Reactor Coolant Pump 2B	START	OPER ACTION
RC-P-2B Reactor Coolant Pump 2B	STOP	OPER ACTION

COMPONENTS INDEX TABLE

Component	SubSystem	System
RC-PT RCS Pressure	PRESSURE	MEASUREMENT
RC-PT RCS Pressure	RC PIPING	PCS
RC-PT RCS Pressure	STOP	OPER ACTION
RC-PT RCS Pressure	VENT	OPER ACTION
RC-PT(DEPRESS) RCS Depressurization	RC PIPING	PCS
RC-PT(DEPRESS) RCS Depressurization	VENT	OPER ACTION
RC-R1A Pressurizer Safety Valve 1A	AP ALARM	ALARM SYSTEMS
RC-R1A Pressurizer Safety Valve 1A	INFO	OPER ACTION
RC-R1A Pressurizer Safety Valve 1A	PZR	PCS
RC-R1A Pressurizer Savety Valve 1A	PZR ALARM	ALARM SYSTEM
RC-R1A Pressurizer Safety Valve 1A	PZR ALARM	ALARM SYSTEMS
RC-R1A Pressurizer Safety Valve 1A	REVIEW	OPER ACTION
RC-R1A Pressurizer Safety Valve 1A	TEMPERATURE	MEASUREMENT
RC-R1B Pressurizer Safety Valve 1B	AP ALARM	ALARM SYSTEMS
RC-R1B Pressurizer Safety Valve 1B	INFO	OPER ACTION

COMPONENTS INDEX TABLE

Component	SubSystem	System
RC-R1B Pressurizer Safety Valve 1B	PZR	PCS
RC-R1B Pressurizer Safety Valve 1B	PZR ALARM	ALARM SYSTEM
RC-R1B Pressurizer Safety Valve 1B	PZR ALARM	ALARM SYSTEMS
RC-R1B Pressurizer Safety Valve 1B	REVIEW	OPER ACTION
RC-R1B Pressurizer Safety Valve 1B	TEMPERATURE	MEASUREMENT
RC-R2 Electromatic Relief Valve	AP ALARM	ALARM SYSTEMS
RC-R2 Electromatic Relief Valve	ESF RESET	ALARM SYSTEMS
RC-R2 Electromatic Relief Valve	INFO	OPER ACTION
RC-R2 Electromatic Relief Valve	LEVEL	MEASUREMENT
RC-R2 Electromatic Relief Valve	OPEN	OPER ACTION
RC-R2 Electromatic Relief Valve	PRESSURE	MEASUREMENT
RC-R2 Electromatic Relief Valve	PZR	PCS
RC-R2 Electromatic Relief Valve	PZR ALARM	ALARM SYSTEM
RC-R2 Electromatic Relief Valve	PZR ALARM	ALARM SYSTEMS
RC-R2 Electromatic Relief Valve	REVIEW	OPER ACTION

COMPONENTS INDEX TABLE

Component	SubSystem	System
RC-R2 Electromatic Relief Valve	TEMPERATURE	MEASUREMENT
RC-TE RCS Temperature	INFO	OPER ACTION
RC-TE RCS Temperature	RC PIPING	PCS
RC-TE RCS Temperature	START	OPER ACTION
RC-TE RCS Temperature	TEMPERATURE	MEASUREMENT
RC-V1 Pressurizer Spray Valve	AUTO	OPER ACTION
RC-V1 Pressurizer Spray Valve	CLOSE	OPER ACTION
RC-V1 Pressurizer Spray Valve	ESF RESET	ALARM SYSTEMS
RC-V1 Pressurizer Spray Valve	OPEN	OPER ACTION
RC-V1 Pressurizer Spray Valve	PZR	PCS
RC-V1 Pressurizer Spray Flow	START	OPER ACTION
RC-V1 Pressurizer Spray Flow	STOP	OPER ACTION
RC-V137 Pressurizer Vent Valve	CLOSE	OPER ACTION
RC-V137 Pressurizer Vent Valve	OPEN	OPER ACTION
RC-V137 Pressurizer Vent Valve	PZR	PCS

Component	SubSystem	System
RC-V137 Pressurizer Vent Valve	VENT	OPER ACTION
RC-V2 Electromatic Relief Block Valve	CLOSE	OPER ACTION
RC-V2 Electromatic Relief Block Valve	INFO	OPER ACTION
RC-V2 Electromatic Relief Block Valve	OPEN	OPER ACTION
RC-V2 Electromatic Relief Block Valve	PZR	PCS
RC-V3 Pressurizer Degas Valve	PZR	PCS
RC-V3 Pressurizer Degas Valve	VENT	OPER ACTION
RIVER Susquehanna		
RIVER Susquehanna	TRANSFER	OPER ACTION
RM-G4 Unit 1 Hot Machine Shop Area Monitor	RADIATION ALARM	ALARM SYSTEMS
RM-G4 Unit 1 Hot Machine Shop Area Monitor	UNIT I	BUILDINGS
RR-P-1A Reactor Bldg River Water Pump 1A	ONSITE	BUILDINGS
RR-P-1A Reactor Bldg River Water Pump 1A	START	OPER ACTION
RR-P-1A Reactor Bldg River Water Pump 1A	STOP	OPER ACTION
RR-P-1B Reactor Bldg River Water Pump 1B	ONSITE	BUILDINGS

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Component	SubSystem	System
RR-P-1B Reactor Bldg River Water Pump 1B	START	OPER ACTION
RR-P-1D Reactor Bldg River Water Pump 1D	ONSITE	BUILDINGS
RR-P-1D Reactor Bldg River Water Pump 1D	STOP	OPER ACTION
RR-TE-1041 Reactor Bldg Air Cooling Coil B Emerg. Discharge Temperature	AP ALARM	ALARM SYSTEMS
RR-TE-1041 Reactor Bldg Air Cooling Coil B Emerg. Discharge Temperature	ATMOSPHERE	CONTAINMENT
SA-P-1C Station Air Compressor	INFO	OPER ACTION
SA-P-1C Station Air Compressor	ONSITE	BUILDINGS
SA-P-1C(ALARM) Station Air Compressor Alarm	MISC ALARM	ALARM SYSTEMS
SA-P-1C(ALARM) Station Air Compressor Alarm	ONSITE	BUILDINGS
SF-R-3402 Spent Fuel Cooling Radiation Monitor	AUX BLDG	BUILDINGS
SF-R-3402 Spent Fuel Cooling Radiation Monitor	RADIATION	MEASUREMENT
SP-1-LT Steam Generator Levels	LEVEL	MEASUREMENT
SP-1-LT Steam Generator Levels	SGA	SCS
SP-1A-LT Steam Generator A Level	FAIL	MEASUREMENT
SP-1A-LT Steam Generator A Level	ICS SETPOINT	ALARM SYSTEMS

