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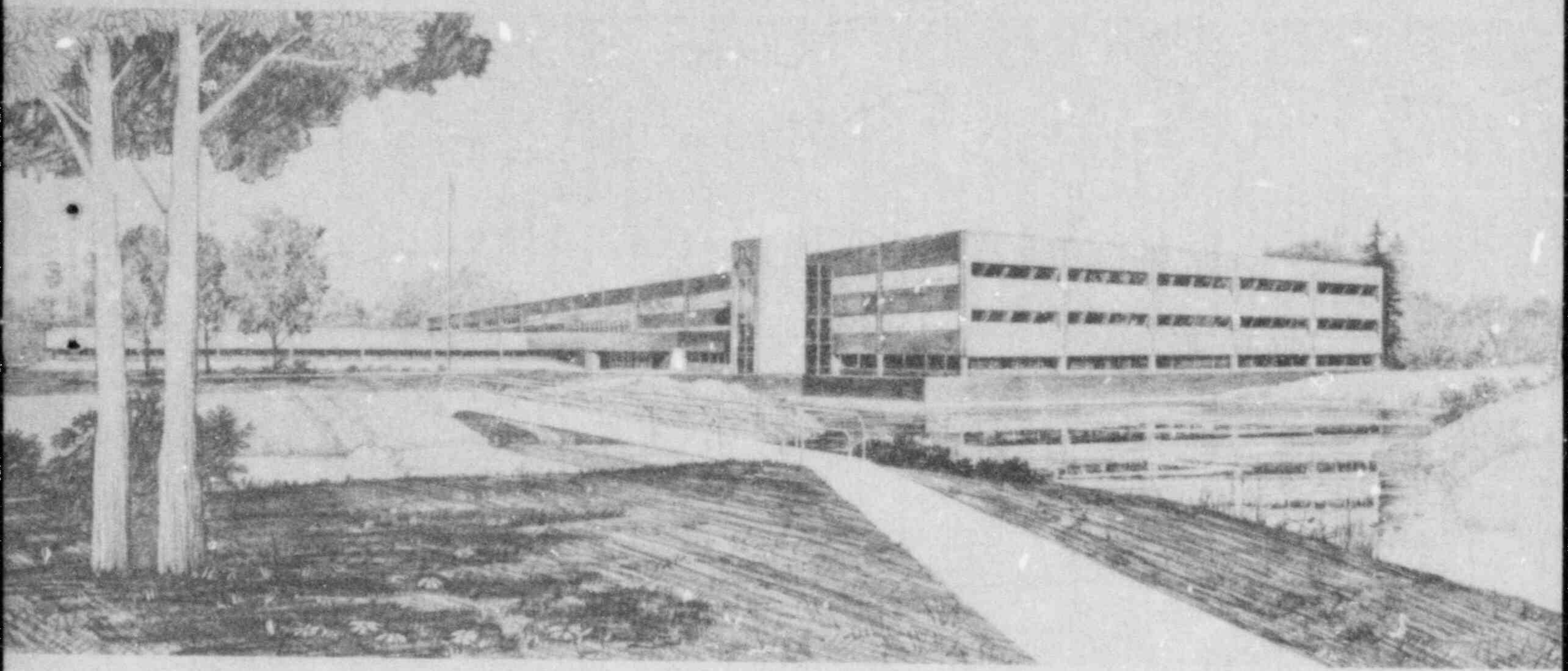

Idaho National Engineering Laboratory
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Data Summaries of Licensee Event Reports of Selected Instrumentation and Control Components at U.S. Commercial Nuclear Power Plants January 1, 1976 to December 31, 1981

Mike Trojovsky
Sharon R. Brown

July 1984

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U.S. Nuclear Regulatory Commission
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DATA SUMMARIES OF LICENSEE EVENT REPORTS OF SELECTED INSTRUMENTATION AND CONTROL COMPONENTS AT U.S. COMMERCIAL NUCLEAR POWER PLANTS

JANUARY 1, 1976 TO DECEMBER 31, 1981

Mike Trojovsky
Sharon R. Brown

Published July 1984

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ABSTRACT

This report describes a computer-based data file developed from Licensee Event Reports (LERs) of instrumentation and control (I&C) components in United States commercial nuclear power plants for the period January 1, 1976 to December 31, 1981. In addition to the creation of the file, summaries of data contained in the file were made to obtain data for risk assessment and statistical purposes. Gross constant fault (failure and command fault) rates were estimated for major components and channels that provide a direct reactor trip. Explanations, figures, and summary tables of the results are provided. This report updates and supersedes the original May 1981 edition of NUREG/CR-1740.

FIN No. A6393—Data Development and Evaluation

SUMMARY

The Reliability and Statistics Branch of EG&G Idaho, Inc. reviewed Licensee Event Reports (LERs) to extract fault (failure and command fault) information, in support of the United States Nuclear Regulatory Commission's (USNRC's) effort to gather and analyze fault data concerning the reliability of nuclear power plants. LERs submitted by the utilities to the USNRC from January 1, 1976 through December 31, 1981, pertaining to electrical and electronic components in instrumentation and control (I&C) systems are the source of information used in this report. This report updates and supersedes the original May 1981 edition of NUREG/CR-1740, *Data Summaries of Licensee Event Reports of Selected Instrumentation and Control Components at U.S. Commercial Nuclear Power Plants January 1, 1976 to December 31, 1978*, in that three full years of data have been added to the data contained in the original document and the population data for the fault rate estimates have been derived from a recent study. Since the original document, six plants have achieved initial criticality thus bringing to 72 the number of plants evaluated in this report. For the six year period covered by this report, 20,027 LERs were manually screened and 4,698 were deemed as appropriate I&C events for this report.

In addition to updating the original data base, summaries of data contained in the file were made to obtain data for risk assessments and statistical purposes. Gross constant fault rates were estimated for major components and channels that provide a direct reactor trip. Explanations, figures, and summary tables of the results are provided.

From the 4,698 applicable LERs, 5,092 one-line descriptions (containing 6,764 faults) were derived and entered into the I&C data base. Of the 6,764 faults, 6,180 (91%) were classified as actual failures. The remaining 584 were identified as being command faults. As in the earlier report, the component that had the highest percentage of the total number of component faults reported was the general switch (pressure, temperature, flow, and level switches). In the previous report, switches comprised 31% of the total number of faults reported; in this report they comprise 30%. Also, the fault cause that led to the most component faults was instrument drift. In both reports this fault cause contributed to 35% of the component faults reported.

In these and in other aspects, the additional three years of data analyzed in this report are in agreement with the previous study. No substantial differences in the occurrence of I&C faults in the two time periods were noticed.

The component faults and fault rates summarized in this report should be interpreted as tentative gross indicators of true fault trends and fault rates. Because subjective judgments had to be made regarding pertinence of recorded events, and because some component faults may not be recorded in the LERs, the individual analyst should confirm the applicability of the component faults and fault rates for their specific uses.

FOREWORD

This report is one in a series summarizing the statistics of Licensee Event Reports (LERs) as submitted to the United States Nuclear Regulatory Commission (USNRC). The goal of the report is twofold: (a) to summarize the data for risk assessments and statistical analyses, and (b) to obtain gross constant fault (failure and command fault) rate estimates.

Owing to the subjective judgments that had to be made regarding population sizes and pertinence of recorded events, and to the fact that some component faults may not be recorded in the LERs, the component fault rates estimated in this report should be interpreted only as tentative gross indicators of the true fault rates. Furthermore, because LER reporting requirements can differ from plant to plant, comparisons of plant-to-plant fault rates should be interpreted with care; a higher fault rate may simply be the result of stricter reporting requirements. The analyst should confirm the applicability of the LER-derived fault rates for their specific uses. As more data are collected and more analyses are performed in the future, improved fault rate estimates will be produced.

Fault rates are only one of many kinds of information presented in this report. Tables and discussions classify important information on fault classifications according to fault modes, fault causes, and systems affected. Gross time trends are examined. Human errors are identified as are common cause faults and recurring faults. Each LER analyzed is presented in a useful, summarized form, and all evaluations are presented so that analysts can modify the authors' calculations or perform their own evaluations if so desired.

R. C. Robinson
USNRC Project Manager
February 1984

The previous reports in this series of data summaries of the Licensee Event Reports are:

1. W. H. Hubble and C. F. Miller, *Data Summaries of Licensee Event Reports of Control Rods and Drive Mechanisms at U.S. Commercial Nuclear Power Plants January 1, 1972 to April 30, 1978*, NUREG/CR-1331, February 1980.
2. J. P. Poloski and W. H. Sullivan, *Data Summaries of Licensee Event Reports of Diesel Generators at U.S. Commercial Nuclear Power Plants January 1, 1976 to December 31, 1978*, NUREG/CR-1362, March 1980.
3. D. W. Sams and M. Trojovsky, *Data Summaries of Licensee Event Reports of Primary Containment Penetrations at U.S. Commercial Nuclear Power Plants January 1, 1976 to December 31, 1978*, NUREG/CR-1730, September 1980.
4. C. F. Miller et al., *Data Summaries of Licensee Event Reports of Selected Instrumentation and Control Components at U.S. Commercial Nuclear Power Plants January 1, 1976 to December 31, 1978*, NUREG/CR-1740, May 1981.
5. M. Trojovsky, *Data Summaries of Licensee Event Reports of Pumps at U.S. Commercial Nuclear Power Plants January 1, 1972 to September 30, 1980*, NUREG/CR-1205, Revision 1, January 1982.
6. C. F. Miller et al., *Data Summaries of Licensee Event Reports of Valves at U.S. Commercial Nuclear Power Plants January 1, 1976 to December 31, 1980*, NUREG/CR-1363, Revision 1, October 1982.

ACKNOWLEDGMENTS

Sincere appreciation is expressed to the following persons for their assistance in the preparation of this report: Dr. Corwin L. Atwood for his development of a reactor trip system model applicable to the data available for computing LER fault rates. John C. Culley and Alan J. Smith for their technical assistance in computer graphics and data base management. Lee C. Cadwallader, Cindy D. Gentillon, and Judy A. Steverson for their helpful suggestions. Nila Hatton, Jan Isom, and the Technical Publication Composition Staff for their conscientious and timely efforts in the word processing and text composition of this report.

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(NOTE: Appendixes D, F, H, and I to this report contain microfiche attached to the inside of the back cover).

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NOMENCLATURE

This section contains terms, acronyms, and abbreviations.

Terms

1. **Component**—The largest entity of hardware for which data are most generally collected and expected to be available (e.g., pump with motor, valve with operator, amplifier, pressure transmitter). It is generally an off-the-shelf item procured by the system designer as a basic building block for their system. It would be distinguished from seals, bearings, nuts, bolts, and other piece parts from which the component is manufactured.

2. **System**—A collection of components arranged so as to provide a desired function (e.g., Containment Spray System, Residual Heat Removal System, High Pressure Coolant Injection System).

3. **Fault**—As used in the context of this report, fault refers to failures and command faults. The terms failure or command fault will be used when referring to one or the other.

4. **Failure**—A subset of a fault that represents an irreversible state of a component such that it must be repaired in order for it to perform its design function. Failures are sometimes classified as primary or secondary failures. A primary failure is the so-called *random failure* found in the literature. It results from no external cause. A secondary failure results when the component is subject to conditions that exceed its design envelope (e.g., excessive voltage, pressure, shock, vibration, temperature.) However, in classifying failures for this report, no distinction has been made between these two classifications.

5. **Command Fault**—A subset of a fault that represents an event in which the component did not function as required, not because of a failure in the component, but because of inputs or lack of inputs to the component as supplied by personnel, other components, or the environment external to the component. This is a reversible state of the component that can be corrected once the faulty input is corrected. No component repair is required.

6. **Common Cause Failure**—Two or more redundant components failing together or having the potential to fail within a relatively short period of time because of a single causal event. Multiple common cause failures are usually secondary failures.

7. **Fault Cause**—The identified cause and sequence of events that prevented the component from performing its intended function.

8. **Fault Mode**—The manner in which a component ceases to perform its intended function.

9. **Demand Failure Rate**—The probability (per demand) that a component will not operate when required to start, change state, or function.

10. **Operating Failure Rate**—The probability (per hour) of failure for those operating components required to operate or function for a period of time.

11. **Standby Failure Rate**—The probability (per hour) of failure for those components that are normally dormant or in a standby state until tested or required to operate or function for a period of time.

12. **Instrument Channel**—That portion of the circuitry that encompasses the sensor and all electrical and electronic components up to and including the comparator (or bistable). The comparator is a device that produces an abrupt change in output when the input exceeds a predetermined voltage or current reference level.

Acronyms and Abbreviations

A/C	Air Conditioning
A/M	Automatic/Manual
AC	Alternating Current
ACC	Accumulator
ACT	Actuating
ACTUAT	Actuation
ADJST, ADJUST	Adjustment
ADMIN	Administration
ADS	Automatic Depressurization System
AFW	Auxiliary Feedwater
AFWP	Auxiliary Feedwater Pump
AMP	Amplifier
ANNUN, ANNUNC	Annunciator
APD	Air Particulate Detector, Axial Power Distribution
APDMS	Axial Power Distribution Monitoring System
API	Absolute Position Indication
APRM	Average Power Range Monitor
ARM	Area Radiation Monitor
ASI	Axial Shape Index
ASSOC	Associated
ATM	Atmosphere
ATWS	Anticipated Transient Without Scram
AUTO	Automatic
AUX	Auxiliary
AVE, AVG	Average
AXL	Axial
B, BAB & WIL, B&W	Babcock & Wilcox
B/S	Bistable
B/U	Backup
BATT	Battery
BFR	Binomial Failure Rate
BIT	Boron Injection Tank
BLDG	Building
BRD	Board
BRG	Bearing
BRKR	Breaker
BST	Bleed Storage Tank
BWR	Boiling Water Reactor
BWST	Borated Water Storage Tank
BYPSD	Bypassed
C, CE, COMB ENG	Combustion Engineering
C, CIRC, CKT	Circuit
C C COMD	Common Cause Command Fault
CAC	Containment Atmospheric Control

CAL	Calibrate, Calibration
CAM	Constant Air Monitor, Containment Atmosphere Monitor
CAMS	Containment Atmosphere Monitoring System
CAP	Capacitor
CBL	Cable
CC	Component Cooling
CCW	Component Cooling Water
CEA	Control Element Assembly
CEAC	Control Element Assembly Calculator
CEDM	Control Element Drive Mechanism
CEDS	Control Element Drive System
CFCU	Containment Fan Cooling Unit
CHNGD	Changed
CHRGR	Charger
CIS	Containment Isolation Signal
CKTBRK	Circuit Breaker
CMFLPD	Core Maximum Fraction of Limiting Power Density
CNDNSR, COND	Condenser
CNDNSTN	Condensation
CNSRVTV	Conservative
CNSTRCTN, CONSTR	Construction
CNTCTR	Contractor
CNTNMNT, CONT	Containment
CNTRL	Control
CNTRLLR	Controller
CNVRTR	Converter
COIN	Coincident
COLSS	Core Operating Limits Supervisory System
COM CAUSE	Common Cause
COMPON	Component
COMPUT MOD COND & FEED	Computation Module Condensate & Feed
CONDIT	Conditioner
CONDUCT	Conduction
CPC	Core Protection Calculator
CR	Control Rod, Control Room
CRA	Control Rod Assembly
CRD	Control Rod Drive, Card
CRDM	Control Rod Drive Mechanism
CS	Condensate System
CSI	Containment Spray Injection
CST	Condensate Storage Tank
CURR	Current
CV	Containment Vessel
CVCS	Chemical Volume Control System
CVR	Cover
D/G	Diesel Generator
DBA	Design Basis Accident
DC	Direct Current
DDPS	Digital Data Processing System
DECRS	Decrease
DEH	Digital Electric Hydraulic
DEMIN	Demineralizer

DET	Detector
DH	Decay Heat
DHR	Decay Heat Removal
DIR	Direct
DNBR	Departure from Nucleate Boiling Ratio
DP, D/P	Differential Pressure
DPIS	Differential Pressure Isolation Switch
DRPI	Digital Rod Position Indication
DRWR	Drawer
DSTRBD	Disturbed
DT, D/T	Differential Temperature
DW	Drywell
DWED	Drywell Equipment Drain
DWFD	Drywell Floor Drain
DWG	Drawing

ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
EFF, EFFLNT	Effluent
EFW	Emergency Feedwater
EGM	Electronic Governor Motor
EGTS	Emergency Gas Treatment System
EHC	Electro-Hydraulic Control
ELECT MALF	Electrical Malfunction
EM	Electromagnetic
EMERG	Emergency
EMRV, ERV	Electromatic Relief Valve
EOL	End of Life
EPR	Electric Pressure Regulator
EQUIP	Equipment
ERCW	Essential Raw Cooling Water
ESF	Engineered Safety Features
ESFAS	Engineered Safety Features Actuation System
ESW	Emergency Service Water
ETS	Environmental Technical Specifications
EWST	Elevated Water Storage Tank
EXHST	Exhaust

FAB CON QC	Fabrication/Construction/Quality Control
FLTR	Filter
FR	Front
FSAR	Final Safety Analysis Report
FW	Feedwater

G, GE, GEN ELEC	General Electric
GEN CONTR	General Control/Indication/Alarm
GENER	General
GM	Geiger-Mueller
GSLO	Gland Seal Leak Off

H/X	Heat Exchanger
HCU	Hydraulic Control Unit
HP	High Pressure
HPCI	High Pressure Coolant Injection
HPI	High Pressure Injection

HPSI	High Pressure Safety Injection
HT	High Temperature
HV	High Voltage
HVPS	High Voltage Power Supply

I&C	Instrumentation and Control
I/O	Input/Output
IA	Instrument Air
ILRT	Integrated Leak Rate Test
INADV	Inadvertent
INCRS	Increase
IND	Indicator, Indicate
INST, INSTR	Instrument
INSTLD	Installed
INSUF	Insufficient
INT	Integrated (circuit)
INTEG. INTGRTR	Integrator
IRM	Intermediate Range Monitor
IRPI	Individual Rod Position Indication
ISOL	Isolation