COMPONENTS INDEX TABLE

Component	SubSystem	System
SP-1A-LT Steam Generator A Level	PRESSURE	MEASUREMENT
SP-1A-LT Steam Generator A Level	REDUCE	OPER ACTION
SP-1A-LT Steam Generator A Level	SGA	SCS
SP-1A-LT(LOW) Steam Generator A Low Level Alarm	LEVEL	MEASUREMENT
SP-1A-LT(LOW) Steam Generator A Low Level Alarm	SGA	SCS
SP-1A-LT(OPR) Steam Generator A Operating Level	LEVEL	MEASUREMENT
SP-1A-LT(OPR) Steam Generator A Operating Level	LEVEL	MISCELLANEOUS
SP-1A-LT(OPR) Steam Generator A Operating Level	SGA	SCS
SP-1A-LT(OPR) Steam Generator A Operating Level	TRANSFER	OPER ACTION
SP-1A-LT(SU) Steam Generator A Startup Level	PRESSURE	MEASUREMENT
SP-1A-LT(SU) Steam Generator A Startup Level	SGA	SCS
SP-1B-LT Steam Generator B Level	ICS SETPOINT	ALARM SYSTEMS
SP-1B-LT Steam Generator B Level	LEVEL	MEASUREMENT
SP-1B-LT Steam Generator B Level	PRESSURE	MEASUREMENT
SP-1B-LT Steam Generator B Level	SGB	SCS

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Component	SubSystem	System
SP-1B-LT(LOW) Steam Generator B Low Level Alarm	LEVEL	MEASUREMENT
SP-1B-LT(LOW) Steam Generator B Low Level Alarm	SGB	SCS
SP-1B-LT(OPR) Steam Generator B Operating Level	INFO	OPER ACTION
SP-1B-LT(OPR) Steam Generator B Operating Level	LEVEL	MEASUREMENT
SP-1B-LT(OPR) Steam Generator B Operating Level	OPEN	OPER ACTION
SP-1B-LT(OPR) Steam Generator B Operating Level	SGB	SCS
SP-1B-LT(SU) Steam Generator B Startup Level	OPEN	OPER ACTION
SP-1B-LT(SU) Steam Generator B Startup Level	SGB	SCS
SP-6-PT Steam Generator Pressure	PRESSURE	MEASUREMENT
SP-6-PT Steam Generator Pressure	SGA	SCS
SP-6A-PT Steam Generator A Pressure	LEVEL	MEASUREMENT
SP-6A-PT Steam Generator A Pressure	PRESSURE	MEASUREMENT
SP-6A-PT Steam Generator A Pressure	REDUCE	OPER ACTION
SP-6A-PT Steam Generator A Pressure	SGA	SCS
SP-6B-PT Steam Generator B Pressure	PRESSURE	MEASUREMENT

COMPONENTS INDEX TABLE

Component	SubSystem	System
SP-6B-PT Steam Generator B Pressure	SGB	SCS
SPND Incore Detector	ATTEMPT	OPER ACTION
SPND Self Powered Neutron Detectors	POWER	MEASUREMENT
SPND Self Powered Neutron Detectors	RV	PCS
SPND Self Powered Neutron Detectors	TEMPERATURE	MEASUREMENT
SPND(RECA) Backup Incore Detector Recorder A	CONTROL & SERV	BUILDINGS
SPND(RECA) Backup Incore Detector Recorder A	POWER	MEASUREMENT
SPND(RECB) Backup Incore Detector Recorder B	CONTROL & SERV	BUILDINGS
SPND(RECB) Backup Incore Detector Recorder B	POWER	MEASUREMENT
SR-P-1C Secondary River Water Pump	ONSITE	BUILDINGS
SR-P-1C Secondary River Water Pump	START	OPER ACTION
SR-P-1C Secondary River Water Pump	STOP	OPER ACTION
T-1 Waste Gas Decay Tank	GRS	BUILDINGS
T-1 Waste Gas Decay Tank	PCS ALARM	ALARM SYSTEMS
T-1 Waste Gas Decay Tank	RADCHEM	MISCELLANEOUS

Component	SubSystem	System
T-1(PRESS) Waste Gas Decay Tank Pressure	GRS	BUILDINGS
T-1(PRESS) Waste Gas Decay Tank Pressure	PRESSURE	MEASUREMENT
T-1(VALVE) Valve Line Up	GRS	BUILDINGS
T-1(VALVE) Valve Line Up	RADCHEM	MISCELLANEOUS
T-1(VENT) Waste Gas Vent Header	GRS	BUILDINGS
T-1(VENT) Waste Gas Vent Header	VENT	OPER ACTION
T-1A Waste Gas Decay Tank A	GRS	BUILDINGS
T-1A Waste Gas Decay Tank A	VENT	OPER ACTION
T-1B Waste Gas Decay Tank B	GRS	BUILDINGS
T-1B Waste Gas Decay Tank B	VENT	OPER ACTION
TELECON Telephone Conference Call	CONTROL & SERV	BUILDINGS
TELECON Telephone Conference Call	TELEPHONE	MISCELLANEOUS
TRIP Reactor Trip	CRS	PCS
TRIP Reactor Trip	DECLARATION	MISC
TRIP Reactor Trip	INFO	OPER ACTION

COMPONENTS INDEX TABLE

Component	SubSystem	System
TRIP Water Hammer	TURBINE	BUILDINGS
TRIP(GEN) Main Generator	AP TRIP	ALARM SYSTEMS
TRIP(GEN) Main Generator	TURBINE	BUILDINGS
TRIP(TUR) Turbine Trip	AP TRIP	ALARM SYSTEMS
TRIP(TUR) Turbine Trip	DECLARATION	MISC
TRIP(TUR) Turbine Trip	TURBINE	BUILDINGS
TS-4 Technical Specification Mode 4	CONTROL & SERV	BUILDINGS
TS-4 Technical Specification Mode 4	INFO	OPER ACTION
TS-5 Technical Specification Mode 5	CONTROL & SERV	BUILDINGS
TS-5 Technical Specification Mode 5	INFO	OPER ACTION
TURB Main Turbine	INFO	OPER ACTION
TURB Main Turbine	MANUAL	OPER ACTION
TURB Main Turbine	START	OPER ACTION
TURB Main Turbine	STOP	OPER ACTION
TURB Main Turbine	TURBINE	BUILDINGS