LED	Light Emitting Diode
LER	Licensee Event Report
LIQ	Liquid
LIS	Level Indicating Switch
LK SENS LN	Leaking or Blocked Instrument Sensing Lines
LL	Low Level
LP	Low Pressure
LPCI	Low Pressure Coolant Injection
LPCS	Low Pressure Core Spray
LPD	Local Power Density
LPRM	Local Power Range Monitor
LPSI	Low Pressure Safety Injection
LVL	Level
LVR	Lever
LW	Liquid Waste

MAG AMP	Magnetic Amplifier
MAIN, MAINT	Maintenance
MCC	Motor Control Center
MDAFP	Motor Driven Auxiliary Feedwater Pump
MECH MALF	Mechanical Malfunction
MFG	Manufacturing
MFR	Manufacturer
MG	Motor Generator
MIN	Minimum
MPR	Mechanical Pressure Regulator
MS	Main Steam
MSIV	Main Steam Isolation Valve
MSL	Main Steam Line
MSP	Maintenance Surveillance Procedure
MSR	Moisture Separator Reheater
MTR	Meter

NAOH	Sodium Hydroxide
NI	Nuclear Instrument
NIS	Nuclear Instrumentation System
NOR OPER	Normal Plant Operation
NRC	Nuclear Regulatory Commission
NRML	Normal
NSIC	Nuclear Safety Information Center
NSSS	Nuclear Steam Supply System

OH	Overheated
OOA	Out of Alignment, Out of Adjustment
OOC	Out Of Calibration
OOS	Out Of Service
OOT	Out of Tolerance
OP	Optical
OPER	Operation
OPPS	Overpressurization Protection System
OTDT	Over-Temperature Delta-T

PCIS	Primary Containment Isolation System
PDIS	Pressure Differential Indicating Switch
PENET, PENETR	Penetration
PER MAIN	Personnel Maintenance
PER OPER	Personnel Operation
PER TEST	Personnel Testing
PI	Pressure Indicator
PLCEA	Part Length Control Element Assembly
PORV	Power Operated Relief Valve
POS	Position
PPS	Plant Protection System
PR	Power Range
PRESS	Pressure
PRMSSV	Permissive
PROC	Procedure
PROT, PRTCTN	Protection
PROTECT	Protector
PS	Pressure Switch, Power Supply
PT	Pressure Transmitter
PWR	Pressurized Water Reactor, Power
PZR	Pressurizer

QA	Quality Assurance
QC	Quality Control

R C C COMD	Recurring Common Cause Command Fault
R COM CAUS	Recurring Common Cause Failure
RADW	Radwaste
RB	Reactor Building
RBM	Rod Block Monitor
RC	Reactor Coolant
RCIC	Reactor Core Isolation Cooling
RCP	Reactor Coolant Pump
RCS/PCS	Reactor Coolant System/Primary Coolant System
REAC CONT	Reactor Control

REC	Recorder
REC COMD	Recurring Command Fault
REC REVIEW	Records Review
REC'D	Received
RECAL	Recalibrate
RED CAPAB	Reduced Capability
REF	Reference
REG	Regulated
REM	Remote
REQ	Required
RHR	Residual Heat Removal
RIP	Reactor Instrument Penetration
RMS	Radiation Monitoring System
RPC	Reactor Protection Channel
RPI	Rod Position Indication
RPS	Reactor Protection System
RPV	Reactor Pressure Vessel
RRP	Reactor Recirculation Pump
RSCS	Rod Sequence Control System
RSDP	Remote Shutdown Panel
RSPT	Reed Switch Position Transmitter
RTD	Resistance Temperature Detector
RTGB	Reactor Turbine General Board
RWCU	Reactor Water Cleanup
RWM	Rod Worth Minimizer
RWST	Refueling Water Storage Tank
RWT	Refueling Water Tank
RX	Reactor
S/U	Startup
SAM	Safety Actuation Monitor
SBLC	Standby Liquid Control
SBV(S)	Shield Building Ventilation (System)
SD, S/D	Shutdown
SERV WTR	Service Water
SFAS	Safety Features Actuation System
SFRCS	Steam and Feedwater Rupture Control System
SG, S/G	Steam Generator
SGIS	Steam Generator Isolation System
SGLIC	Steam Generator Level Instrument Channel
SGTS	Standby Gas Treatment System
SI	Safety Injection
SIAS	Safety Injection Actuation System
SIG	Signal
SIT	Safety Injection Tank
SJAE	Steam Jet Air Ejector
SJWCP	Skid Jacket Water Cooling Pump
SLBIC	Steam Line Break Isolation Control
SRM	Source Range Monitor
SSPS	Solid State Protection System
STAT	Station
STM	Steam
SUP	Supply
SUPP	Suppression

SW	Service Water, Switch
SYS	System
T	Temperature
T.S.	Technical Specification
TC, T/C	Thermocouple
TDAFWP	Turbine Driven Auxiliary Feedwater Pump
TDS	Temperature Differential Switch
TE	Temperature Element
TECH	Technician
TEMP	Temperature
THROTL, THRTTL	Throttle
TIP	Traversing Incore Probe
TM/LP	Thermal Margin/Low Pressure
TORQ	Torque
TRANSM, TX	Transmitter
TRP	Trip
TURB	Turbine
U/L	Upper/Lower
UNSP	Unspecified
USNRC	United States Nuclear Regulatory Commission
VAC, VCUUM	Vacuum
VAR	Variation, Variable
VENTILATN	Ventilation
VIAS	Ventilation Isolation Actuation Signal
VIB	Vibration
VLTG	Voltage
VLV	Valve
W, WESTING	Westinghouse
WRNI	Wide Range Nuclear Instrument
WST	Waste
WTR	Water
XDCR	Transducer
XFMR	Transformer
XMISSION	Transmission
XMITTER, XMTR	Transmitter
XSTR	Transistor

DATA SUMMARIES OF LICENSEE EVENT REPORTS OF SELECTED INSTRUMENTATION AND CONTROL COMPONENTS AT U.S. COMMERCIAL NUCLEAR POWER PLANTS

JANUARY 1, 1976 TO DECEMBER 31, 1981

INTRODUCTION

Licensee Event Reports (LERs) submitted between January 1, 1976 and December 31, 1981 that pertain to electrical and electronic components in instrumentation and control (I&C) systems have been evaluated and are presented herein, in support of the United States Nuclear Regulatory Commission's (USNRC's) continuing effort to gather and analyze fault (failure and command fault) data for active and passive components in nuclear power plants. This report updates and supersedes NUREG/CR-1740[1] in that three full years of additional data have been included and the population data for the fault rate estimates have been derived from a recent study.[2]

As in the original report, the data reported in the LERs were qualitatively evaluated and pertinent information (e.g., fault mode, fault cause, and event date) contained in each LER describing an I&C event was coded into a one-line description of the event. Each one-line description was then stored in a computer-based data file for future use. Data in this computerized file can be searched, sorted, collated, retrieved, updated, and displayed by almost any item of information contained in the original LER. For example, plant, Nuclear Steam Supply System (NSSS) vendor, event date, fault mode, and fault cause data can all be accessed and manipulated by the analyst. This feature makes the one-line LER data base useful for obtaining various LER summary statistics for use in analyses of component and fault events.

Various fault rates (herein called *LER rates*) were estimated for selected I&C components and channels for each operating U.S. commercial nuclear power plant, with the exception of three plants that were considered atypical for this report. These estimates were averaged to obtain corresponding component and channel LER rates for the four NSSS vendors considered. Finally, specific plant fault data were averaged to obtain various LER rates for pressurized water reactors (PWRs), boiling water reactors (BWRs), and the aggregate of both reactor types.

LER rates are useful for probabilistic analyses such as gross risk and reliability evaluations. However, when using the LER rates, the analyst should apply them with caution. LER rates reported herein are estimates based on the component faults reported in the LER system. This is important since these faults do not necessarily comprise all faults for any given component and, hence, may not represent the component's actual fault rate. There are various reasons why all faults may not be reported. For example, plant status (at power, cold shutdown, and refueling) at the time of failure and the failure's impact on the system or subsystem are two factors that can influence whether or not a fault is reported. The estimation of exposure time during which faults can occur is another source of variation in the LER rates. This time depends on the number of selected components in the facility and the operating time of each component. Appendix A contains a further discussion on the variations in LER reporting.

The body of this report has two major parts. First, the LER analysis is described. Included are the assumptions, definitions, and limitations used in carrying out the analysis. Next, a summary of the data according to various encoded characteristics is provided. In Appendix A, some of the causes for the variations in LER reporting are explained. Appendix B describes the LER coding scheme. Appendix C discusses the methods used to estimate the LER fault rates. Appendixes D through G contain sorts of the one-line descriptions by NSSS vendor, human factors, system, and type of event, respectively. Appendixes H and I contain LER rate estimations for components and channels, respectively.

LER EVALUATION AND CODING METHODOLOGY

Scope

In the context of this report, instrumentation provides data or signals of plant process variables (e.g., pressure and temperature) that are sensed and interpreted by control systems. Plant systems then respond to the output from the I&C systems. Nuclear power plants have an abundance of electrical and electronic equipment that are part of the I&C systems. The discussion that follows describes what were considered to be I&C components for the purpose of this report.

I&C Component Types. The electrical and electronic components that are considered to perform an I&C function are shown in Figure 1. The nineteen I&C component types identified for use are listed below (see also COMP in Appendix B):

1. Amplifier/buffer/isolation amplifier
2. Cable/receptacle/junction box/terminal
3. Controller
4. Comparator (bistable)
5. Converter/conditioner
6. General switch (e.g., temperature, flow, pressure, and level switches)
7. Hand switch
8. Computation module
9. Indicator/meter/annunciator
10. Computer
11. Limit switch
12. Monitor
13. Power supply
14. Recorder

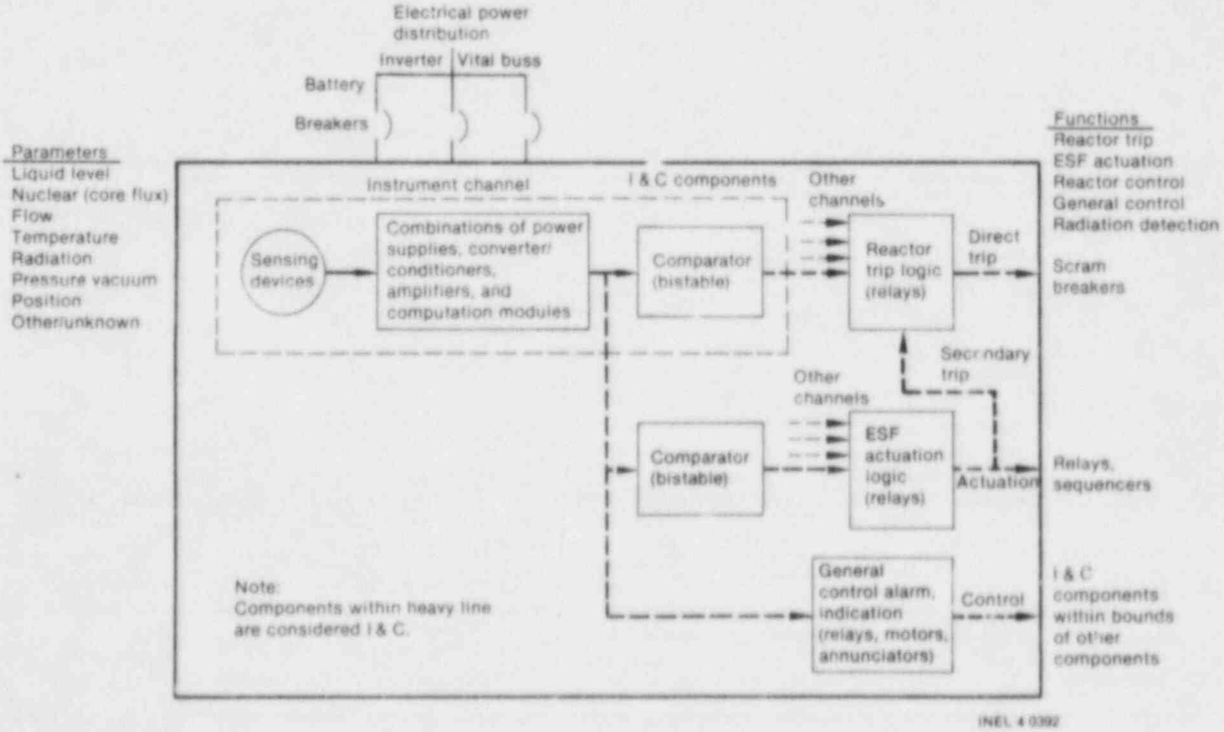

Figure 1. Simplified diagram showing I&C functional boundary.

15. Relay/solenoid

16. Sensor

17. Timer

18. Transformer

19. Transmitter.

Most of the components listed above are self-explanatory when considered in relation to Figure 1. Only these electrical and electronic equipment are considered in this report. Sensors include resistance temperature detectors (RTDs), and various types of core flux detectors (power range, wide range, and source range). In some cases, *other/unknown* was used for the component type. This occurred when LERs described events that were within the scope of Figure 1, but which provided insufficient detail to classify the components involved. For example, two source range channels were inoperable for an hour. The cause of failure could not be located.

Figure 1 shows that certain types of actuation relays, sequencers, and other I&C generic components fall outside the scope of this report. In general, relays, sequencers, and circuit breakers associated with a nuclear power plants' electrical distribution system were not considered for this report; however, an analysis of these components is under way and will be published as another report in this series. Another class of I&C generic components not considered for this report were those that fell within the bounds of components treated in other LER summary reports. An example of the last category are limit and torque switches associated with the *operation* of a valve operator. These switches were considered in NUREG/CR-1363 Revision 1,[3] *Data Summaries of Licensee Event Reports of Valves at U.S. Commercial Nuclear Power Plants January 1, 1976 to December 31, 1980*, and consequently LERs dealing specifically with such switches are not included in this report. Components of the nineteen types had to be within a system that provides signals of plant process variables to selected control systems or be within the selected control systems to be considered within the scope of this report. For a rationale of control systems not selected for this report, see the LER selection section.

For the purposes of this report, the concept of a *channel* (i.e., an arrangement of I&C components forming a higher level component) is employed. An instrument channel is defined as that portion of the circuitry that encompasses the sensor and all electrical and electronic components up to and including the comparator (bistable). Therefore, the channel generates a signal when the variable sensed exceeds a limit. A typical channel is shown within the dotted boundary in Figure 1. While the concept of a channel is general and a channel can perform any of the several functions discussed in detail below, it is within the context of the reactor trip function that the channel is primarily used in this report.

Parameter. In order to analyze an instrument channel it is necessary to categorize it by the parameter it monitors. The monitored parameters identified for this report are listed below:

1. Liquid level
2. Nuclear (core flux)
3. Flow
4. Temperature
5. Radiation (area)
6. Pressure/vacuum
7. Position
8. Other/unknown.

These parameters are self-explanatory, except the *other/unknown* parameter. Most of the events categorized as *other/unknown* were unknown because the LER failed to identify the parameter, or more than one parameter was identified. A few events, however, did involve other parameters such as frequency and voltage. There were not enough of these events to warrant separately classifying them.

Function. The I&C systems and the constituent components are also classified by the function they perform. I&C systems within nuclear power plants basically fall into four functional categories: reactor protection, reactor control, process control, and radiation monitoring.[4] This report considers the most important of these functions to be reactor protection. The Institute of Electrical and Electronic Engineers defines the protection system as:

> "For purposes of these criteria, the nuclear power generating station protection system

encompasses all electrical and mechanical devices and circuitry (from sensors to actuation device input terminals) involved in generating those signals associated with the protective function. These signals include those that actuate reactor trip and that, in the event of a serious reactor accident, actuate engineered safeguards such as containment isolation, core spray, safety injection, pressure reduction, and air cleaning."[5]

Based on this definition, the list of functional categories was expanded from 4 to 5 for this report to encompass the following:

1. Reactor trip (scram)
2. Engineered safety features actuation
3. Reactor control
4. General control/indication/alarm
5. Radiation detection.

The first two functions are subsets of the protection system function.

All of the events described herein are categorized by one of these five functions. For example, any event that described the fault of a component within an instrument channel, when that instrument channel was identified as providing a direct reactor trip signal, was categorized as reactor trip.

If a faulted component was in a channel that provided a signal to actuate a component (e.g., a pump) in an engineered safety features (ESF) system, the event was considered to provide an ESF actuation function.

NOTE: Some ESF systems, when actuated, supply a signal back to the reactor-trip logic. This indirect trip signal will scram the reactor if, for some reason, the direct trip signal failed to do so. I&C components involved in indirect scrams were considered outside the scope of this report.

Those components that affected the control of the reactor, in terms of control rod position, were considered to provide reactor control functions. Reactor control encompasses rod block monitors, rod position indication, axial power monitors, and in general, any component or instrument channel that supplies a signal that aids in positioning the control rods so as to maintain the desired reactor power.

Faults of components designed to monitor radiation, such as air-particle detectors and rad-waste monitors were categorized as radiation detection. One exception to this is the radiation detectors in BWR plants that sense radiation in the steam lines. Faults involving these detectors were categorized as reactor trip because a main steam high-radiation condition requires a direct reactor trip.

Although seemingly straightforward, the task of assigning a function to each event required some subjective judgments. For example, the failure of a bistable in a PWR temperature channel supplying a reactor trip function would be assigned a reactor trip function. However, the failure of a meter that is receiving input from this same channel is not assigned a reactor trip function, but is considered *general control/indication/alarm*. Any one channel may, in fact, provide a reactor trip and/or a signal to actuate an ESF system component while, at the same time, providing indication or alarm functions (general control). Also, the information contained in the LERs is not always sufficient to permit one to make clear functional distinctions. In addition, plant FSARs (Final Safety Analysis Reports) are not always clear as to what functions a particular instrument channel is capable of providing. The four components, indicator, meter, annunciator, and recorder, were generally viewed as providing a general control function.

To review the discussion of I&C components, the concept of an instrument channel, parameters, and functions, and how these items relate to one another, refer again to Figure 1. Only components within the heavy line are considered I&C components for this report. Similarly, basic instrument channel components are shown within the dashed line. Figure 1 is very simplistic and is provided only to aid the reader in visualizing those concepts discussed thus far.