Component	SubSystem	System
UNIT I(AUX) Unit I Auxili	RADIATION Bldg	MEASUREMENT
UNIT I(AUX) Unit I Auxiliary Bldg	UNIT I	BUILDINGS
UNIT I(CR) Unit I Control Room Venilation System	ISOLATE	OPER ACTION
UNIT I(CR) Unit I Control Room Venilation System	UNIT I	BUILDINGS
UNIT I(FH) Unit I Fuel Handling Bldg	RADIATION	MEASUREMENT
UNIT I(FH) Unit I Fuel Handling Bldg	UNIT I	BUILDINGS
UP Utility Printer	CONTROL & SERV	BUILDINGS
UP Utility Printer	TRANSFER	ALARM SYSTEMS
UP Utility Printer	TRANSFER	OPER ACTION
VA-P-1A Condenser Vacuum Pump 1A	C/FDW	SCS
VA-P-1A Condenser Vacuum Pump 1A	START	OPER ACTION
VA-P-1A Condenser Vacuum Pump 1A	STOP	OPER ACTION
VA-P-1C Condenser Vacuum Pump 1C	C/FDW	SCS
VA-P-1C Condenser Vacuum Pump 1C	START	OPER ACTION
VA-P-1C Condenser Vacuum Pump 1C	STOP	OPER ACTION

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Component	SubSystem	System
VA-R Vacuum Pump Exhaust System	START	OPER ACTION
VA-R Vacuum Pump Exhaust System	TURBINE	BUILDINGS
VA-R-748 Condenser Vacuum Pump Exhaust Radiation Monitor	C/FDW	SCS
VA-R-748 Condenser Vacuum Pump Exhaust Radiation Monitor	RADIATION	MEASUREMENT
VA-R-748 Condenser Vacuum Pump Exhaust Radiation Monitor	TURBINE	BUILDINGS
WDC-P-9A Leakage Transfer Pump 9A	PRESSURE	MEASUREMENT
WDC-P-9A Leakage Transfer Pump 9A	RCDT	CONTAINMENT
WDC-P-9B Leakage Transfer Pump 9B	PRESSURE	MEASUREMENT
WDC-P-9B Leakage Transfer Pump 9B	RCDT	CONTAINMENT
WDG-R-1480 Waste Gas Discharge Monitor	AUX BLDG	BUILDINGS
WDG-R-1480 Waste Gas Discharge Monitor	DEFEAT ESF	OPER ACTION
WDG-R-1480 Waste Gas Discharge Monitor	RADIATION	MEASUREMENT
WDG-R-1480 Waste Gas Discharge Monitor	REMOVE DEFEAT	OPER ACTION
WDG-R-1485 Waste Gas Tank Discharge A	AUX BLDG	BUILDINGS
WDG-R-1485 Waste Gas Tank Discharge A Monitor	DEFEAT ESF	OPER ACTION

COMPONENTS INDEX TABLE

Component	SubSystem	System
WDG-R-1485 Waste GAS Tank Discharge A	RADIATION	MEASUREMENT
WDG-R-1485 Waste Gas Tank Discharge A Monitor	REMOVE DEFEAT	OPER ACTION
WDG-R-1486 Waste Gas Tank Discharge B Monitor	AUX BLDG	BUILDINGS
WDG-R-1486 Waste Gas Tank Discharge B Monitor	DEFEAT ESF	OPER ACTION
WDG-R-1486 Waste Gas Tank Discharge B Monitor	REMOVE DEFEAT	OPER ACTION
WDG-T-1 Waste Gas Decay Tanks	AUX BLDG	BUILDINGS
WDG-T-1 Waste Gas Decay Tanks	TRANSFER	OPER ACTION
WDG-T-1A Waste Gas Decay Tank 1A	AUX BLDG	BUILDINGS
WDG-T-1A Waste Gas Decay Tank 1A	TRANSFER	OPER ACTION
WDG-T-1A Waste Gas Decay Tank 1A	VENT	OPER ACTION
WDG-T-1B Waste Gas Decay Tank 1B	ATTEMPT	OPER ACTION
WDG-T-1B Waste Gas Decay Tank 1B	AUX BLDG	BUILDINGS
WDG-T-1B Waste Gas Decay Tank 1B	TRANSFER	OPER ACTION
WDG-T-1B Waste Gas Decay Tank 1B	VENT	OPER ACTION
WDG-V30B Waste Gas Decay Tank Isolation Valve	ATTEMPT	OPEN ACTION

COMPONENTS INDEX TABLE

Component	SubSystem	System
WDG-V30B Waste Gas Decay Tank Isolation Valve	AUX BLDG	BUILDINGS
WDG-V30B Waste Gas Decay Tank Isolation Valve	CLOSE	OPER ACTION
WDG-V30B Waste Gas Decay Tank Isolation Valve	OPEN	OPER ACTION
WDL-LT-1315 Reactor Building Sump High Level Alarm	AP ALARM	ALARM SYSTEMS
WDL-LT-1315 Reactor Building Sump High Level Alarm	RB SUMP	CONTAINMENT
WDL-P(C&S) Control Bldg Sump	CONTROL & SERV	BUILDINGS
WDL-P(C&S) Control Bldg Sump	STOP	OPER ACTION
WDL-P(POLISHER) Condensate Polisher Sump	C/FDW	SCS
WDL-P(POLISHER) Condensate Polisher Sump	TRANSFER	OPER ACTION
WDL-P(TURB) Turbine Bldg Sump	STOP	OPER ACTION
WDL-P(TURB) Turbine Bldg Sump	TRANSFER	OPER ACTION
WDL-P(TURB) Turbine Bldg Sump	TURBINE	BUILDINGS
WDL-P(TURBI) Unit I Turbine Bldg Sump	TRANSFER	OPER ACTION
WDL-P(TURBI) Unit I Turbine Bldg Sump	UNIT I	BUILDINGS
WDL-P-2A Reactor Building Sump Pump 2A	ESF ACTUATION	ALARM SYSTEMS

COMPONENTS INDEX TABLE

Component	SubSystem	System
WDL-P-2A Reactor Building Sump Pump 2A	RB SUMP	CONTAINMENT
WDL-P-2A Reactor Building Sump Pump 2A	STOP	OPER ACTION
WDL-P-2B Reactor Building Sump Pump 2B	ESF ACTUATION	ALARM SYSTEMS
WDL-P-2B Reactor Building Sump Pump 2B	RB SUMP	CONTAINMENT
WDL-P-2B Reactor Building Sump Pump 2B	STOP	OPER ACTION
WDL-R-1311 Plant Effluent Unit II Radiation Monitor	ATMOSPHERE	CONTAINMENT
WDL-R-1311 Plant Effluent Unit II Radiation Monitor	RADIATION	MEASUREMENT
WDL-R1 Reactor Coolant Drain Tank Relief Valve	ESF ACTUATION	ALARM SYSTEMS
WDL-R1 Reactor Coolant Drain Tank Relief Valve	PRESSURE	MEASUREMENT
WDL-R1 Reactor Coolant Drain Tank Relief Valve	RCDT	CONTAINMENT
WDL-S(CONT) Control Bldg Area Sump	CONTROL & SERV	BUILDINGS
WDL-S(CONT) Control Bldg Area Sump	TRANSFER	OPER ACTION
WDL-S(SERV) Service Bldg Sump	CONTROL & SERV	BUIDLINGS
WDL-S(SERV) Service Bldg Sump	TRANSFER	OPER ACTION
WDL-S(WEST) Control Bldg West Sump	CONTROL & SERV	BUILDINGS

COMPONENTS INDEX TABLE

Component	SubSystem	System
WDL-S(WEST) Control Bldg West Sump	TRANSFER	OPER ACTION
WDL-T-1 Reactor Coolant Bleed Holdup Tanks	AUX BLDG	BUILDINGS
WDL-T-1 Reactor Coolant Bleed Holdup Tanks	PCS ALARM	ALARM SYSTEMS
WDL-T-1A Reactor Coolant Bleed Tank 1A	AUX BLDG	BUILDINGS
WDL-T-1A Reactor Coolant Bleed Tank 1A	RADCHEM	MISCELLANEOUS
WDL-T-1A Reactor Coolant Bleed Tank 1A	TRANSFER	OPER ACTION
WDL-T-1B Reactor Coolant Bleed Tank 1B	AUX BLDG	BUILDINGS
WDL-T-1B Reactor Coolant Bleed Tank 1B	START	OPER ACTION
WDL-T-1B Reactor Coolant Bleed Tank 1B	TRANSFER	OPER ACTION
WDL-T-1C Reactor Coolant Bleed Tank 1C	AUX BLDG	BUILDINGS
WDL-T-1C Reactor Coolant Bleed Tank 1C	RADCHEM	MISCELLANEOUS
WDL-T-1C Reactor Coolant Bleed Tank 1C	START	OPER ACTION
WDL-T-1C Reactor Coolant Bleed Tank 1C	TRANSFER	OPER ACTION
WDL-T-2 Miscellaneous Waste Holdup Tank	INFO	OPER ACTION
WDL-T-2 Miscellaneous Waste Holdup Tank	LEVEL	MEASUREMENT

COMPONENTS INDEX TABLE

Date 04/28/86

Component	SubSystem	System
WDL-T-2	LRWTS	BUILDINGS
Miscellaneous Waste Holdup Tank		
WDL-T-3	AUX BLDG	BUILDINGS
Reactor Coolant Drain Tank		
WDL-T-3	INFO	OPER ACTION
Reactor Coolant Drain Tank		
WDL-T-3	PRESSURE	MEASUREMENT
Reactor Coolant Drain Tank Pressure		
WDL-T-3	RCDT	CONTAINMENT
Reactor Coolant Drain Tank Pressure		
WDL-T-3	VENT	OPER ACTION
Reactor Coolant Drain Tank		
WDL-T-3(HI)	AP ALARM	ALARM SYSTEMS
RCDT High Temperature Alarm		
WDL-T-3(HI)	RCDT	CONTAINMENT
RCDT High Temperature Alarm		
WDL-T-3(NORM)	AP ALARM	ALARM SYSTEMS
RCDT Temperature Normal Alarm		
WDL-T-3(NORM)	RCDT	CONTAINMENT
RCDT Temperature Normal Alarm		
WDL-T-8A	AUX BLDG	BUILDINGS
Auxiliary Bldg Neutralizer Tank		
WDL-T-8A	TRANSFER	OPER ACTION
Auxiliary Bldg Neutralizer Tank		
WDL-T-8B	AUX BLDG	BUILDINGS
Auxiliary Bldg Neutralizer Tank		
WDL-T-8B	INFO	OPER ACTION
Auxiliary Bldg Neutralizer Tank		
WDL-T-8B	STOP	OPER ACTION
Auxiliary Bldg Neutralizer Tank		

Component	SubSystem	System
WDL-T-8B Auxiliary Bldg Neutralizer Tank	TRANSFER	OPER ACTION
WDL-T2 Miscellaneous Waste Holdup Tank	LRWTS	BUILDINGS
WDL-T2 Miscellaneous Waste Holdup Tank	TRANSFER	OPER ACTION
WDL-T2 Unit I Miscellaneous Waste Holdup Tank	UNIT I	BUILDINGS
WDL-T2(UNITI) Unit I Miscellaneous Waste Holdup Tank	STOP	OPER ACTION
WDL-T2(UNITI) Unit I Miscellaneous Waste Holdup Tank	TRANSFER	OPER ACTION
WDL-TS Auxiliary Bldg Sump Tank	AUX BLDG	BUILDINGS
WDL-TS Auxiliary Bldg Sump Tank	TRANSFER	OPER ACTION
WDL-U26 Reactor Coolant Drain Tank Rupture Diaphragm	ESF ACTIVATION	ALARM SYSTEMS
WDL-U26 Reactor Coolant Drain Tank Rupture Diaphragm	INFO	OPER ACTION
WDL-U26 Reactor Coolant Drain Tank Rupture Diaphragm	RCDT	CONTAINMENT
WDL-U26 Reactor Coolant Drain Tank Rupture Diaphragm	REVIEW	OPER ACTION