LER Selection. The LERs for the first edition of this report, covering January 1, 1976 through December 31, 1978, were obtained from the USNRC in the form of two computer sorts. The first sort contained LERs that were coded INSTRU in the component field and involved I&C component faults. The second sort was a text search of the LER file narratives for words such as channel, transmitter, sensor, bistable, and amplifier, excluding those LERs obtained in the first sort. These two sorts yielded 2,587 LERs for consideration. An additional sort, from the pump data summary,[6] produced 54 LERs that were reviewed for radiation monitor sample pumps. After an audit, conducted during the original I&C study, it was concluded that at least 90% of the LERs involving I&C events had been considered.

In order to ensure completeness of the LERs pertaining to I&C for this report, the entire computerized USNRC LER file was obtained for the period January 1, 1976 through December 31, 1981. This file contained 17,386 additional LERs that were individually screened to identify all relevant I&C events. This method for obtaining LERs provides additional assurance that all of the I&C LERs are considered. Therefore, the total number of LERs reviewed for this report was 20,027. However, not all of these LERs were used for this analysis with many having been excluded for one or more of the following reasons:

1. The LERs pertained to other electrical and electronic components outside the scope of this report.

2. The LERs contained informational items rather than component faults. An example of an informational item is a LER stating that "a calibration check was not performed on or before the date required."

3. The LERs were submitted by three plants considered atypical. These plants are Fort St. Vrain (gas-cooled), Humboldt Bay (BWR/1, 63 megawatts), and LaCrosse (the only plant with Allis-Chalmers as the NSSS vendor). Also, Indian Point 1 differs from the 72 plants evaluated in this report, because it was shutdown and defueled prior to January of 1976. Consideration was given to Dresden 1, but any events after October 31, 1978 are not considered because of the extended shutdown that started on October 31, 1978, and which was still in effect on December 31, 1981. LERs submitted by Three Mile Island 1 and 2 prior to the March 28, 1979 accident are considered in this report. Events from either plant after that date are excluded, as Three Mile Island 2 is still shutdown, and Three Mile Island 1 is shutdown due to a restraining order.

4. The LERs were submitted prior to the date of initial criticality for the respective plant.

5. The LERs described faults of components and/or instrument systems considered to be of lesser importance in terms of reactor safety. Chemical monitors such as pH monitors, oxygen and hydrogen analyzers, and systems such as *other instrument systems not required for safety*, were excluded.

6. The LERs contained a faulted I&C component that fell within the bounds of major components treated in other LER summary reports; major components include valves, pumps, control rod drive mechanisms, or diesel generators. For example, limit and torque switches on valves were excluded. These components typically interface with the moveable mechanical parts of a valve such as stems and hydraulic control linkages. Information on these types of switches can be obtained from the data summary report[3] on valves and valve operators. Similarly, the other data summary reports[6,7,8] contain data on those I&C components included within their bounds.

7. The LERs described faults of components that monitored parameters outside the reactor building or primary containment. Component faults involving seismic and meteorological monitors were, therefore, excluded.

LER Classification

The purpose of this report is to provide reliability data, quantitative and qualitative, on selected electrical/electronic components that are part of the I&C systems in commercial nuclear power plants. A computerized data base of component/system operational experiences categorized by standard reliability characteristics was developed to provide an efficient and accurate way of retrieving and sorting the various reliability data. The various fields that are explained and discussed in this section are listed below.

1. NSSS vendor
2. Plant
3. LER control number
4. Fault mode
5. Fault cause

6. Event classification (Age or Frequency of Use)

7. Type of event

8. System

9. Event date

10. Manufacturer

11. Activity resulting in discovery.

The USNRC LER system contains a centralized source of component/system operational experiences of off-normal events in the nuclear industry. The USNRC LER file, however, is not a reliability data base. Therefore, direct transcription of these LERs for reliability purposes is not usually possible. At times, there is some correlation between the component code, component subcode, cause, and system that is coded in an LER and also what is needed in the I&C reliability data base. For these cases, a direct transcription was made. However, the descriptive text of the LER provided the bulk of the information needed for the data base. This text also provided the mechanism to check for errors in any coded portions of the original LER that were used in the data base.

Although most LERs contain only a single report involving one event (a failure or a command fault), some LERs contained multiple reports, each involving either single or multiple events. For the case where multiple reports existed in the LER, an appropriate one-line data record was created in the data base for each report contained in the LER. For the case where the LER described multiple faults involving like components, information was encoded into the one-line data record to account for the number of events.

A detailed explanation of the coding scheme is given in Appendix B. A discussion of the assumptions and definitions used to encode certain fields within the one-line data record is provided below. The issue of the difference between faults and failures is presented first in order to provide a context for interpreting these fields. Three fields in each one-line data record contain items that are used for identification purposes: NSSS vendor, plant, and LER control number. These items need no explanation other than that provided in Appendix B.

Fault/Failure. As defined in the "Nomenclature" section, a fault refers to failures and command faults. A failure implies that a component must be repaired or replaced in order for it to perform as designed. A command fault is an event in which the component of interest does not fail, but is in the wrong state because of external inputs or lack of inputs. An instrument channel failing to provide a trip signal because a technician left a test switch in the wrong position is an example of a command fault.

Fault Mode. Initially, a cursory evaluation of the applicable LERs was conducted to ensure that the fault modes defined in this report would encompass the bulk of the LERs. Because of the lack of detailed information in most of the LER fault descriptions, only two fault modes are defined. The fault modes are:

1. Reduced capability

2. Inoperable.

The reduced capability fault mode describes an event in which the I&C component is operational, but does not perform its function within defined limits. Reduced capability implies calibration or adjustment is needed. Instrument drift, out-of-calibration, and intermittent (spurious) conditions are examples of events that are coded reduced capability.

The fault mode, inoperable, is used to describe failure events involving actual failure, meaning component repair or replacement was needed. Command faults, such as a closed sensing-line valve, which prevented a transmitter from measuring a parameter (e.g., pressure and flow), also fall into the inoperable fault mode.

Fault Cause. The fault causes used in our report are those stated in the respective LERs, and should be self-explanatory (see Appendix B). The intent is to encode the cause most directly responsible for the event; not necessarily the root cause. Most fault causes were identified by screening the cause description text of the LER. The LER contains a coded fault cause (entered by the utility), but this did not always agree with the cause description contained in the text. When the text and the code disagreed, the fault cause stated in the text was entered in the one-line data record. For example, if the LER cause field indicated *component failure* when the text stated that instrument drift was the problem, instrument drift was encoded as the cause of failure. It should be noted that for command faults, causes such as *sticking* or *piece part fault* describe problems with components providing inputs to the faulted I&C component.

Event Classification (Age or Frequency of Use). Each I&C component fault was reviewed to determine if the fault was related to the frequency of use (starts, stops, openings, and closings) of the component or, simply, the age of the component. As the standby time or running time increases, the cumulative chance of an age-related fault increases. The cumulative chance of a frequency-of-use-related fault increases as the number of demands or cycles of the component increases. The number of demands or cycles is not necessarily a linearly-increasing function of time.

Knowing a relationship between age-related and frequency-related faults can aid in establishing or evaluating a testing policy. If frequency-related faults predominate for a particular component, increased testing (which would place more demands on the component) may not be appropriate. Conversely, if age-related faults predominate, increased testing would be appropriate, because as the time interval between tests decreases, so does the chance of a component being unavailable. As an example of how such distinctions were made, a component that faulted because of electronic or electrical piece part deterioration was considered an age-related fault, while a component fault that resulted from a broken linkage arm or handswitch was considered a frequency-of-use-related fault.

All reports involving personnel error were classified as frequency, because it was felt that the probability of these events increased as the number of personnel interactions with the component increased. When a LER did not provide adequate fault cause information to enable the analyst to determine the event classification, unknown was used to classify these events.

The original LERs do not contain a coded field indicating whether a fault is age- or frequency-related, nor is the reporting organization required to provide such an assessment in the text of the LER. Therefore, the code that appears in the one-line summaries is the result of a subjective review of the available information; other analysts may draw different conclusions.

Type of Event. Seven types of events are of special interest for risk/reliability consideration:

1. Recurring failure
2. Common cause failure
3. Recurring common cause failure
4. Command fault
5. Recurring command fault
6. Common cause command fault
7. Recurring common cause command fault.

The events not coded as one of these specified types are considered to be *random* failures. In the context of this report, random failures refers to occurrences that do not meet the definitions of the other type of events.

NOTE: In the original version of this report (NUREG/CR-1740, May 1981), only six type of event categories were used (including random). More specifically, no categories were provided for common cause command faults and recurring common cause command faults. One-liners from the 1976 to 1978 time period were screened for this report to provide the added level of detail.

For an event to be considered *recurring*, one plant had to submit more than one LER that identified a failure of the same component or similar components by the same failure cause. In addition, if an individual LER reported that a component had experienced previous failures, the event was coded recurring.

Common cause events consist not only of events describing two or more components failing simultaneously, but also include single events where the potential for two or more failures exists. The latter are considered common cause candidates. The common cause candidates were identified, along with the other common cause failures, not only for use in this report but as part of a data gathering effort to provide input into the binomial failure rate (BFR) common cause model.[9] The justification for considering single failures in the BFR model is explained by Atwood. If there was any doubt as to whether an event was common cause or not common cause, then the event was coded as common cause. If the same common cause event was reported more than once at one plant, this event was coded as *recurring common cause*.

As pointed out earlier, a *command fault* is an event where there is no actual physical failure of the component, but the component is in the wrong state because of factors external to the component. External factors such as failure of a component that interfaces with the faulted component or human error, account for most command faults. A transmitter that is assumed to be monitoring pressure but is inoperable because of a closed sensing-line valve, is considered a command fault event. The transmitter is not *failed* but is *commanded* to be inoperable because of the closed valve. However, if there were any doubt as to whether the fault was a command fault or failure, then the fault was considered a failure. *Recurring command faults* describe events that combine both the criteria for recurring and the concept of command faults. *Common cause command faults* occur when two or more components are affected by a single command fault. An example is "two instrument channels being deenergized at once due to personnel error." When the fault was both recurring and a common cause command fault, the fault was identified as a *recurring common cause command fault*.

System. When coding the applicable system, the system receiving the output from the instrument was the system encoded. For example, an instrument that monitors containment pressure often provides input to the reactor trip system. In this case Reactor Trip would be encoded into the system field. In general, most of the LERs reported events that involved the reactor trip system or the Engineered Safety Features Actuation System (ESFAS). It was felt that the ESFAS encompassed too broad a spectrum of systems. Therefore, if it could be determined that the instrument provided input to control systems of specific safety systems, such as High Pressure Coolant Injection (HPCI) or Automatic Depressurization then that specific system was encoded into the system field. If an instrument monitored a variable (temperature or pressure) of a system and the output from that instrument was only used in controlling or monitoring that same system, then the monitored system was encoded into the system field.

Event Date. The event date in the one-line data record corresponds to the event date reported in the LER. The LER event date, however, is not necessarily the date on which the fault occurred. There are instances when a component is discovered faulted and has obviously been faulted for a considerable time. The LER event date actually corresponds to the date the fault was discovered. The event date was assumed to correspond to the date of component fault. Such an assumption, however, does not significantly impact any of the results presented in this report.

Manufacturer. The LERs provide a coded field for the manufacturer of a faulted component. However, the manufacturer code in the LER is sometimes missing and sometimes not appropriate for the component coded in the data base. On occasion, the manufacturer given in the LER was not the instruments' manufacturer. References were made in the LER as to the instruments' subcomponent (e.g., seal, resistor, or bellows) or to the failed component that was responsible for the instruments' command fault (e.g., power supply or a leaking valve in a sensing line). Due to these reporting variations no attempt was made to further evaluate the manufacturers reported. However, the codes are available in the data base should a more detailed study of the LERs be undertaken.

Activity Resulting in Discovery. Each one-line data record contains a code that indicates the activity taking place that led to the discovery of the event. In some instances, the activity *was* the cause of the event. Although the original LER contains a specific field for this information, the text of the LER is primarily relied on to obtain this information.

LER Rate Estimations

Owing to the limited availability of component populations, LER rates are estimated for only those I&C components identified as being part of an instrument channel that performs a reactor trip function. These components are assumed to be in an operational state (energized) at all times, regardless of the status of the reactor; therefore, LER rates in this report are operating fault rates in units of faults per hour. The data necessary to estimate the LER rates are (a) the reactor trip instrument channel and constituent component populations that provide a trip function, (b) the exposure time, and (c) the number of component failures and command faults. These data were obtained for each plant from various sources. The following discussion presents the assumptions and sources used to arrive at the values for each of these data needs.

Populations. A comprehensive source of data from which to obtain all I&C component populations within each plant was not found. However, most of the plants' individual FSARs or the NSSS Vendor Standard Technical Specifications[10--13] gave a listing of reactor trip functions along with the number of sensors and/or channels that provide inputs to each reactor trip function and information that enabled determination of what type of instrument channel, analog or digital, was being used to supply each reactor trip function. From this information, denominators for LER rates for the following five categories of related equipment could be calculated:

1. Sensing devices for analog type channels
    a. Nuclear core flux
    b. Temperature detectors
    c. Flow, level, and pressure transmitters
2. Conditioning systems (a conglomeration of computation modules, summation amplifiers, power supplies, etc.) that receive output from the sensing devices and develop this output for input to comparators or bistables to achieve a desired trip function
3. Comparators and bistables that receive output from the conditioning systems in turn provide inputs to logic matrices, which in turn shutdown the reactor plant
4. Pressure/vacuum and level switches that make up a digital channel
5. Main steam line radiation monitors found in BWR plants.

Components with a reactor trip function fall into instrument channels, as indicated in Table 1. This table shows which type of components and channels are found in reactor trip instrumentation populations for each NSSS vendor. Also shown, analog radiation channels consist of the single component, radiation monitors, and digital channels contain a single component, switches.

In order to obtain counts for I&C components and channels providing a direct reactor trip function the FSAR information collated by Atwood[2] was used. Counting sensors, conditioning systems, and bistables is straightforward based on Atwood's work. In most cases, the number of channels and conditioning systems is the same. A channel may, however, have more than one conditioning system in cases where several conditioning systems feed each other. In particular, for Babcock & Wilcox plants, reactor outlet temperature and pressure/temperature conditioning systems are combined in considering temperature channels. Most Westinghouse temperature channels are a combination of overpower/ΔT, T-average/ΔT, and overtemperature/ΔT conditioning systems.

Time. The exposure time used in estimating the LER rates was the total calendar hours from January 1, 1976, or from the date of initial criticality, whichever is later, to December 31, 1981. All plants that achieved initial criticality before 1976 have an exposure time of 52,608 hours, while plants that achieved initial criticality after 1976 had their exposure time calculated from their respective date of initial criticality to December 31, 1981. Calendar hours are based on a 24-hour day and a 365-day year, which is 8,760 hours in an average year. The additional hours in 1976 and 1980 (leap years) were included where applicable. The dates for plant initial criticality were obtained from the USNRC's "Gray Book."[14]

Faults. The number of failures and command faults is contained in the one-line data file. Sorts of this file provided the fault data needed for the various estimates. LER rates using both failures and failures plus command faults were estimated if population data were available. The rates that are computed are based on the 1,886 events that occurred in I&C components and channels identified as providing a direct reactor trip.

In estimating the LER rates for this report, each failure or command fault was assumed to be an individual random event when, in fact, some of the events are suspected to be common cause. It is beyond the scope of this report, however, to treat the common cause events differently when performing LER rate estimates.

Table 1. I&C reactor trip populations for fault rates[a]

	Channels							
	Analog						Digital	
Components	Flux	Temperature	Flow	Level	Pressure	Radiation	Level	Pressure
Core Flux Sensors	B	—	—	—	—	—	—	—
	C	—	—	—	—	—	—	—
	W	—	—	—	—	—	—	—
	G	—	—	—	—	—	—	—
Temperature Sensors	—	B	—	—	—	—	—	—
	—	C	—	—	—	—	—	—
	—	W	—	—	—	—	—	—
	—	—	—	—	—	—	—	—
Transmitters	—	—	B	—	B	—	—	—
	—	—	C	C	C	—	—	—
	—	—	W	W	W	—	—	—
	—	—	G	—	—	—	—	—
Conditioning Systems	B	B	B	—	B	—	—	—
	C	C	C	C	C	—	—	—
	W	W	W	W	W	—	—	—
	G	—	G	—	—	—	—	—
Bistables	B	B	B	—	B	—	—	—
	C	C	C	C	C	—	—	—
	W	W	W	W	W	—	—	—
	G	—	G	—	—	—	—	—
Switches	—	—	—	—	—	—	—	B
	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	W
	—	—	—	—	—	—	G	G[b]
Radiation Monitors	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—
	—	—	—	—	—	G	—	—

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a. B = Babcock & Wilcox; C = Combustion Engineering; W = Westinghouse; G = General Electric. The presence of B, C, W, or G indicates that one or more of the corresponding plants has the specified type of reactor trip channel and component.

b. Pressure/vacuum switches.

LER rates were estimated for the following components.

1. Nuclear core flux sensors
2. Temperature sensors
3. Flow, level, and pressure transmitters
4. Signal conditioning systems for flux, temperature, flow, level, and pressure
5. Flux, temperature, flow, level, and pressure comparators and bistables
6. Pressure/vacuum and level switches
7. Radiation monitors.

Also the major components of the analog systems (detectors/sensors, transmitters, conditioning systems, and bistables) were combined, depending upon the parameter they were monitoring, to form an instrument channel. In digital systems, switches were considered a channel.

LER rates were estimated for the following instrument channels.

1. Analog Channels
    a. Nuclear core flux
    b. Temperature
    c. Flow
    d. Level
    e. Pressure
2. Digital Channels
    a. Level switches
    b. Pressure/vacuum switches.

There was no need to estimate a radiation channel fault rate since a radiation channel consists of the single component, radiation monitor, and a LER rate was estimated for radiation monitors.