APPENDIX B

SAMPLE REPORT OUTPUTS FROM SOE DATA BASE

APPENDIX B

CONTENTS

DATE / TIME	EVENT / CODE	EVENT DESCRIPTION	INFORMATION AVAILABLE TO OPERATOR	REMARKS
[illegible]	[illegible]	Transfer of liquid waste from the Unit 1 neutralizer tank (WNA-1 UB) to Unit 1 miscellaneous waste holdup tank (WMA-1 [illegible]) was secured.		[illegible]
[illegible]	[illegible]	Letdown High Pressure Relief Valve, (RH N-5) lifts, sending highly activated reactor coolant to the RC Bleed Holdup Tanks. These tanks vent to the Waste Gas System, a known source of radioactive releases.		[illegible]
[illegible]	[illegible]	Pzr reference is "B" Temp - 206 Deg. F; Pressure 990 psig; Pressurizer level 56; inches at 546.9 Deg. F.		[illegible]
[illegible]	[illegible]	Started pumping the auxiliary building sump tank to the auxiliary building neutralizer tank (WNA-1 UB).		[illegible]
[illegible]	[illegible]	Reactor coolant letdown was shifted from the Mixing Tank (MX-1 1) to reactor coolant bleed tank "B" (WMA-1 1B).		[illegible]
[illegible]	[illegible]	Began transfer of the contents of the auxiliary building neutralizer tank (WNA-1 UB) to the Unit 1 miscellaneous waste holdup tank.		[illegible]
[illegible]	[illegible]	Letdown was shifted from "B" Reactor Coolant Bleed Level to "A" Reactor Coolant Bleed Tank (WMA-1-1A).		[illegible]
[illegible]	[illegible]	Auxiliary building sump tank pumped to auxiliary building neutralizer tank (WNA-1-UB).		[illegible]

REPORT 1

EVENT, OPERATOR INFORMATION RECORDS

Date 04/17/86 Page 2

DATE/ TIME	EVENT ID/ UNITS	EVENT DESCRIPTION	INFORMATION AVAILABLE TO OPERATOR	REFERENCES
03/29/79 20:15:00	479	Pressurizer level instrument (RC-1-LT2) failed high. Prior to this failure, the transmitter had been very erratic for several hours.		D01, D10
03/30/79 10:40:00	490	Operator increased letdown flow to lower pressurizer level to ten inches. Normal makeup was secured and letdown flow was directed to "A" (WDL-1 1A).		D02 D10
03/30/79 15:00:00	505	Makeup to makeup tank from "A" reactor coolant bleed tank (WDL 1 1A) (427 gallons).		D02 D10
03/30/79 17:15:00	508	Added 200 gallons from "A" (WDL 1-1A) to the make up tank (MU 1-1).		D02
03/30/79 19:20:00	509	Letdown flow was changed from "A" to "C" reactor coolant bleed tank (WDL 1 1A) and (WDL-1-1C), due to high level in "A" level.		D02 D10
03/30/79 20:35:00	510	Commenced filling the makeup tank from "A" (WDL-1-1A) (300 gals).		D02
03/30/79 23:47:00	518	Commenced filling makeup tank from "A" (WDL-1-1A) (300 gals).		D02
03/31/79 00:00:00	519	The pressurizer was periodically degassed throughout the day by cycling the pressurizer vent valve (RC-V137) which relieves to the Reactor coolant drain tank (WDL 1-3).		D02 D10

EVENT, OPERATION INFORMATION RECORD

Date [illegible]

Page [illegible]

DATE / TIME	EXPIRED TIME HOURS	EVENT DESCRIPTION	INFORMATION AVAILABLE TO OPERATOR	REFERENCE
[illegible]	[illegible]	Commenced filling the makeup tank from "A" BWR I (B) (300 gals.).		DRC DIO
[illegible]	[illegible]	"A" BWR I (B) was analyzed for boron concentration (765 ppm). The operator placed "A" BWR I (B) on recirculation.		DRC DIO
[illegible]	[illegible]	"C" Reactor Coolant Bleed Tank BWR I-(C) boron concentration is 319 ppm and the borated water storage tank (BAST) concentration was 2587 ppm.		DRC DIO
[illegible]	[illegible]	"D" RC Bleed Tank BWR I (D) placed on recirculation for sampling.		DRC DIO
[illegible]	[illegible]	Commenced filling the makeup tank from "D" RC Bleed Tank BWR I (D) (350 gals.).		DRC DIO
[illegible]	[illegible]	Begin adding 150 gallons to BWR I-(C) from B BWR I (B).		DRC DIO
[illegible]	[illegible]	During the period, 0001:24:00 to 23:30:30 the makeup tank was topped off 14 times with water from the "D" RC Bleed Tank (BWR-I (D)) and/or the boric acid storage tank and the demineralized water tank.		DIO
[illegible]	[illegible]	RCS temperature was 202 Deg. F; Pzr pressure 1010#, Pzr level [illegible] ".		DRC DIO

REPORT 1

EVENT, OPERATOR INFORMATION RECORDS

Date 04/17/06

DATE/ TIME	EVENTID/ UNITS	EVENT DESCRIPTION	INFORMATION AVAILABLE TO OPERATOR	REFERENCES
04/03/79 14:05:00	577	Pressurizer Level Transmitter (RC-1-LT1) failed low.		D02 D10
04/05/79 03:07:00	587	Pressurizer level raised to 225 inches by opening (MU-V18) for 49 minutes.		D02 D10
04/05/79 [illegible]	590	Reduced pressurizer level to 215 inches by opening (MU-V18) for 45 minutes.		D02 D10
04/07/79 06:[illegible]:00	606	Began to increase Reactor Coolant System (RCS) pressure to [illegible] psig in order to check the effect on the pressurizer level.		D02
04/14/79 15:06:00	670	(RC-1-LT1) failed high.		D02
04/14/79 15:10:00	671	(RC-1-LT1) returned to normal.		D02
04/14/79 15:15:00	672	(RC-1-LT1) is noted as being erratic.		D02 D10

REPORT 1

LIST OF REFERENCES

Date 4 17 80 Page 3

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300 TMI Unit 2 Computer Data
302 TMI Unit 2 Shift Supervisor/Control Room Operator Logs
310 Shift Foreman s Log

REPORT 1

LIST OF COMPONENTS

Date 04/17/86 Page

Component	SubSystem	System
BAST Boric Acid Storage Tank	AUX BLDG	BUILDINGS
BAST Boric Acid Storage Tank	TRANSFER	OPER ACTION
BWST Borated Water Storage Tank	HPI/MAKEUP	PCS
BWST Borated Water Storage Tank	RADCHEM	MISCELLANEOUS
DWT-1 Demineralized Water Tank	AUX BLDG	BUILDINGS
DWT-1 Demineralized Water Tank	TRANSFER	OPER ACTION
MU-4-DPT Letdown Flow	LTDN	PCS
MU-4-DPT Letdown Flow	TRANSFER	OPER ACTION
MU-4-DPT Letdown Flow	INCREASE	OPER ACTION
MU-R-3 Letdown High Pressure Relief Valve	LTDN	PCS
MU-R-3 Letdown High Pressure Relief Valve	PCS ALARM	ALARM SYSTEMS
MU-T-1 Reactor Coolant Makeup Tank	HPI/MAKEUP	PCS
MU-T-1 Reactor Coolant Makeup Tank	TRANSFER	OPER ACTION
MU-V18 Makeup Valve	HPI/MAKEUP	PCS
MU-V19 Makeup Valve	OPEN	OPER ACTION
PC-1-LT Pressurizer Level	PZR	PCS

REPORT 1

LIST OF COMPONENTS

Date 04/17 86 Page 7

Component	SubSystem	System
RC-1-LT Pressurizer Level	LEVEL	MEASUREMENT
RC-1-LT Pressurizer Level	VENT	OPER ACTION
RC-1-LT Pressurizer Level	INFO	OPER ACTION
RC-1-LT1 Pressurizer Level Transmitter	PIR	PCS
RC-1-LT1 Pressurizer Level Transmitter	FAIL	MEASUREMENT
RC-1-LT2 Pressurizer Level Transmitter	PIR	PCS
RC-1-LT2 Pressurizer Level Transmitter	FAIL	MEASUREMENT
RC-1-LT3 Pressurizer Level Transmitter	PIR	PCS
RC-1-LT3 Pressurizer Level Transmitter	FAIL	MEASUREMENT
RC-1-LT3 Pressurizer Level Transmitter	LEVEL	MEASUREMENT
RC-1-PT Pressurizer Pressure	PIR	PCS
RC-1-PT Pressurizer Pressure	PRESSURE	MEASUREMENT
RC-2-MS Pressurizer Temperature	PIR	PCS
RC-2-MS Pressurizer Temperature	TEMPERATURE	MEASUREMENT
RC-2-PT Reactor Coolant Pressure	RC PIPING	PCS
RC-2-PT Reactor Coolant Pressure	PRESSURE	MEASUREMENT

REPORT 1

LIST OF COMPONENTS

Date 04/17/96 Page

Component	SubSystem	System
RC-4B-TE Loop B Hot Leg Temperature	RC PIPING	PCS
RC-4B-TE Loop B Hot Leg Temperature	TEMPERATURE	MEASUREMENT
RC-PT RCS Pressure	RC PIPING	PCS
RC-PT RCS Pressure	PRESSURE	MEASUREMENT
RC-TE RCS Temperature	RC PIPING	PCS
RC-TE RCS Temperature	TEMPERATURE	MEASUREMENT
RC-V1C7 Pressurizer Vent Valve	PZR	PCS
RC-V1C7 Pressurizer Vent Valve	VENT	OPER ACTION
T-1 Waste Gas Decay Tank	GRS	BUILDINGS
T-1 Waste Gas Decay Tank	PCS ALARM	ALARM SYSTEMS
WDL-T-1 Reactor Coolant Bleed Holdup Tanks	AUX BLDG	BUILDINGS
WDL-T-1 Reactor Coolant Bleed Holdup Tanks	PCS ALARM	ALARM SYSTEMS
WDL-T-1A Reactor Coolant Bleed Tank 1A	AUX BLDG	BUILDINGS
WDL-T-1A Reactor Coolant Bleed Tank 1A	TRANSFER	OPER ACTION
WDL-T-1A Reactor Coolant Bleed Tank 1A	RADCHEM	MISCELLANEOUS
WDL-T-1B Reactor Coolant Bleed Tank 1B	AUX BLDG	BUILDINGS

REPORT 1

LIST OF COMPONENTS

Component	SubSystem	System
WDL-T-1B	TRANSFER	OPER ACTION
Reactor Coolant Bleed Tank 1B		
WDL-T-1B	START	OPER ACTION
Reactor Coolant Bleed Tank 1B		
WDL-T-1C	AUX BLDG	BUILDINGS
Reactor Coolant Bleed Tank 1C		
WDL-T-1C	TRANSFER	OPER ACTION
Reactor Coolant Bleed Tank 1C		
WDL-T-1C	START	OPER ACTION
Reactor Coolant Bleed Tank 1C		
WDL-T-1C	RADCHEM	MISCELLANEOUS
Reactor Coolant Bleed Tank 1C		
WDL-T-3	RCDT	CONTAINMENT
Reactor Coolant Drain Tank Pressure		
WDL-T-3	VENT	OPER ACTION
Reactor Coolant Drain Tank		
WDL-T-8A	AUX BLDG	BUILDINGS
Auxiliary Bldg Neutralizer Tank		
WDL-T-8A	TRANSFER	OPER ACTION
Auxiliary Bldg Neutralizer Tank		
WDL-T-8B	AUX BLDG	BUILDINGS
Auxiliary Bldg Neutralizer Tank		
WDL-T-8B	STOP	OPER ACTION
Auxiliary Bldg Neutralizer Tank		
WDL-T-8B	TRANSFER	OPER ACTION
Auxiliary Bldg Neutralizer Tank		
WDL-T2	UNIT I	BUILDINGS
Unit I Miscellaneous Waste Holdup Tank		
WDL-T2(UNIT1)	STOP	OPER ACTION
Unit I Miscellaneous Waste Holdup Tank		
WDL-T2(UNIT1)	TRANSFER	OPER ACTION
Unit I Miscellaneous Waste Holdup Tank		

REPORT 1

LIST OF COMPONENTS

Date 04/17/86 Page

Component	SubSystem	System
WDL-TS	AUX BLDG	BUILDINGS
Auxiliary Bldg Sump Tank		
WDL-TS	TRANSFER	OPER ACTION
Auxiliary Bldg Sump Tank		

RECORD SELECTION SUMMARY

USER XXX TITLE REPORT 1 DATE 04/17/86

1. TIME SELECTION:

FROM: DATE - 03/29/79 TO: DATE - 04/15/79
TIME - 00:00:00 TIME - 23:59:59

OR

RELATIVE TIME FROM: 1.20E+003 TO: 2.71E+004 UNITS: MN

2. INDEX RETRIEVAL:

KEYWORD	KEYWORD	KEYWORD	KEYWORD
WDL*	.AND.BUILDINGS	.AND.AUX BLDG OR	.AND.
RC-1-LT*	.AND.PCS	.AND.PZR OR	.AND.
	.AND.	.AND.	.AND.