In assigning faults for the various parameter-based fault rates some subjectivity was involved in determining in which parameter-based channel the fault occurred. In most cases a sensor monitoring a particular parameter provides a signal to a conditioning system which in turn provides a signal to a comparator or bistable. However, there are conditioning systems that receive signals from more than one sensor, each sensor monitoring a different parameter. This same conditioning system, may in turn, provide a signal to other conditioning systems or to a comparator or bistable. This case creates a problem in that a fault in this type of conditioning system could be placed in either parameter-based channel that is providing input to the conditioning system. These types of conditioning systems have been identified and an example is shown below, along with the parameter assigned for the purposes of calculating the parameter-based channel fault rates.[a]

Conditioning Systems and Associated Bistables	Parameter Assigned For LER Rate Calculations
Babcock & Wilcox Plants	
Power to Flow	Flow
Pressure/temperature	Temperature
Combustion Engineering Plants	
Thermal Margin/low pressure or DNBR	Temperature
Westinghouse Plants	
Overpower/ΔT	Temperature
Overtemperature/ΔT (Pressurizer provides an input)	Temperature

Computations. The computational formulas used to estimate the LER rates are discussed in Appendix C. LER rates for the components and instrument channels were grouped as follows:

1. An LER rate for each licensed operating plant

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[a] The parameter coded in the one-liner was not used because it was generally an *other/unknown* parameter.

2. An LER rate for each NSSS vendor
3. An LER rate for PWRs and BWRs
4. An overall LER rate based on aggregating the fault data of each licensed operating plant.

In each of the above cases, if no population data were available for a particular fault rate calculation, then the applicable plant, NSSS vendor, or reactor type (PWR or BWR) would be omitted from the calculation.

Chi-square confidence bounds were derived for each fault rate estimate. These confidence bounds apply only when all the components that are combined in an estimate have exactly the same fault rate. When components have different fault rates (e.g., because of individual component variations and different plant environments), the confidence interval describes only the average fault rate, not the individual component fault rates. The main use of these bounds is for comparisons. Narrow bounds apply to estimates that are based on more information (i.e., for a fixed fault rate, more faults and longer exposure times lead to narrow bounds).

SUMMARY OF RESULTS

Table 2 presents an accounting of the number of LERs used in this report. Of the 6,764 faults in the data file, 6,180 (91%) were classified as actual failures. The remaining 584 were identified as being command faults.

Table 2. Accounting of I&C LERs

LERs	Numbers
Total screened	20,027
Total excluded after screening	15,329
Total coded	4,698
Total one-line data records created from the 4,698 LERs (315 LERs contained multiple reports resulting in 394 additional records)	5,092
Number of events contained in the 5,092 one-line data records (732 records contained multiple events resulting in 1,672 additional events)	6,764

Engineering Data

The main coding fields are presented with emphasis on plants, components, and the type of event. Presented in this engineering data summary are discussions, figures (bar graphs), and tables summarizing pertinent information contained in the data base. In order to provide easier comparisons between variables and faults, the horizontal bar graphs are arranged in increasing order from top to bottom, while vertical bar graphs are arranged in descending order from left to right. Percentages of the total number of faults associated with each variable can be found on each bar graph.

The component faults and fault rates summarized in this report should be interpreted as only tentative gross indicators of true fault trends and fault rates. Because subjective judgments had to be made regarding pertinence of recorded events, and because some component faults may not be recorded in the LERs, the individual analyst should confirm the applicability of the component faults and fault rates for their specific uses.

Overview with Focus on Plants

NSSS Vendor. Figure 2 is a graph of the 6,764 faults by NSSS vendor. It is evident from Figure 2 that the General Electric (BWR) plants account for the majority (51%) of I&C faults. Refer to Appendix D for one-line sorts by NSSS vendor.

NOTE: This engineering data consists of raw fault counts, not adjusted for the number of plants or I&C components associated with each vendor.

Plant-Specific Data. Figure 3 presents individual plant faults for all 72 plants in a highly comparative form, while Figures 4 through 7 present the same information, in descending order, grouped by plants within the four NSSS vendors.

Table 3 is grouped by NSSS vendor and presents the 6,180 failures and 584 command faults for each plant by year. Also provided are the calendar hours for each plant so that one may normalize selected data if desired. The dashes, as for Crystal River 3 in 1976, indicate that the plant had not achieved initial criticality.

Overview with Focus on Components. In the following sections, breakdowns of the number of faults according to the main coding fields (fault mode and cause, parameter, function, system, event classification, and type of event) and according to the components within these fields are presented.

Component. Figure 8 is a graph of the 6,764 faults by component. The seven major components (sensor, transmitter, amplifier, power supply, converter/conditioner, computation module, and comparator/bistable) considered to be in a typical analog type channel totaled 2,282 (34%) of the total 6,764 faults. The single major component of digital type channels, the general switch, accounted for 2,004 (30%) of the total 6,764 faults.

Fault Mode. Table 4 presents component fault data by fault mode. The general switch stands out as the component with the largest number of faults. Of the 2,004 general switch faults, 1,533 (77%) and 471 (24%) involved reduced capability and inoperable fault modes, respectively.

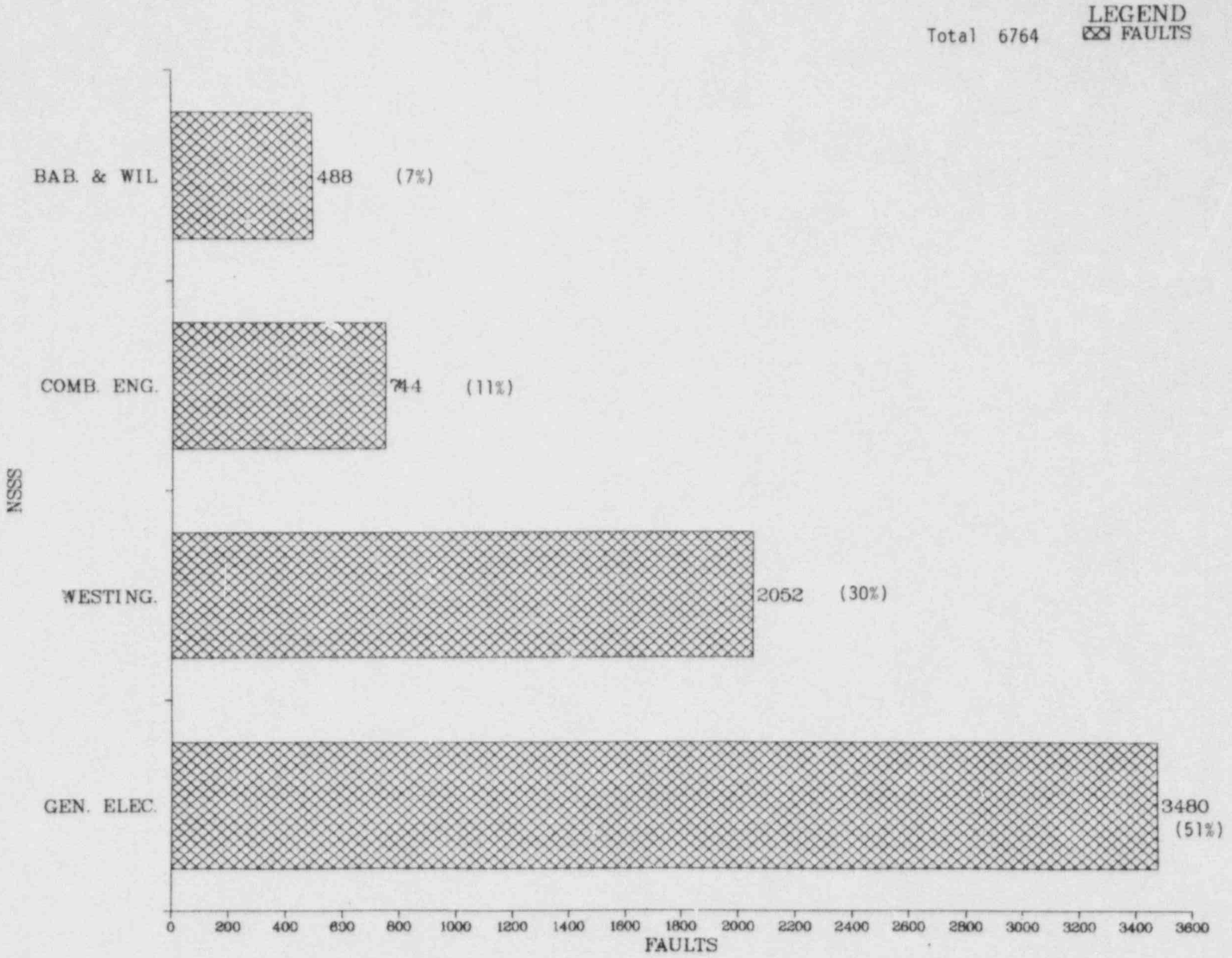

Figure 2. Summary of I&C faults by NSSS.

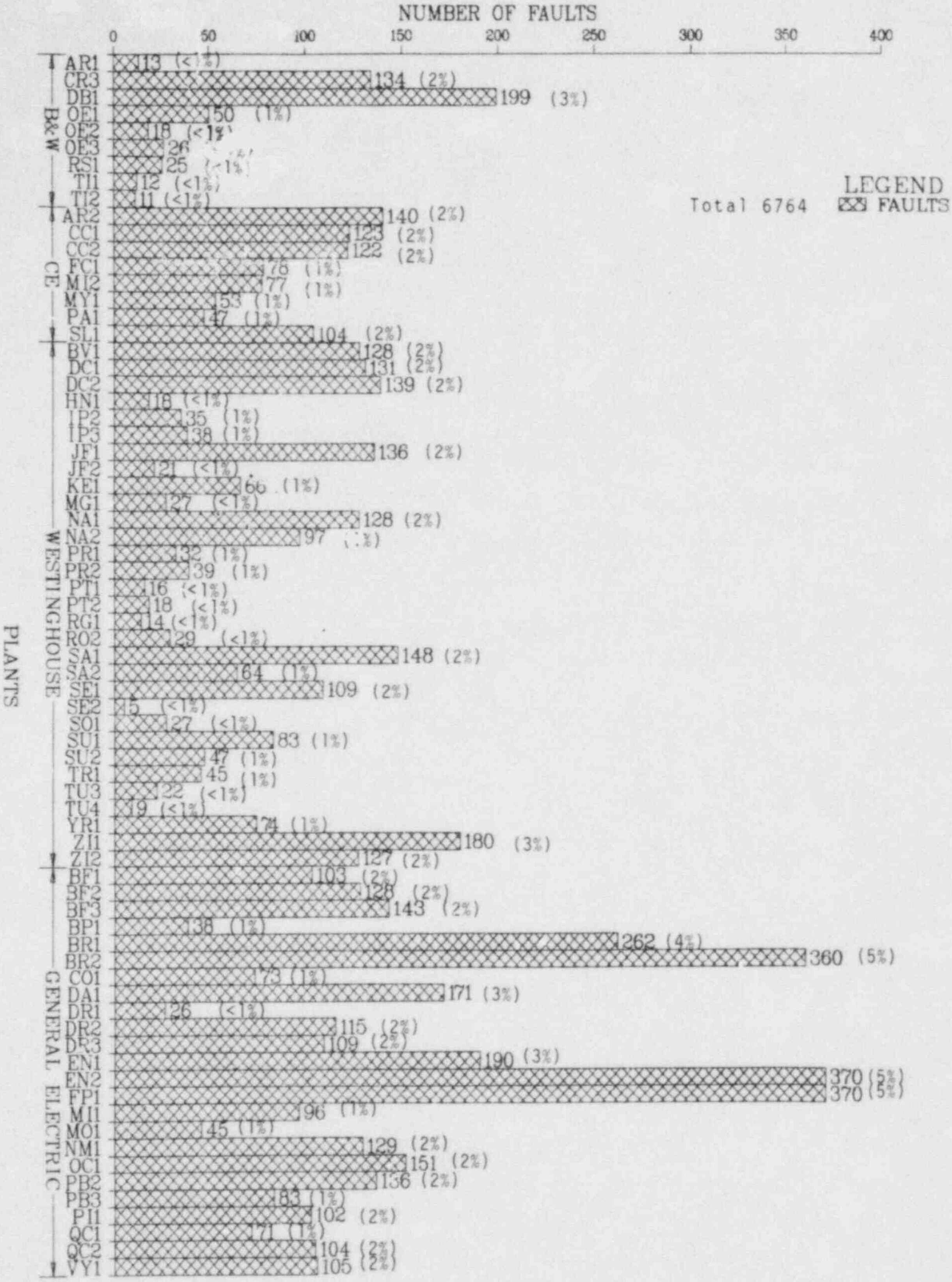

Figure 3. Summary of I&C faults by plant.

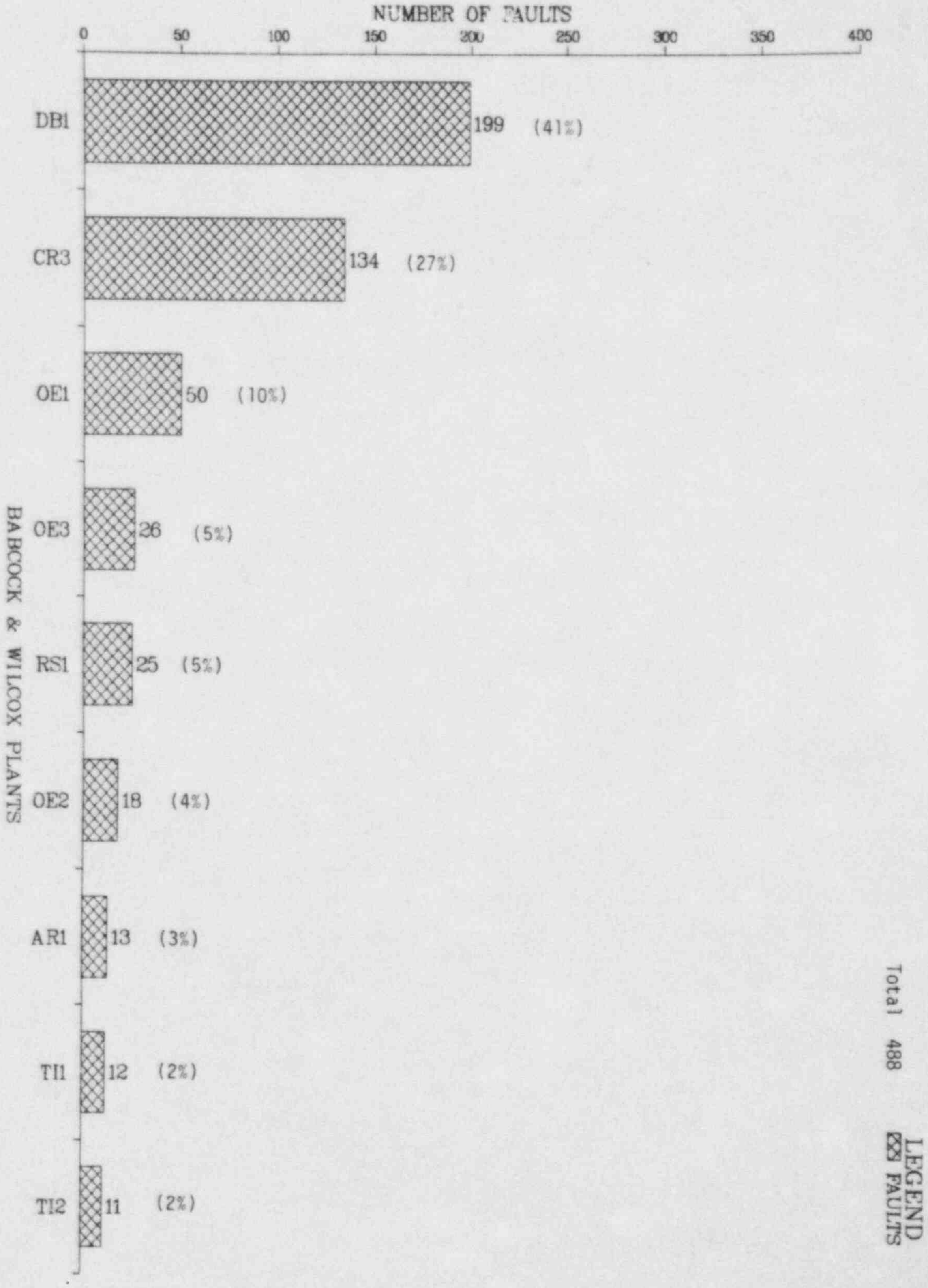

Figure 4. Summary of I&C faults for Babcock & Wilcox plants.

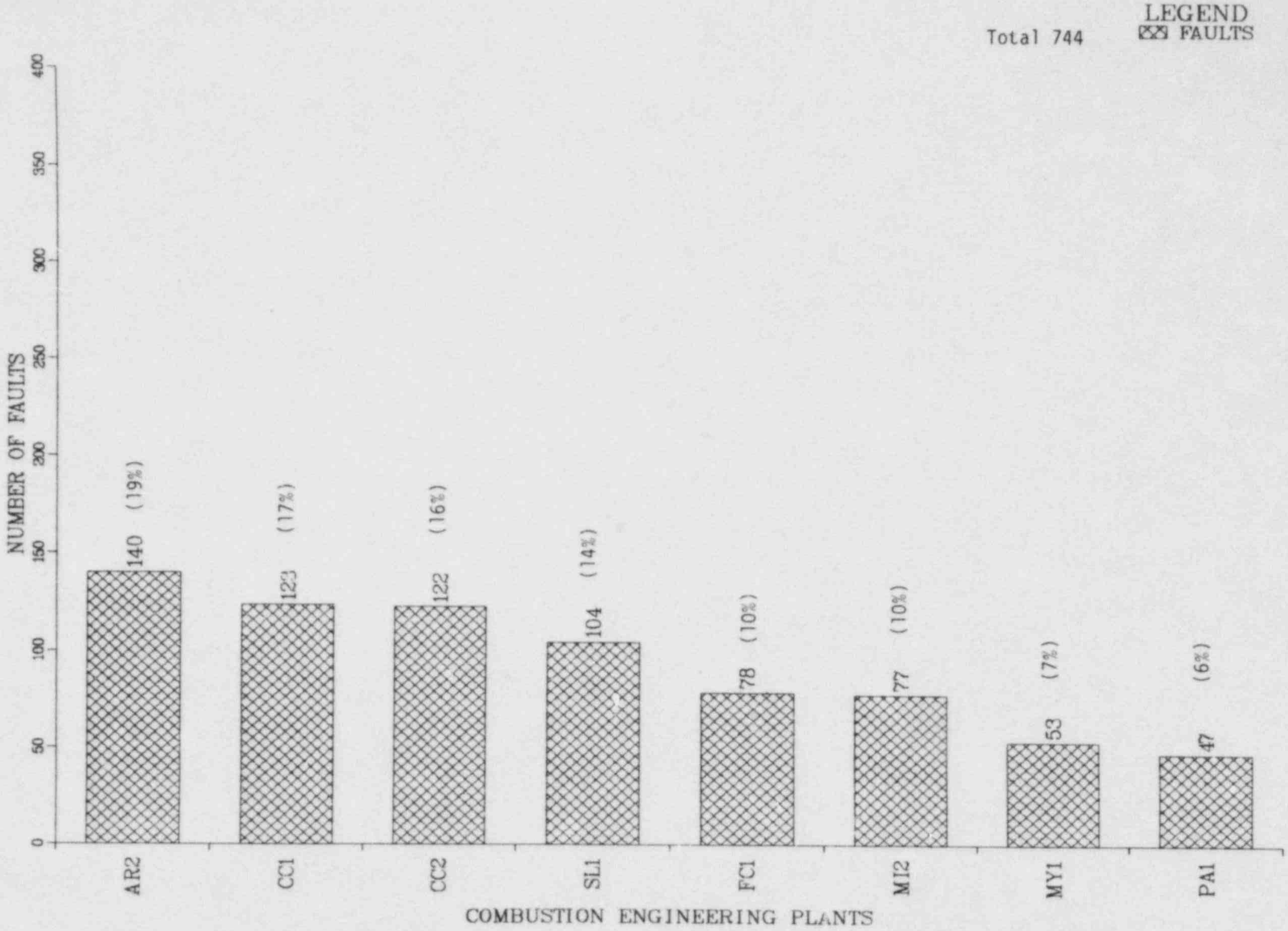

Figure 5. Summary of I&C faults for Combustion Engineering plants.

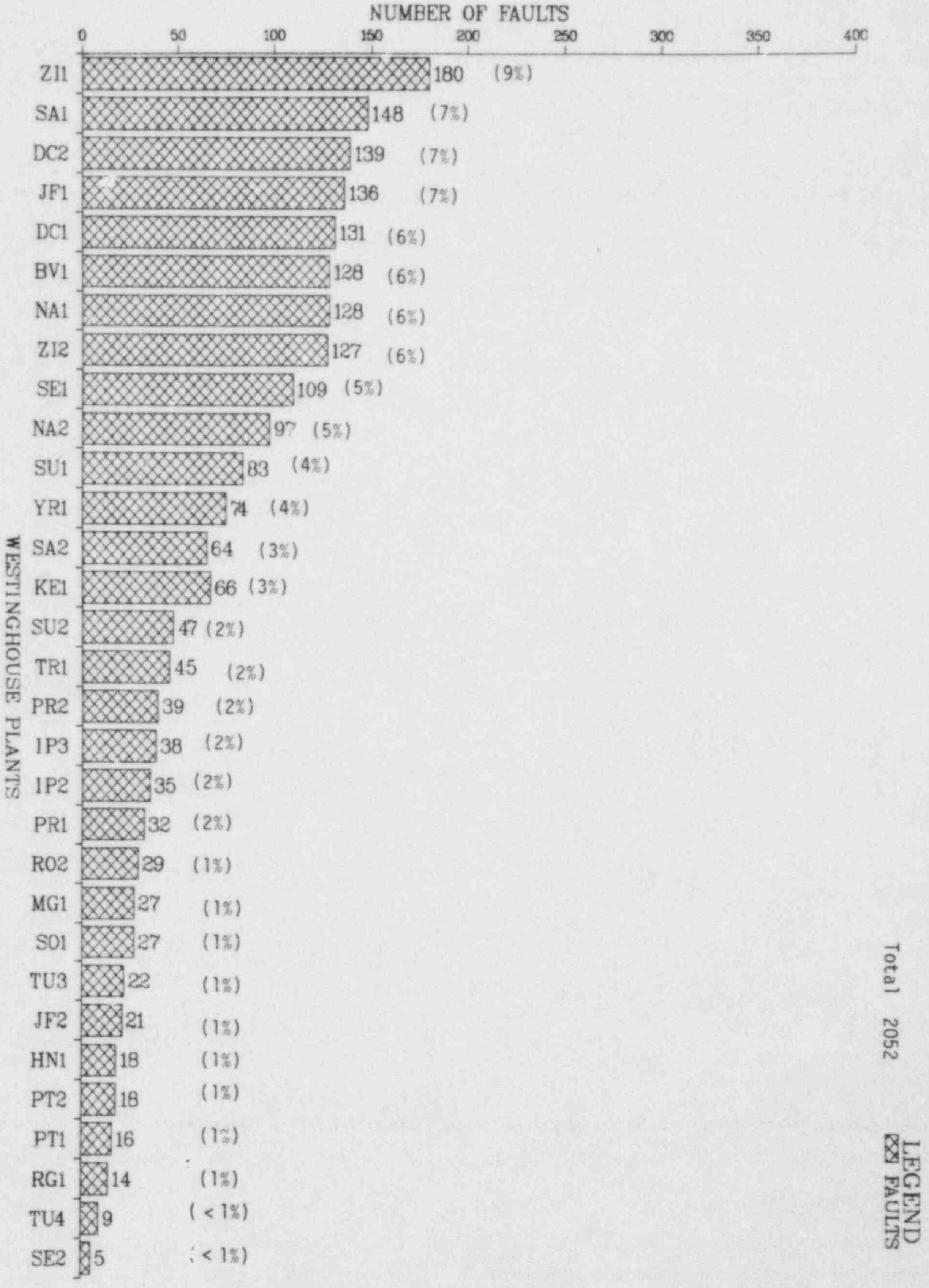

Figure 6. Summary of I&C faults for Westinghouse plants.

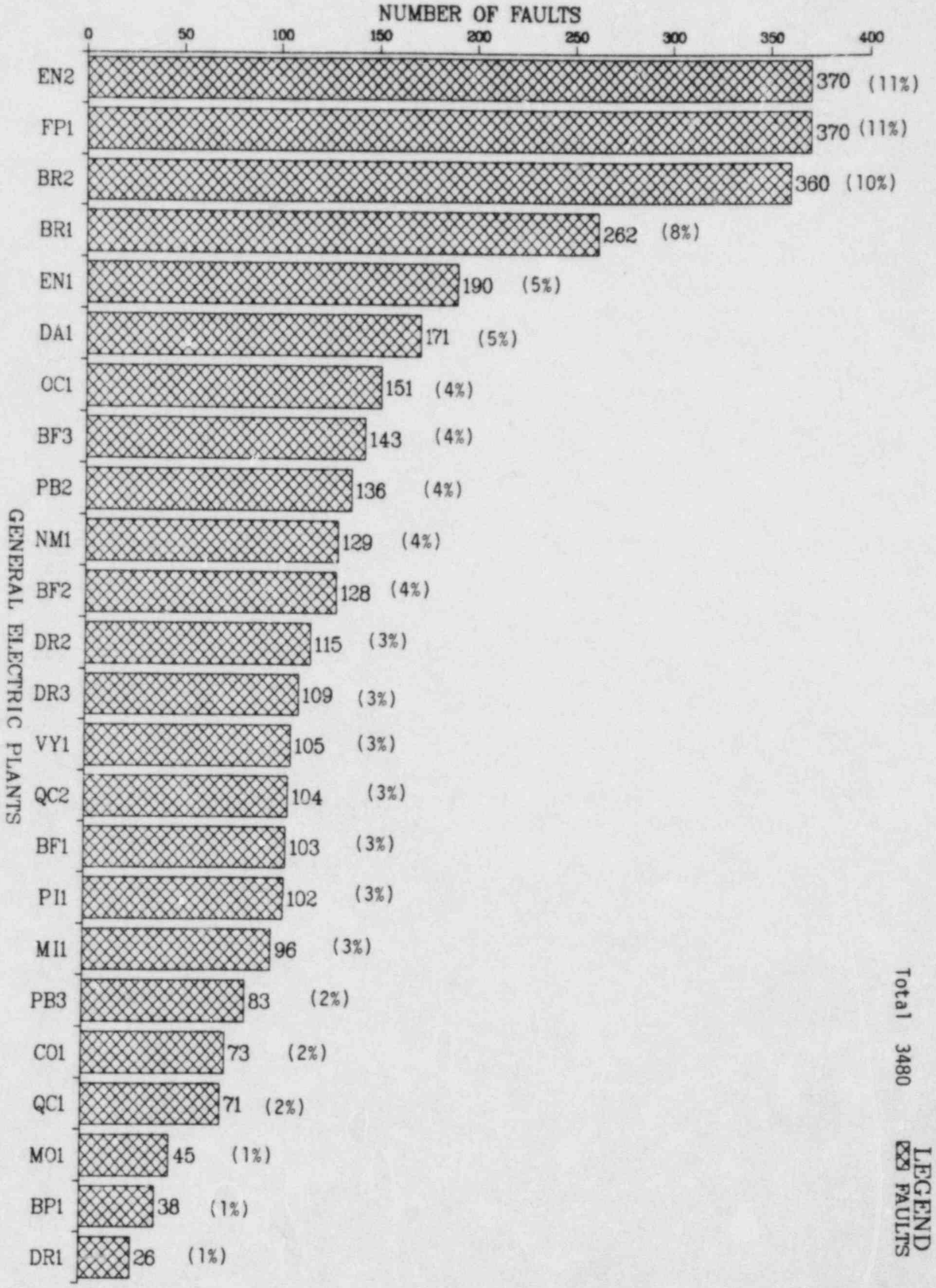

Figure 7. Summary of I&C faults for General Electric plants.

Table 3. **Summary of I&C failures and command faults by plant and year**

		1976			1977			1978			1979			1980			1981			Total		
Plant Code	Plant Name	Failures	Command Faults	Hours	Failures	Command Faults	Hours	Failures	Command Faults	Hours	Failures	Command Faults	Hours	Failures	Command Faults	Hours	Failures	Command Faults	Hours	Failures	Command Faults	Hours^a
BABCOCK & WILCOX																						
AR1	Arkansas Nuclear One 1	2	0	8,784	8	0	8,760	1	0	8,760	1	0	8,760	0	0	8,784	0	1	8,760	12	1	52,608
CR3	Crystal River 3	—	—	—	20	0	8,448	16	0	8,760	27	3	8,760	14	3	8,784	42	9	8,760	119	15	43,512
DB1	Davis-Besse 1	—	—	—	20	1	3,408	54	0	8,760	55	0	8,760	31	7	8,784	28	3	8,760	188	11	38,472
OE1	Oconee 1	1	0	8,784	5	0	8,760	15	8	8,760	12	0	8,760	3	1	8,784	5	0	8,760	41	9	52,608
OE2	Oconee 2	0	0	8,784	4	0	8,760	5	0	8,760	6	0	8,760	1	0	8,784	2	0	8,760	18	0	52,608
OE3	Oconee 3	0	0	8,784	3	1	8,760	9	0	8,760	7	0	8,760	2	1	8,784	3	0	8,760	24	2	52,608
RS1	Rancho Seco 1	4	0	8,784	3	0	8,760	1	0	8,760	1	0	8,760	4	1	8,784	10	1	8,760	23	2	52,608
TI1	Three Mile Island 1	7	2	8,784	1	0	8,760	2	0	8,760	0	0	2,064	—	—	—	—	—	—	10	2	28,368
TI2	Three Mile Island 2	—	—	—	—	—	—	9	0	6,696	2	0	2,064	—	—	—	—	—	—	11	0	8,760
	Total Faults	14	2	52,704	64	2	64,416	112	8	76,776	111	3	65,448	55	13	61,488	90	14	61,320	446	42	382,152
COMBUSTION ENGINEERING																						
AR2	Arkansas Nuclear One 2	—	—	—	—	—	—	3	0	[illegible]	36	4	8,760	45	2	8,784	48	2	8,760	132	8	26,952
CC1	Calvert Cliffs 1	8	1	8,784	32	0	8,760	10	1	8,760	21	0	8,760	18	1	8,784	25	6	8,760	114	9	52,608
CC2	Calvert Cliffs 2	3	0	768	19	0	8,760	13	0	8,760	30	3	8,760	29	1	8,784	21	3	8,760	115	7	44,592
FC1	Fort Calhoun 1	14	0	8,784	15	0	8,760	22	0	8,760	4	1	8,760	13	2	8,784	7	0	8,760	75	3	52,608
MY1	Maine Yankee	8	0	8,784	2	0	8,760	8	0	8,760	17	3	8,760	4	0	8,784	9	2	8,760	48	5	52,608
MI2	Millstone 2	11	0	8,784	13	0	8,760	11	0	8,760	20	0	8,760	8	2	8,784	9	3	8,760	72	5	52,608
PA1	Palisades	10	0	8,784	9	0	8,760	5	0	8,760	2	0	8,760	10	3	8,784	8	0	8,760	44	3	52,608
SL1	St. Lucie 1	2	3	6,096	7	1	8,760	13	1	8,760	16	0	8,760	33	5	8,784	22	1	8,760	93	11	49,920
	Total Faults	56	4	50,784	97	1	61,320	85	2	61,968	146	11	70,080	160	16	70,272	149	17	70,080	693	51	384,504
WESTINGHOUSE																						
BV1	Beaver Valley 1	2	4	5,664	37	1	8,760	11	1	8,760	5	1	8,760	28	3	8,784	31	4	8,760	114	14	49,488
DC1	Cook 1	17	1	8,784	14	0	8,760	35	0	8,760	28	8	8,760	8	1	8,784	13	6	8,760	115	16	52,608
DC2	Cook 2	—	—	—	—	—	—	66	0	7,128	26	0	8,760	21	1	8,784	19	6	8,760	132	7	33,432
JF1	Farley 1	—	—	—	17	0	3,480	26	1	8,760	32	6	8,760	29	5	8,784	15	5	8,760	119	17	38,544
JF2	Farley 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15	6	5,784	15	6	5,784
RG1	Ginna	5	0	8,784	0	0	8,760	0	0	8,760	1	0	8,760	3	0	8,784	4	1	8,760	13	1	52,608
HN1	Haddam Neck	4	0	8,784	6	0	8,760	1	0	8,760	2	0	8,760	3	0	8,784	2	0	8,760	18	0	52,608
IP2	Indian Point 2	8	0	8,784	5	0	8,760	12	0	8,760	2	0	8,760	2	2	8,784	3	1	8,760	32	3	52,608
IP3	Indian Point 3	15	0	6,480	7	0	8,760	7	0	8,760	4	0	8,760	5	0	8,784	0	0	8,760	38	0	50,304
KE1	Kewaunee	10	0	8,784	11	0	8,760	12	0	8,760	11	0	8,760	10	2	8,784	10	0	8,760	64	2	52,608
MG1	McGuire 1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24	3	3,504	24	3	3,504
NA1	North Anna 1	—	—	—	—	—	—	23	0	6,504	47	4	8,760	21	9	8,784	21	3	8,760	112	16	32,808
NA2	North Anna 2	—	—	—	—	—	—	—	—	—	—	—	—	56	3	4,872	35	3	8,760	91	6	13,632
PT1	Point Beach 1	4	0	8,784	1	0	8,760	3	0	8,760	3	1	8,760	0	0	8,784	4	0	8,760	15	1	52,608
PT2	Point Beach 2	2	0	8,784	0	0	8,760	5	4	8,760	1	0	8,760	3	1	8,784	2	0	8,760	13	5	52,608
PR1	Prairie Island 1	8	0	8,784	3	0	8,760	4	1	8,760	3	2	8,760	5	2	8,784	4	0	8,760	27	5	52,608
PR2	Prairie Island 2	6	0	8,784	7	2	8,760	6	0	8,760	3	0	8,760	3	0	8,784	12	0	8,760	37	2	52,608
RO2	Robinson 2	3	0	8,784	0	0	8,760	3	0	8,760	1	2	8,760	12	3	8,784	5	0	8,760	24	5	52,608
SA1	Salem 1	3	0	504	20	1	8,760	17	0	8,760	24	3	8,760	37	3	8,784	37	3	8,760	138	10	44,328
SA2	Salem 2	—	—	—	—	—	—	—	—	—	—	—	—	1	0	3,504	59	4	8,760	60	4	12,264
SO1	San Onofre 1	5	0	8,784	0	0	8,760	1	0	8,760	5	0	8,760	3	3	8,784	8	2	8,760	22	5	52,608
SE1	Sequoyah 1	—	—	—	—	—	—	—	—	—	—	—	—	25	13	4,320	60	11	8,760	85	24	13,080
SE2	Sequoyah 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	2	1,368	3	2	1,368
SU1	Surry 1	3	2	8,784	4	0	8,760	4	0	8,760	11	2	8,760	10	10	8,784	20	17	8,360	52	31	52,608
SU2	Surry 2	6	0	8,784	2	0	8,760	2	1	8,760	1	0	8,760	12	6	8,784	8	9	8,760	31	16	52,608

Table 3. (continued)