Number Of Records Printed 31

SEQUENCE OF EVENTS DAILY PLANT CONDITIONS DATA

Date 04/08/86

DATE	TIME	TDR-261 PRIMARY COOLANT SYSTEM PARAMETERS SYSTEM PRESSURE	A LOOP TEMP HOT	A LOOP TEMP COLD	B LOOP TEMP HOT	B LOOP TEMP COLD	PUMP ON	PZR LEVEL
03/29/79	00:00:00	1165 psig	nr	243 F	nr	240 F	RC-P-1A	389 in
03/30/79	00:00:00	1060 psig	nr	275 F	nr	nr F	RC-P-1A	335 in
03/31/79	00:00:00	1090 psig	280	280 F	280	275 F	RC-P-1A	200 in
04/01/79	00:00:00	1000 psig	280	280 F	280	277 F	RC-P-1A	180 in
04/02/79	00:09:59	1000 psig	280	280 F	281	275 F	RC-P-1A	215 in
04/03/79	00:00:00	1000 psig	280	279 F	280	274 F	RC-P-1A	195 in
04/04/79	00:00:00	1048 psig	281	280 F	283	278 F	RC-P-1A	230 in
04/05/79	00:00:00	1025 psig	296	286 F	289	281 F	RC-P-1A	220 in
04/06/79	00:00:00	1075 psig	286	285 F	289	283 F	RC-P-1A	242 in
04/07/79	00:00:00	980 psig	286	284 F	288	280 F	RC-P-2A	200 in
04/08/79	01:00:00	747 psig	285	281 F	285	279 F	RC-P-2A	221 in
04/09/79	00:00:00	555 psig	292	282 F	284	280 F	RC-P-2A	198 in
04/10/79	00:00:00	889 psig	290	280 F	291	279 F	RC-P-2A	130 in
04/11/79	00:00:00	931 psig	295	285 F	288	283 F	RC-P-2A	186 in
04/12/79	00:00:00	926 psig	282	290 F	283	279 F	RC-P-2A	207 in
04/13/79	00:00:00	977 psig	291	283 F	286	279 F	RC-P-2A	209 in
04/14/79	00:00:00	838 psig	251	250 F	251	247 F	RC-P-2A	158 in
04/15/79	00:00:00	821 psig	248	248 F	244	244 F	RC-P-2A	147 in
04/16/79	00:00:00	811 psig	250	247 F	250	244 F	RC-P-2A	157 in
04/17/79	00:00:00	875 psig	248	246 F	249	243 F	RC-P-2A	192 in
04/18/79	00:00:00	859 psig	238	235 F	238	232 F	RC-P-2A	178 in

oos - out of service hi - out of range high nr - not recorded

SEQUENCE OF EVENTS DAILY PLANT CONDITIONS DATA

Date 04/08/86

DATE	TIME	TDR-261 PRIMARY COOLANT SYSTEM PARAMETERS SYSTEM PRESSURE	A LOOP TEMP HOT	A LOOP TEMP COLD	B LOOP TEMP HOT	B LOOP TEMP COLD	PUMP ON	PZR LEVEL
04/19/79	00:00:00	808 psig	222	228 F	230	229 F	RC-P-2A	257 in
04/20/79	00:00:00	850 psig	197	198 F	195	196 F	RC-P-2A	209 in
04/21/79	00:00:00	892 psig	180	175 F	180	174 F	RC-P-2A	161 in
04/22/79	00:00:00	895 psig	180	175 F	180	174 F	RC-P-2A	241 in
04/23/79	00:00:00	915 psig	179	175 F	179	175 F	RC-P-2A	213 in
04/24/79	00:00:00	902 psig	180	175 F	180	174 F	RC-P-2A	159 in
04/25/79	00:00:00	930 psig	221	220 F	223	219 F	RC-P-2A	278 in
04/26/79	00:00:00	905 psig	227	224 F	228	223 F	RC-P-2A	222 in
04/27/79	00:00:00	881 psig	227	224 F	227	223 F	RC-P-2A	258 in
04/28/79	00:00:00	900 psig	188	174 F	205	161 F		262 in
04/29/79	00:00:00	913 psig	181	167 F	192	145 F		351 in
04/30/79	00:00:00	911 psig	180	166 F	180	159 F		241 in

SEQUENCE OF EVENTS DAILY PLANT CONDITIONS DATA

Date 04/08/86

DATE	TIME	***** POS.	**** TEMP	***** POS.	**** TEMP	CORE EXIT TC'S POS.	TEMP	POS.	TEMP	POS.	TEMP	
03/29/79	07:00:00	H-08	hi	H-05	hi	E-09	hi	E-07	603	K-11	602	F
03/30/79	00:00:00	H-08	hi	D-10	613	E-09	575	K-11	555	G-09	458	F
03/31/79	00:00:00	H-08	695	D-10	587	E-09	465	K-11	447	G-09	385	F
04/01/79	00:00:00	D-10	496	G-11	432	H-08	430	E-09	417	E-11	417	F
04/02/79	00:09:59	D-10	479	G-11	432	E-11	424	E-09	380	H-08	378	F
04/03/79	00:00:00	D-10	474	G-11	433	E-11	419	E-09	367	K-11	361	F
04/04/79	00:00:00	D-10	463	G-11	438	E-11	406	H-08	371	K-11	360	F
04/05/79	00:00:00	D-10	458	G-11	444	E-11	409	H-08	376	K-11	360	F
04/06/79	00:00:00	D-10	450	G-11	439	E-11	407	H-08	373	K-11	359	F
04/07/79	00:00:00	H-08	455	G-05	377	G-06	337	G-09	336	M-09	332	F
04/08/79	01:00:00	H-08	442	G-05	370	H-05	347	M-09	331	G-06	324	F
04/09/79	00:00:00	H-08	425	G-05	364	H-05	364	M-09	343	G-06	320	F
04/10/79	00:00:00	H-08	402	H-05	376	G-05	353	M-09	339	L-06	316	F
04/11/79	00:00:00	H-08	401	H-05	384	G-05	355	M-09	343	L-06	321	F
04/12/79	00:00:00	H-08	401	H-05	388	G-05	357	M-09	344	G-06	316	F
04/13/79	00:00:00	H-08	380	H-05	380	G-05	349	M-09	341	G-06	310	F
04/14/79	00:00:00	H-05	350	H-08	340	G-05	321	M-09	310	G-06	292	F
04/15/79	00:00:00	H-05	348	H-08	346	G-05	316	M-09	305	G-06	379	F
04/16/79	00:00:00	H-05	345	H-08	339	G-05	314	M-09	301	G-06	276	F
04/17/79	00:00:00	H-05	340	H-08	329	G-05	310	M-09	298	G-06	274	F
04/18/79	00:00:00	H-05	331	H-08	317	G-05	300	L-06	292	H-09	281	F