Plant Code	Plant Name	1976 Failures	1976 Command Faults	1976 Hours	1977 Failures	1977 Command Faults	1977 Hours	1978 Failures	1978 Command Faults	1978 Hours	1979 Failures	1979 Command Faults	1979 Hours	1980 Failures	1980 Command Faults	1980 Hours	1981 Failures	1981 Command Faults	1981 Hours	Total Failures	Total Command Faults	Total Hours[a]
WESTINGHOUSE (continued)																						
TR1	Trojan	3	2	8,784	17	1	8,760	6	0	[illegible] 50	4	0	8,760	2	1	8,784	6	3	8,760	38	7	52,608
TU3	Turkey Point 3	2	0	8,784	6	0	8,760	2	0	8,760	4	0	8,760	5	1	8,784	0	2	8,760	19	3	52,608
TU4	Turkey Point 4	2	0	8,784	3	0	8,760	0	0	8,760	1	0	8,760	2	0	8,784	1	0	8,760	9	0	52,608
YR1	Yankee-Rowe 1	0	0	8,784	18	0	8,760	13	4	8,760	12	1	8,760	4	1	8,784	21	0	8,760	68	6	52,608
ZI1	Zion 1	22	0	8,784	32	0	8,760	34	0	8,760	35	0	8,760	30	3	8,784	22	2	8,760	175	5	52,608
ZI2	Zion 2	26	0	8,784	18	0	8,760	20	0	8,760	22	0	8,760	16	0	8,784	23	2	8,760	125	2	52,608
	Total Faults	156	9	179,544	228	5	196,200	313	12	215,112	288	30	219,00[illegible]	356	71	232,296	487	95	255,936	1,828	224	1,298,088
GENERAL ELECTRIC																						
BP1	Big Rock Point 1	2	0	8,784	4	0	8,760	7	0	8,760	5	0	8,760	17	0	8,784	[illegible]	[illegible]	8,760	38	0	52,608
BF1	Browns Ferry 1	2	1	8,784	6	2	8,760	11	0	8,760	8	0	8,760	21	[illegible]	[illegible]	[illegible]	[illegible]	8,760	91	12	52,608
BF2	Browns Ferry 2	6	1	8,784	2	3	8,760	11	0	8,760	15	0	8,760	47	[illegible]	8,784	34	8	8,760	115	13	52,608
BF3	Browns Ferry 3	9	1	3,504	3	0	8,760	51	0	8,760	13	0	8,760	40	2	8,764	22	2	8,760	138	5	47,328
BR1	Brunswick 1	3	0	2,040	56	0	8,760	26	0	8,760	62	2	8,760	58	2	8,784	45	8	8,760	250	12	45,864
BR2	Brunswick 2	94	2	8,784	47	0	8,760	28	0	8,760	40	0	8,760	68	[illegible]	8,784	71	3	8,760	348	12	52,608
CO1	Cooper Station	14	0	8,784	20	3	8,760	10	0	8,760	5	1	8,760	9	2	8,784	8	1	8,760	66	7	52,608
DA1	Duane Arnold	28	6	8,784	52	0	8,760	12	7	8,760	18	0	8,760	24	3	8,784	16	5	8,760	150	21	52,608
DR1	Dresden 1	2	2	8,784	18	0	8,760	4	0	7,296	—	—	—	—	—	—	—	—	—	24	2	24,840
DR2	Dresden 2	13	0	8,784	22	2	6,760	16	2	8,760	19	0	8,760	16	0	8,784	20	5	8,760	106	9	52,608
DR3	Dresden 3	2	0	8,784	25	1	8,760	20	3	8,760	15	0	8,760	20	0	8,784	23	0	8,760	105	4	52,608
FP1	Fitzpatrick	30	0	8,784	31	1	8,760	23	8	8,760	44	1	8,760	164	21	8,784	44	3	8,760	336	34	52,608
EN1	Hatch 1	29	1	8,784	15	1	8,760	23	0	8,760	14	0	8,760	39	5	8,784	51	12	8,760	171	19	52,608
EN2	Hatch 2	—	—	—	—	—	—	22	5	4,344	48	9	8,760	140	7	9,784	121	18	8,760	331	39	30,648
MI1	Millstone 1	19	0	8,784	13	0	8,760	11	0	8,760	17	1	8,760	7	2	8,764	24	2	8,760	91	5	52,608
MO1	Monticello	3	0	8,784	10	0	8,760	8	0	8,760	5	0	8,760	9	2	8,794	4	4	8,760	39	6	52,608
NM1	Nine Mile Point 1	21	0	8,784	30	0	8,760	43	0	8,760	4	0	8,760	6	2	8,784	21	2	8,760	125	4	52,608
OC1	Oyster Creek 1	7	3	8,784	12	0	8,760	15	0	8,760	8	3	8,760	52	4	8,784	44	3	8,760	138	13	52,608
PB2	Peach Bottom 2	26	1	8,784	41	3	8,760	10	1	8,760	14	7	8,760	15	0	8,784	12	6	8,760	118	18	52,608
PB3	Peach Bottom 3	18	0	8,784	21	1	8,760	7	0	8,760	12	1	8,760	9	1	8,764	12	1	8,760	79	4	52,608
PI1	Pilgrim 1	14	0	8,784	16	0	8,760	19	0	8,760	14	0	8,760	15	2	8,784	20	2	8,760	98	4	52,608
QC1	Quad-Cities 1	2	0	8,784	13	0	8,760	18	0	8,760	13	3	8,760	7	2	8,784	13	0	8,760	66	5	52,608
QC2	Quad-Cities 2	10	1	8,784	12	0	8,760	19	0	8,760	32	0	8,760	6	6	8,784	17	1	8,760	96	8	52,608
VY1	Vermont Yankee 1	18	0	8,784	27	0	8,760	11	6	8,760	11	5	8,760	16	0	8,784	11	0	8,760	94	11	52,608
	Total Faults	372	19	190,008	496	17	201,480	425	32	204,360	436	33	201,480	805	76	202,032	679	90	201,480	3,213	267	1,200,840

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[a] Hours are total calendar hours from January 1, 1976 or from the date of initial criticality, whichever is later, to December 31, 1981.

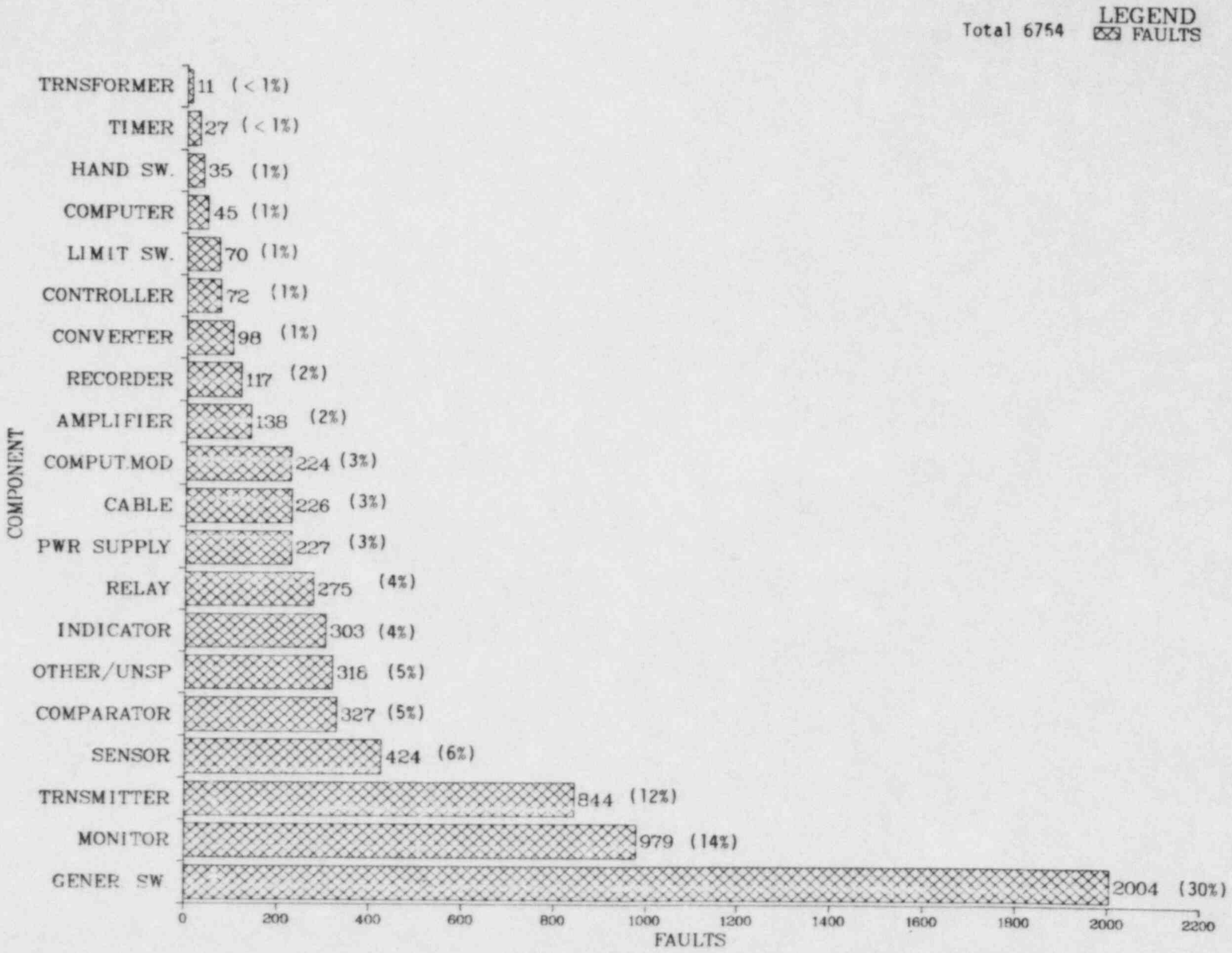

Figure 8. Summary of I&C faults by component.

Table 4. Summary of I&C faults by component and fault mode

Component	Fault Mode Reduced Capability	 Inoperable	Total Faults
Amplifier/buffer/isolation amplifier[a]	63	75	138
Cable/receptacle/junction box/terminal[a]	43	183	226
Controller	23	49	72
Comparator (bistable)[a]	216	111	327
Converter/conditioner[a]	74	24	98
General switch[a]	1,533	471	2,004
Hand switch	4	31	35
Computation module[a]	80	144	224
Indicator/meter/annunciator	144	159	303
Computer	4	41	45
Limit switch	34	36	70
Monitor[a]	226	753	979
Power supply[a]	15	212	227
Recorder	21	96	117
Relay/solenoid[a]	61	214	275
Sensor[a]	187	237	424
Timer	10	17	27
Transformer[a]	1	10	11
Transmitter[a]	497	347	844
Other/unspecified[a]	140	178	318
Total Faults	3,376	3,388	6,764

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a. This component was analyzed for the LER rates.

Sensing devices (monitors, sensors, transmitters, and general switches) account for 4,251 (63%) of the total faults. Sensing devices comprise 2,443 (72%) of the 3,376 faults coded reduced capability and 1,808 (53%) of the 3,388 coded inoperable. The general switch is the highest contributor to the reduced capability fault mode with 1,533 (45%) of the faults, while the monitor is the highest contributor to the inoperable fault mode with 753 (22%) of the faults.

Human Factors and Other Fault Causes. Figure 9 is a graph of faults by fault cause. It is evident from Figure 9 that drift accounted for a major portion (2,349 or 35%) of the faults, while piece part faults are next with 1,090 (16%) of the total faults. There were 930 (14%) faults coded with unknown fault causes.

All faults related to personnel, design, fabrication, construction, quality control, and procedures were considered to fall into a general category of causes called human factors. Human factors account for 1,171 (17%) of all the faults in this report. Of the 1,171 human factor faults, personnel errors during operation, maintenance, and testing account for 596 (51%), while design, fabrication, construction, quality control, and procedural errors account for the remaining 49%. Personnel maintenance is the largest single contributor to human factor faults at 31%, with procedural problems second with 22%. Refer to Appendix E for one-line sorts by human factors.

Table 5 summarizes component faults by fault cause. The general switch stands out with 1,325 (56%) of component drift problems, as well as the monitor with 307 (28%) of piece part faults.

Fault Mode and Cause. Table 6 presents component faults by fault cause and mode. Drift faults with the reduced capability mode comprise the majority (2,274 or 67%) of the total reduced capability mode, while inoperable piece part faults comprise the majority (1,033 or 30%) of the total inoperable mode. The general switch contributes 1,308 (58%) faults to the reduced capability drift category, while the monitor contributes 295 (29%) faults to the inoperable piece part failure category.

Parameter. Figure 10 summarizes the number of faults by parameter, while Table 7 presents the faults by component and parameter. The numbers here appear to reflect the distribution of components used to monitor the various parameters. For example, the component *monitor* in Table 7 has 967 (96%) of its faults under the parameter *radiation*. This is to be expected because the general purpose of a monitor, as used in this report, is to measure radiation.

Function. Figure 11 summarizes the number of faults by function. The two functions comprising the reactor protection system (reactor trip and ESF actuation) account for 52% (28% and 24%, respectively) of all faults.

Table 8 presents the number of faults by component and function. Transmitter and general switch faults comprise the majority of the reactor trip function faults at 20% and 18%, respectively. General switch faults comprise 58% of the ESF actuation function faults, with transmitter faults a distant second at 15%. Faults involving indicators, meters, annunciators, recorders, controllers, and computers, which provide a general indication and control function, comprise 469 (28%) of the general control function faults.

System. Faults for PWR and BWR systems are presented graphically in Figures 12 and 13. It should be noted that certain systems are applicable to only one reactor type. For example, the Automatic Depressurization System (ADS) is only applicable to BWR reactors.

As explained in the LER classification section, the focus in assigning system codes is on the system receiving the output from the instrumentation. Thus, any component or channel fault that resulted in the loss of a direct reactor trip signal was considered to be in the reactor (RX) trip system, regardless of what plant system the component or channel was monitoring. Where a component or channel could be identified as providing an ESF actuation function or some general control function, the system provided in the LER was coded. For example, if an LER stated, "Channel A failed to provide a signal to isolate the containment," the system coded for this LER was *containment*. If the LER did not provide system information, but from the text of the LER it could be determined that the faulted component or channel did provide an ESF actuation signal when required, *other ESF* was coded for the system.

Table 9 presents faults by component and combined PWR and BWR systems. The reactor trip

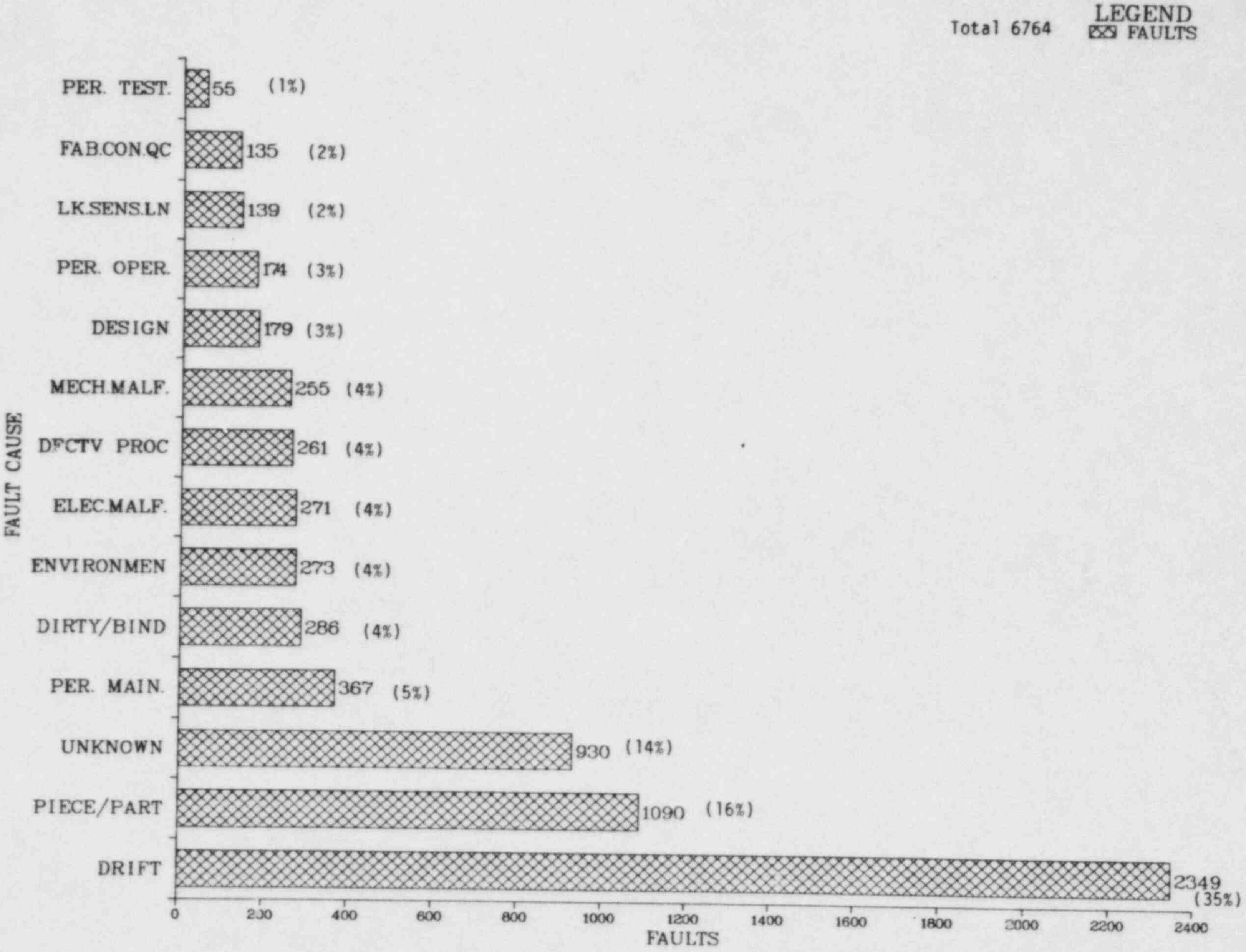

Figure 9. Summary of I&C faults by fault cause.

Table 5. Summary of I&C faults by component and fault cause

	Fault Cause													
Component	Unknown	Personnel Operation	Personnel Maintenance	Personnel Testing	Design Error	Fabrication/ Construction/ Quality Control	Defective Procedures	Extreme Environment	Mechanical Malfunction	Electrical Malfunction	Leaking or Blocked Instrument Sensing Lines	Dirty/ Binding/ Sticking	Piece Part Fault	Drift	Total Faults
Amplifier/buffer/ isolation amplifier	34	8	0	0	0	0	9	1	0	10	0	1	42	33	138
Cable/receptacle/ junction box/ terminal	32	6	35	0	2	3	45	5	6	33	0	25	34	0	226
Controller	23	1	5	0	1	0	2	0	0	3	3	2	25	7	72
Comparator (bistable)	30	13	15	7	10	0	37	3	0	10	0	5	47	150	327
Converter/ conditioner	13	0	3	0	1	2	6	0	1	3	0	0	8	61	98
General switch	103	40	98	8	26	23	45	40	57	19	17	125	78	1,325	2,004
Hand switch	5	4	3	3	2	0	2	0	4	3	0	3	6	0	35
Computation module	60	5	9	0	10	0	2	6	0	6	0	2	66	58	224
Indicator/meter/ annunciator	92	5	13	2	18	3	10	7	11	13	5	14	36	74	303
Computer	6	2	1	0	2	0	0	0	0	11	0	2	20	1	45
Limit switch	11	1	1	0	1	19	0	0	14	2	0	7	7	7	70
Monitor	66	54	66	7	19	16	31	108	85	74	22	24	307	100	979
Power supply	75	1	8	2	1	0	8	1	2	22	0	5	96	6	227
Recorder	14	2	4	0	3	0	1	0	11	2	1	11	64	4	117
Relay/solenoid	48	2	7	1	18	16	1	22	22	12	0	34	55	37	275
Sensor	138	9	26	3	6	18	14	18	8	27	8	9	66	74	424
Timer	7	1	0	0	0	0	0	1	2	0	0	7	2	7	27
Transformer	0	0	0	0	0	0	0	0	0	1	0	1	8	1	11
Transmitter	75	12	38	10	47	9	32	59	21	10	77	8	95	351	844
Other/unspecified	98	0	35	12	12	26	16	2	11	10	6	1	28	53	318
Total Faults	930	174	367	55	179	135	261	273	255	271	139	286	1,090	2,349	6,764

Table 6. Summary of I&C faults by component, fault cause, and fault mode

	Fault Cause[a]																													
	Unknown		Personnel Operation		Personnel Maintenance		Personnel Testing		Design Error		Fabrication/ Construction/ Quality Control		Defective Procedures		Extreme Environment		Mechanical Malfunction		Electrical Malfunction		Leaking or Blocked Instrument Sensing Lines		Dirty/ Binding/ Sticking		Piece Part Fault		Drift		Total Faults	
Component	RC	IO	RC	IO	RC	IO	RC	IO	RC	IO	RC	IO	RC	IO	RC	IO	RC	IO	RC	IO	RC	IO	RC	IO	RC	IO	RC	IO	RC	IO
Amplifier/buffer/ isolation amplifier	6	28	8	0	0	0	0	0	0	0	0	0	9	0	0	1	0	0	4	6	0	0	1	0	4	38	31	2	63	75
Cable receptacle/ junction box/ terminal	9	23	5	1	10	25	0	0	0	2	1	2	0	45	2	3	0	6	9	24	0	0	7	18	0	34	0	0	43	183
Controller	7	16	1	0	4	1	0	0	0	1	0	0	1	1	0	0	0	0	1	2	0	3	0	2	2	23	7	0	23	49
Comparator (bistable)	3	27	11	2	11	4	6	1	9	1	0	0	29	8	0	3	0	0	7	3	0	0	1	4	3	44	136	14	216	111
Converter/ conditioner	3	10	0	0	1	2	0	0	0	1	2	0	6	0	0	0	0	1	2	1	0	0	0	0	0	8	60	1	74	24
General switch	35	68	18	22	59	39	0	8	8	18	5	18	41	4	11	29	17	40	2	17	0	17	25	100	4	74	1,308	17	1,533	471
Hand switch	0	5	2	2	0	3	2	1	0	2	0	0	0	2	0	0	0	4	0	3	0	0	0	3	0	6	0	0	4	31
Computation module	8	52	5	0	2	7	0	0	0	10	0	0	2	0	2	4	0	0	1	5	0	0	0	2	4	62	56	2	80	144
Indicator/meter/ annunciator	34	58	3	2	3	10	2	0	5	13	0	3	8	2	5	2	3	8	3	10	1	4	7	7	2	34	68	6	144	159
Computer	0	6	0	2	0	1	0	0	0	2	0	0	0	0	0	0	0	0	3	8	0	0	0	2	0	20	1	0	4	41
Limit switch	0	11	1	0	1	0	0	0	0	1	18	1	0	0	0	0	4	10	1	1	0	0	2	5	0	7	7	0	34	36
Monitor	23	43	20	34	18	48	5	2	1	18	6	10	21	10	17	91	4	81	7	67	1	21	1	23	12	295	90	10	226	753
Power supply	5	70	0	1	1	7	0	2	0	1	0	0	0	8	0	1	0	2	1	21	0	0	1	4	2	94	5	1	15	212
Recorder	4	10	0	2	1	3	0	0	2	1	0	0	1	0	0	0	1	10	0	2	0	1	2	9	6	58	4	0	21	96
Relay/solenoid	3	45	0	2	1	6	0	1	[illegible]	13	1	15	1	0	0	22	7	15	0	12	0	0	5	29	3	52	35	2	61	214
Sensor	56	82	4	5	9	17	0	3	3	3	7	11	7	7	4	14	0	8	10	17	2	6	5	4	6	60	74	0	187	237
Timer	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	7	0	2	7	0	10	17
Transformer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	8	1	0	1	10
Transmitter	18	57	4	8	15	23	8	2	21	26	1	8	26	6	21	38	8	13	3	7	30	47	0	8	6	89	336	15	497	347
Other/unspecified	32	66	2	6	3	32	7	5	1	11	24	2	4	12	1	1	9	2	3	7	3	3	0	1	3	25	48	5	140	178
Total Faults	246	684	85	89	139	228	30	25	55	124	65	70	156	105	63	210	55	200	57	214	37	102	57	229	57	1,033	2,274	75	3,376	3,388

a. Subheadings under the fault causes describe fault modes as follows:
RC—reduced capability
IO—inoperable

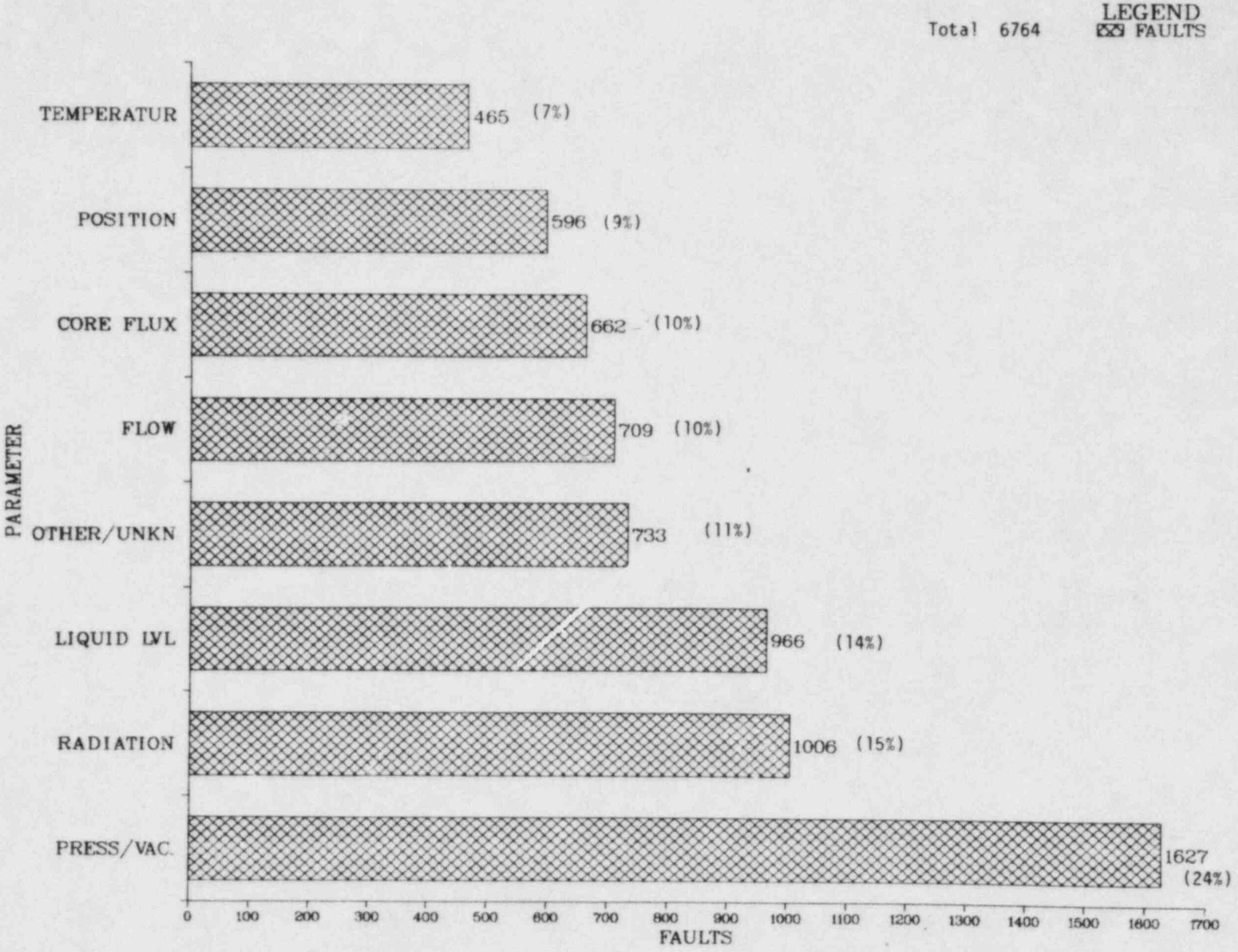

Figure 10. Summary of I&C faults by parameter.

Table 7. Summary of I&C faults by component and parameter

	Parameter								
Component	Liquid Level	Core Flux	Flow	Temperature	Radiation	Pressure/ Vacuum	Position	Other/ Unknown	Total Faults
Amplifier/buffer/ isolation amplifier	6	60	8	20	0	11	27	6	138
Cable/receptacle/ junction box/ terminal	6	111	4	18	1	14	49	23	226
Controller	5	1	28	8	0	9	6	15	72
Comparator (bistable)	56	88	33	20	2	114	0	14	327
Converter/ conditioner	6	2	15	5	0	2	59	9	98
General switch	385	2	179	139	1	1,103	34	161	2,004
Hand switch	0	6	3	4	1	2	1	18	35
Computation module	2	62	53	38	1	15	15	38	224
Indicator/meter/ annunciator	60	22	30	21	2	35	116	17	303
Computer	0	6	3	0	0	0	17	19	45
Limit switch	0	0	0	0	0	3	59	8	70
Monitor	1	2	3	2	967	1	2	1	979
Power supply	13	67	23	13	2	30	35	44	227
Recorder	8	3	9	39	16	12	1	29	117
Relay/solenoid	8	9	18	3	1	13	32	191	275
Sensor	11	151	33	104	6	22	83	14	424
Timer	0	0	0	0	0	3	3	21	27
Transformer	0	0	0	0	1	5	2	3	11
Transmitter	375	0	236	15	0	215	1	2	844
Other/unspecified	24	70	31	16	5	18	54	100	318
Total Faults	966	662	709	465	1,006	1,627	596	733	6,764

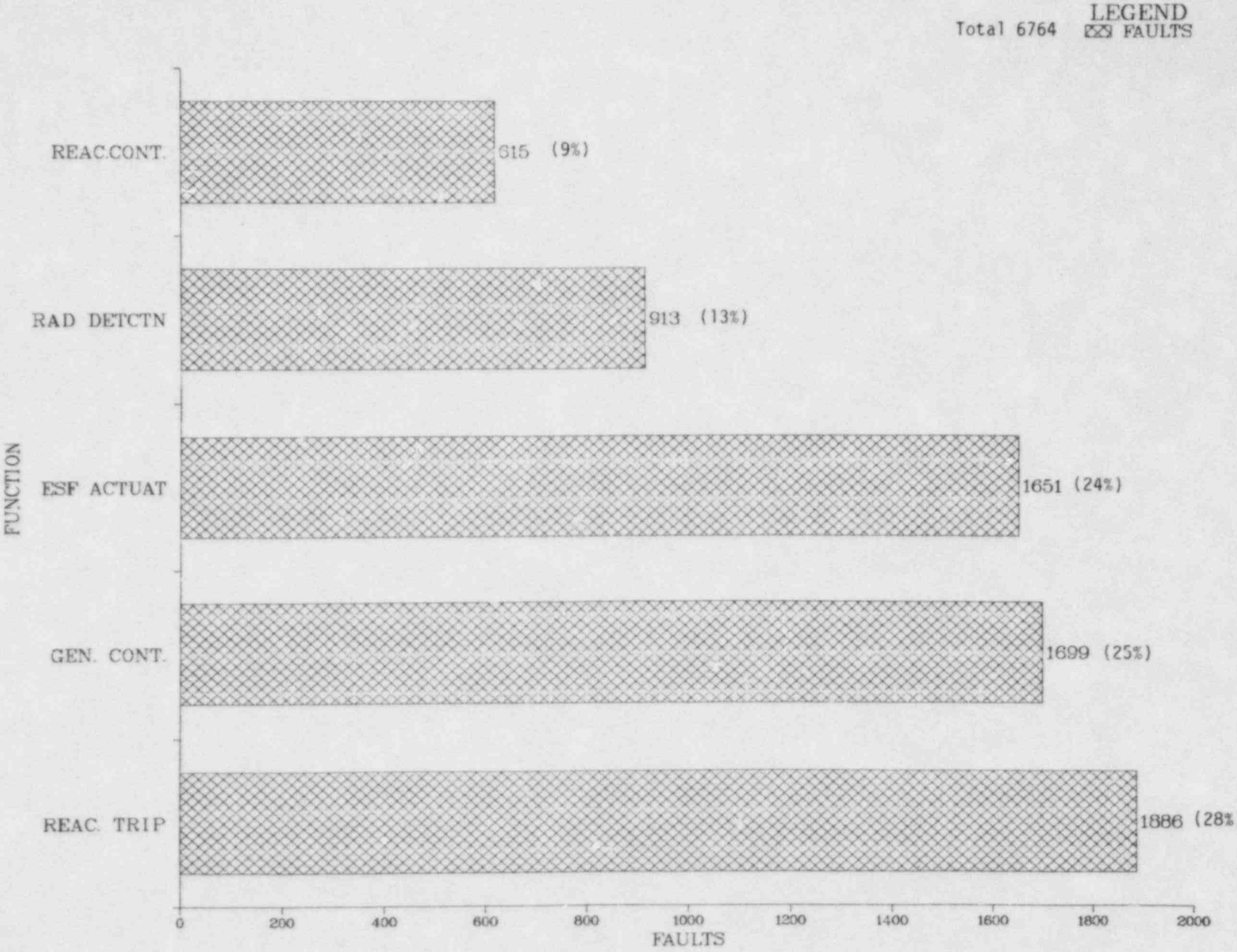

Figure 11. Summary of I&C faults by function.

Table 8. Summary of I&C faults by component and function

	Function					
Component	Reactor Trip	ESF Actuation	Reactor Control	General Control	Radiation Detection	Total Faults
Amplifier/buffer/isolation amplifier[a]	94	4	16	24	0	138
Cable/receptacle/junction box/terminal[a]	121	21	41	43	0	226
Controller	1	7	1	63	0	72
Comparator (bistable)[a]	191	96	6	32	2	327
Converter/conditioner[a]	17	8	45	28	0	98
General switch[a]	337	957	319	390	1	2,004
Hand switch	11	4	4	15	1	35
Computation module[a]	140	40	16	27	1	224
Indicator/meter/annunciator	8	6	31	258	0	303
Computer	0	0	3	42	0	45
Limit switch	39	2	1	28	0	70
Monitor[a]	71	2	1	12	893	979
Power supply[a]	96	55	29	45	2	227
Recorder	0	0	1	106	10	117
Relay/solenoid[a]	95	101	17	61	1	275
Sensor[a]	173	81	41	123	6	424
Timer	0	4	5	18	0	27
Transformer[a]	1	4	2	3	1	11
Transmitter[a]	371	250	1	222	0	844
Other/unspecified[a]	129	16	35	133	5	318
Total Faults	1,895	1,658	615	1,673	923	6,764

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a. This component was analyzed for the LER rates.

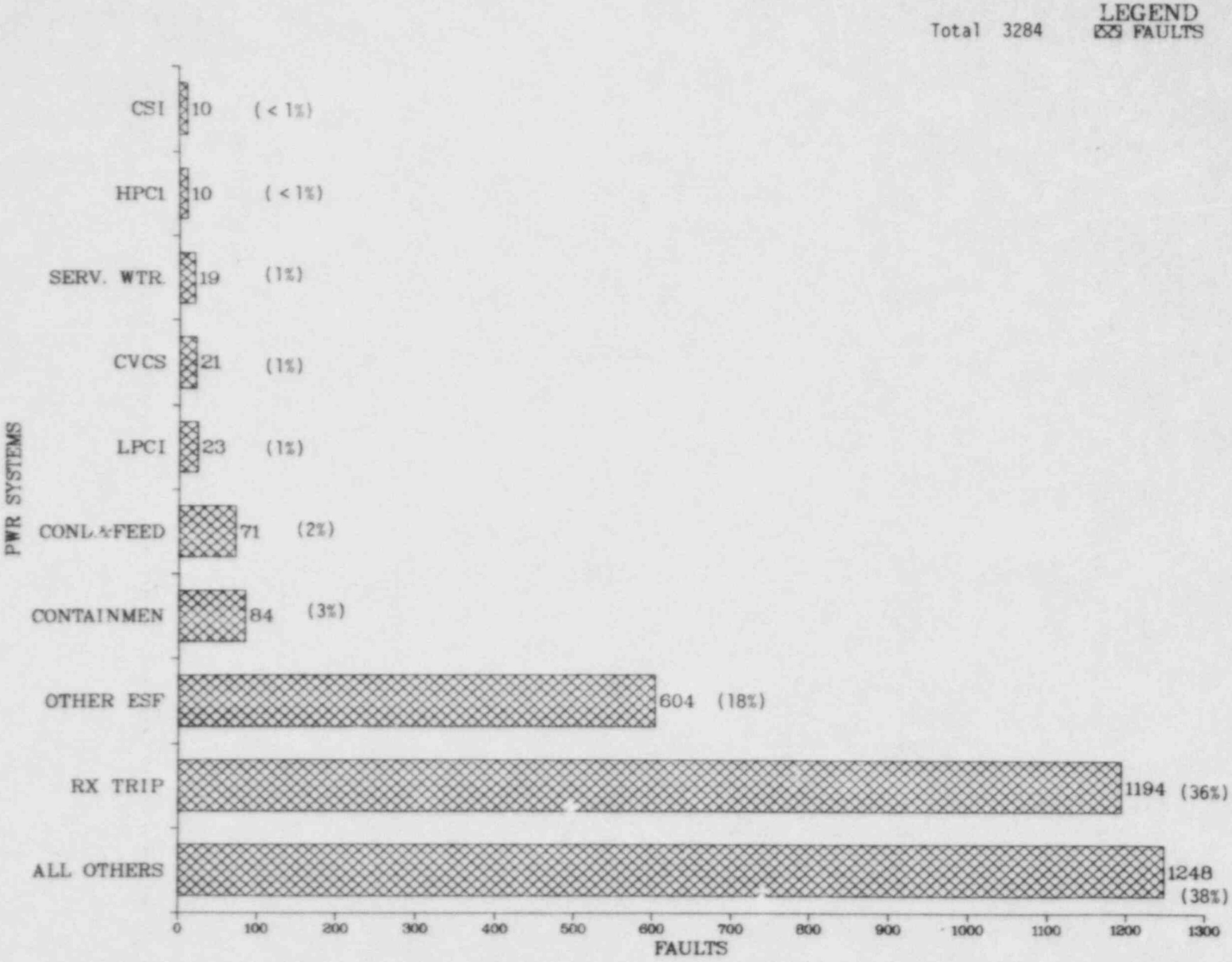

Figure 12. Summary of I&C faults by PWR systems.