oos - out of service hi - out of range high nr - not recorded

SEQUENCE OF EVENTS DAILY PLANT CONDITIONS DATA

Date 04/08/96

DATE	TIME	***** POS.	**** TEMP	***** POS.	**** TEMP	CORE POS.	EXIT TEMP	TC'S POS.	**** TEMP	***** POS.	**** TEMP	*****
04/19/79	00:00:00	H-05	329	H-08	313	G-05	298	M-09	291	G-06	265	F
04/20/79	00:00:00	H-05	298	H-08	279	G-05	268	M-09	252	G-06	239	F
04/21/79	00:00:00	H-10	275	H-08	254	G-05	244	M-09	288	G-06	214	F
04/22/79	00:00:00	H-05	274	H-08	254	G-05	243	M-09	230	G-06	214	F
04/23/79	00:00:00	H-05	273	H-08	254	G-05	241	M-09	231	G-06	212	F
04/24/79	00:00:00	H-05	272	H-08	254	G-05	241	M-09	232	G-06	212	F
04/25/79	00:00:00	H-05	309	H-08	293	G-05	278	M-09	274	G-06	245	F
04/26/79	00:00:00	H-05	312	H-06	296	G-05	283	M-09	276	G-06	252	F
04/27/79	00:00:00	H-05	311	H-08	295	G-05	282	M-09	275	G-06	252	F
04/28/79	00:00:00	H-08	306	G-05	266	G-06	243	H-05	217	M-09	217	F
04/29/79	00:00:00	H-09	322	H-08	301	M-07	259	G-05	258	G-09	241	F
04/30/79	00:00:00	H-09	324	H-08	300	G-05	257	M-07	256	G-09	240	F

SEQUENCE OF EVENTS DAILY PLANT CONDITIONS DATA

Data 04/08/86

DATE	TIME	TDR-261 STEAM GENERATORS AND REACTOR BUILDING PARAMETERS STEAM GEN A LEVEL		STEAM GEN B LEVEL		TEMP		REACTOR BLDG PRESSURE		H2
03/29/79	00:00:00	373	in	368	in	117	F	-0.2	psig	
03/30/79	00:00:00	nr	in	nr	in	nr	F	nr	psig	
03/31/79	00:00:00	199	in	353	in	nr	F	1.1	psig	
03/31/79	05:17:00									1.7%
04/01/79	00:00:00	181	in	379	in	nr	F	nr	psig	
04/01/79	07:00:00									2.6%
04/02/79	00:09:59	187	in	318	in	90.0	F	-1.2	psig	
04/02/79	22:00:00									2.3%
04/03/79	00:00:00	247	in	347	in	88.0	F	-1.1	psig	
04/03/79	21:00:00									1.9%
04/04/79	00:00:00	362	in	336	in	88.0	F	-1.1	psig	
04/04/79	20:30:00									2.0%
04/05/79	00:00:00	340	in	300	in	86.0	F	-1.2	psig	2.0%
04/06/79	00:00:00	365	in	307	in	82.0	F	-1.2	psig	2.0%
04/07/79	00:00:00	380	in	362	in	81.5	F	-1.3	psig	2.0%
04/08/79	01:00:00	370	in	350	in	81.5	F	-1.3	psig	
04/08/79	02:30:00									1.9%
04/09/79	00:00:00	359	in	381	in	79.0	F	-1.2	psig	
04/09/79	02:30:00									1.8%
04/10/79	00:00:00	350	in	oos	in	82.0	F	-0.9	psig	1.7%
04/11/79	00:00:00	350	in	353	in	90.0	F	-0.6	psig	

oos - out of service hi - out of range high nr - not recorded

SEQUENCE OF EVENTS DAILY PLANT CONDITIONS DATA

Date 04/08/86

DATE	TIME	TDR-261 STEAM GENERATORS AND REACTOR BUILDING PARAMETERS STEAM GEN A LEVEL		STEAM GEN B LEVEL		TEMP	REACTOR BLDG PRESSURE		H2
04/11/79	00:29:00								1.8%
04/12/79	00:00:00	375	in	351	in	94.0 F	-1.0	psig	1.6%
04/13/79	00:00:00	370	in	324	in	98.0 F	-0.6	psig	1.5%
04/14/79	00:00:00	375	in	326	in	85.0 F	-1.0	psig	
04/14/79	01:00:00								1.3%
04/15/79	00:00:00	370	in	370	in	82.0 F	-1.0	psig	
04/16/79	00:00:00	345	in	373	in	82.3 F	-1.0	psig	
04/17/79	00:00:00	395	in	383	in	81.5 F	-1.1	psig	1.3%
04/18/79	00:00:00	382	in	365	in	80.0 F	-1.2	psig	
04/19/79	00:00:00	382	in	370	in	84.0 F	-1.0	psig	
04/20/79	00:00:00	398	in	362	in	84.0 F	-0.7	psig	
04/21/79	00:00:00	395	in	365	in	96.0 F	-0.7	psig	
04/22/79	00:00:00	420	in	355	in	94.0 F	-0.8	psig	
04/23/79	00:00:00	390	in	376	in	98.0 F	-0.7	psig	
04/24/79	00:00:00	388	in	370	in	94.3 F	-0.7	psig	
04/25/79	00:00:00	405	in	376	in	99.0 F	-0.7	psig	
04/26/79	00:00:00	420	in	370	in	ccs F	-0.3	psig	
04/27/79	00:00:00	ccs	in	319	in	ccs F	-0.3	psig	
04/28/79	00:00:00	410	in	382	in	ccs F	-0.2	psig	
04/29/79	00:00:00	419	in	382	in	ccs F	-0.9	psig	
04/30/79	00:00:00	429	in	382	in	ccs F	-0.9	psig