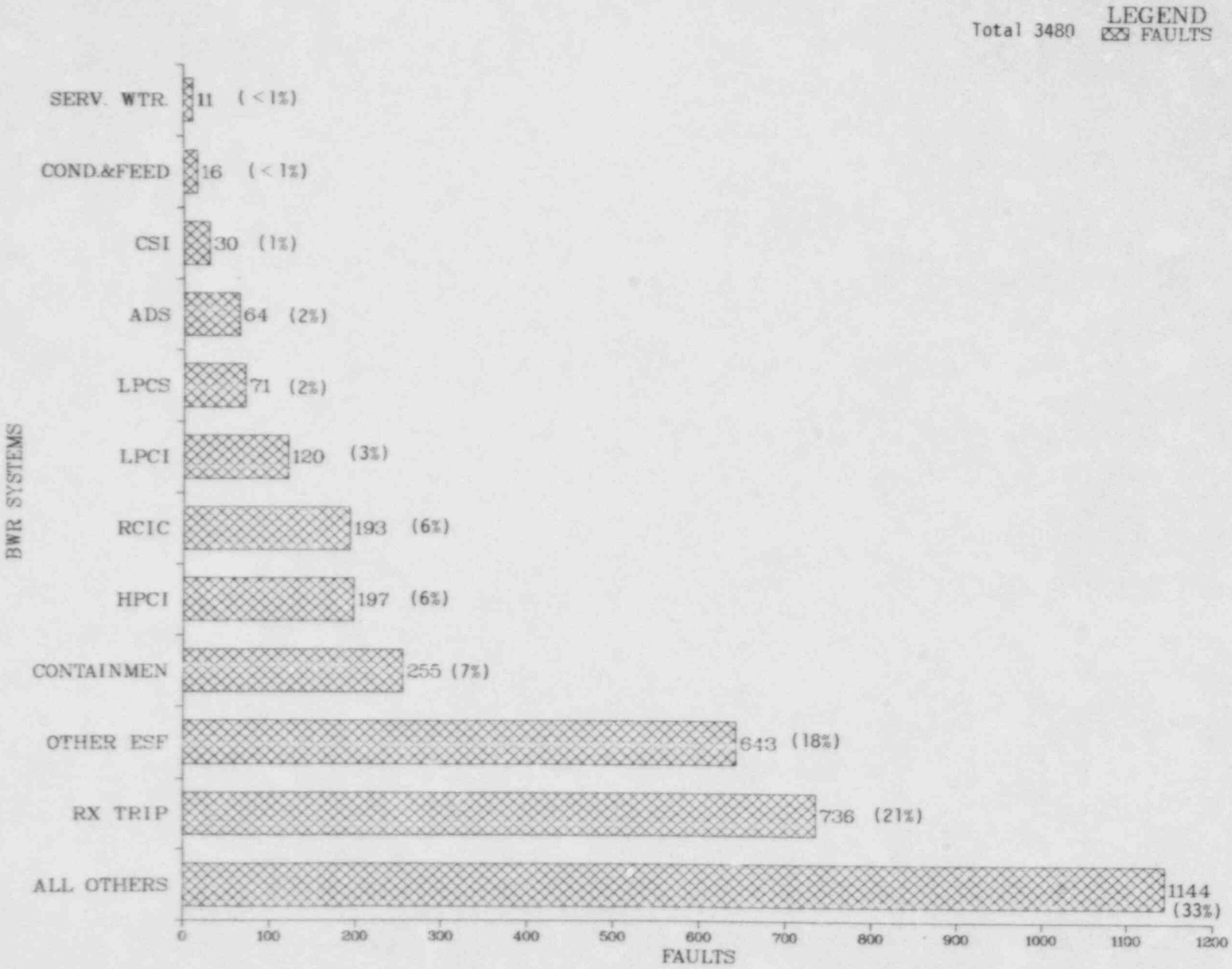

Figure 13. Summary of I&C faults by BWR systems.

Table 9. Summary of I&C faults by component and system

Component	System													
	ADS[a]	Condensate and Feed	Containment	CSI	CVCS[b]	HPCI	LPCI	LPCS[a]	RCIC[a]	Reactor Trip	Service Water	Other ESF	All Others	Total Faults
Amplifier/buffer/ isolation amplifier	0	1	2	0	0	1	0	0	0	94	0	8	32	138
Cable/receptacle/ junction box/ terminal	0	5	1	0	0	1	9	0	4	122	2	12	70	226
Controller	0	2	1	1	0	8	3	0	11	1	1	19	25	72
Comparator (bistable)	1	2	11	4	0	8	0	0	3	194	0	97	7	327
Converter/ conditioner	0	0	2	0	0	1	0	0	1	17	0	8	69	98
General switch	20	24	135	23	1	158	92	67	142	337	11	501	493	2,004
Hand switch	0	1	4	0	0	0	0	0	3	12	0	9	6	35
Computation module	0	0	2	0	0	2	1	1	1	142	0	40	35	224
Indicator/meter/ annunciator	2	11	23	3	1	2	10	0	3	37	2	37	172	303
Computer	0	0	0	0	0	0	0	0	0	0	0	0	45	45
Limit switch	0	0	16	0	0	0	1	0	1	39	1	1	11	70
Monitor	0	0	21	0	0	0	0	0	4	71	0	57	826	979
Power supply	3	8	8	3	0	7	2	2	5	96	0	34	59	227
Recorder	0	0	20	1	5	0	2	0	0	0	0	7	82	117
Relay/solenoid	17	6	13	1	0	7	7	1	4	94	0	68	57	275

Table 9. (continued)

Component							System							
	ADS[a]	Condensate and Feed	Containment	CSI	CVCS[b]	HPCI	LPCI	LPCS[a]	RCIC[a]	Reactor Trip	Service Water	Other ESF	All Others	Total Faults
Sensor	1	5	12	0	5	4	3	0	4	173	0	68	149	424
Timer	3	1	0	0	0	0	0	0	0	0	1	8	14	27
Transformer	0	0	0	0	0	0	0	0	0	1	0	5	5	11
Transmitter	15	15	62	3	8	5	11	0	3	370	12	196	144	844
Other/unspecified	2	6	6	1	1	3	2	0	4	130	0	72	91	318
Total Faults	64	87	339	40	21	207	143	71	193	1,930	30	1,247	2,392	6,764

a. System applicable only to BWR plants.

b. System applicable only to PWR plants.

system comprises the majority (29%) of the faults, with transmitter and general switch faults making up 19% and 17% of this system, respectively.

Appendix F presents the one-line data descriptions by system and reactor type.

Event Classification. Table 10 presents the number of faults for each component by event classification. Frequency implies demand-related faults while age implies time-related faults. Frequency accounts for 24% of the total number of faults, while age accounts for 52%. General switch and monitor faults each account for 19% of demand-related faults, while the general switch accounts for 42% of time-related faults.

Type of Event. The number of faults for each type of event are presented in Figure 14. Recurring faults (the sum of recurring command faults, recurring common cause command faults, recurring common cause failures, and recurring failures) account for 3,065 (45%) of the total faults. Recurring failures comprise 84% of recurring faults. This is primarily because drift affects nearly all instrumentation on a repeated basis.

Table 11 summarizes the faults by component and type of event. The general switch accounts for 40% and 25% of the recurring and random failures, respectively.

Appendix G presents the one-line descriptions of all types of events. Using the information in this appendix, the analyst can identify the specific kinds of problems that are occurring and also which plants are experiencing these problems.

For the rest of the text, the term recurring will only refer to the recurring failures category, unless otherwise stated.

Overview with Focus on Type of Event. Because the type of event classification provides insight for both the causes of faults and how faults relate to each other, breakdowns of the number of faults according to the main coding fields (fault mode and cause, parameter, function, system, and event classification) and according to the type of event within these fields are presented.

Fault Mode. Table 12 summarizes faults by type of event and fault mode. For both recurring and random failures, 52% are reduced capability. Reduced capability contains 43% random failures and 40% recurring failures. Of events in the inoperable fault mode category, 40% are random failures and 37% are recurring failures.

Fault Cause. Table 13 summarizes faults by fault cause and type of event. Drift failures involved 45% of the recurring and 41% of the random failures. Piece part failures occurred in 22% and 15% of recurring and random events, respectively.

Parameter. Table 14 summarizes faults by type of event and parameter. Recurring failures involved 52% of the radiation faults, while 50% of the temperature faults involved random failures. Random and recurring failures made up 59% and 23% of the other/known parameter.

Function. Table 15 summarizes faults by type of event and function. Recurring failures involved 53% of the radiation detection faults. 47% of the general control and 46% of the reactor trip faults involved random failures.

System. Table 16 summarizes faults by type of event and system. 63% of the condensate and feed system failures were random, while 56% of the low pressure core spray (LPCS) system failures were recurring.

Event Classification. Table 17 summarizes faults by type of event and event classification. Common cause failures comprise 23% of the failures in the frequency event classification; 51% of the age related faults were recurring failures; and random failures occurred in 58% of the unknown event classification faults.

LER Rates

Appendixes H and I contain the LER rate estimates. These appendixes provide operating[a] LER rate estimates for selected components and instrument channels, respectively, which provide a direct reactor trip. Each appendix contains:

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[a] It should be noted that the term *operating* is used frequently with the status of a reactor plant (operating or shutdown). The use of the word operating in the context of *operating fault rate* merely implies that the component the fault rate applies to is assumed to be operational or in an energized state (i.e., versus being in a standby state). I&C components are assumed to be operating at all times, even when the reactor is shutdown.

Table 10. Summary of I&C faults by component and event classification

	Event Classification			
Component	Frequency	Age	Unknown	Total Faults
Amplifier/buffer/isolation amplifier	22	67	49	138
Cable/receptacle/junction box/terminal	115	47	64	226
Controller	13	15	44	72
Comparator (bistable)	83	189	55	327
Converter/conditioner	18	63	17	98
General switch	312	1,495	197	2,004
Hand switch	18	8	9	35
Computation module	28	106	90	224
Indicator/meter/annunciator	71	122	110	303
Computer	16	14	15	45
Limit switch	27	26	17	70
Monitor	314	418	247	979
Power supply	42	67	118	227
Recorder	18	62	37	117
Relay/solenoid	97	101	77	275
Sensor	110	171	143	424
Timer	7	11	9	27
Transformer	2	9	0	11
Transmitter	207	470	167	844
Other/unspecified	131	65	122	318
Total Faults	1,651	3,526	1,587	6,764

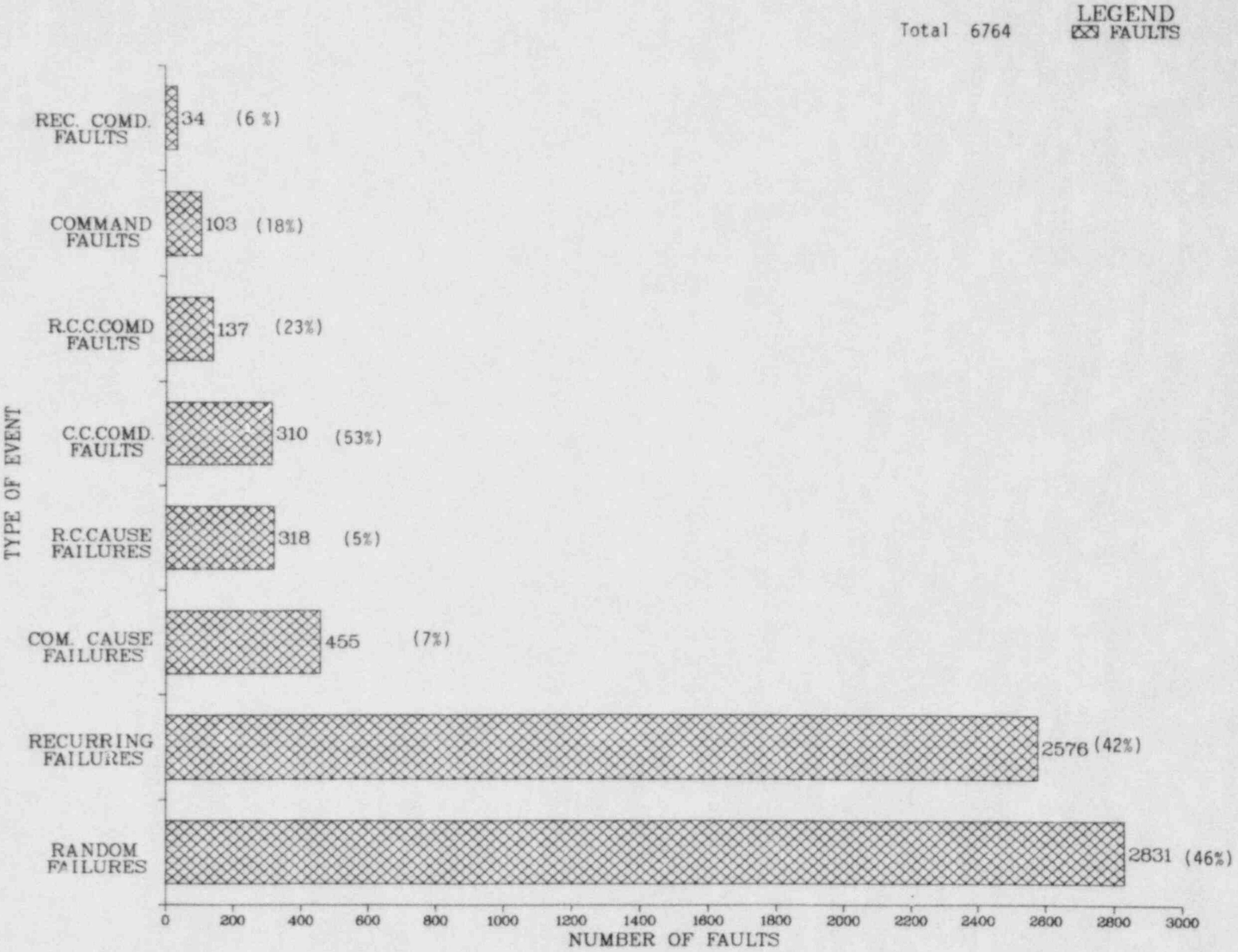

Figure 14. Summary of I&C faults by type of event.

Table 11. Summary of I&C faults by component and type of event

	Type of Event								
Component	Random Failure	Recurring Failure	Common Cause Failure	Recurring Common Cause Failure	Command Fault	Recurring Command Fault	Common Cause Command Fault	Recurring Common Cause Command Fault	Total Faults
Amplifier/buffer/ isolation amplifier	76	41	3	18	0	0	0	0	138
Cable/receptacle/ junction box/ terminal	91	26	65	37	2	0	5	0	226
Controller	50	15	2	0	0	0	5	0	72
Comparator (bistable)	169	67	30	27	8	1	17	8	327
Converter/ conditioner	34	48	2	12	0	0	2	0	98
General switch	711	1,040	73	52	21	10	76	21	2,004
Hand switch	21	5	0	0	2	0	7	0	35
Computation module	128	77	8	4	1	1	3	2	224
Indicator/meter/ annunciator	158	81	23	8	4	1	16	12	303
Computer	16	24	0	0	3	0	2	0	45

Table 11. (continued)

	Type of Event								
Component	Random Failure	Recurring Failure	Common Cause Failure	Recurring Common Cause Failure	Command Fault	Recurring Command Fault	Common Cause Command Fault	Recurring Common Cause Command Fault	Total Faults
Limit switch	32	14	14	7	0	0	3	0	70
Monitor	240	508	56	57	18	7	33	60	979
Power supply	123	73	5	0	3	1	22	0	227
Recorder	44	65	2	0	2	0	3	1	117
Relay/solenoid	119	99	14	23	2	0	18	0	275
Sensor	244	90	23	9	10	4	41	3	424
Timer	8	17	0	0	1	0	1	0	27
Transformer	5	5	0	0	0	0	0	1	11
Transmitter	416	237	51	62	23	3	25	27	844
Other/unspecified	146	44	84	2	3	6	31	2	318
Total Faults	2,831	2,576	455	318	103	34	310	137	6,764

Table 12. Summary of I&C faults by type of event and fault mode

Type of Event	Fault Mode Reduced Capability	Fault Mode Inoperable	Total Faults
Random Failure	1,464	1,367	2,831
Recurring Failure	1,336	1,240	2,576
Common Cause Failure	189	266	455
Recurring Common Cause Failure	149	169	318
Command Fault	31	72	103
Recurring Command Fault	18	16	34
Common Cause Command Fault	131	179	310
Recurring Common Cause Command Fault	58	79	137
Total Faults	3,376	3,388	6,764

1. Individual plant data that were used to determine the LER rate estimates (populations, faults, and operating hours) and individual plant LER rate estimates
2. A Final Statistics section that provides a LER rate estimate for each NSSS vendor, an average estimate for PWRs, and an overall average estimate for PWRs and BWRs combined.

For each component type or channel, these two items are provided for both of the fault modes, reduced capability and inoperable, both with and without command faults.

Along with the LER rates, the Final Statistics sections give the upper 95% confidence limit and lower 5% confidence limit expressed as factors of the LER rate point estimate. To obtain the upper 95% confidence limit, multiply the given LER rate point estimate by the upper multiple associated with this estimate. To obtain the corresponding lower 5% confidence limit, divide the LER rate estimate by the lower divisor associated with this point estimate. In other words:

multiply X.X times Y.YE-YY to obtain upper 95% confidence limit

and

divide Z.Z into Y.YE-YY for lower 5% confidence limit

where

X.X = upper 95% confidence multiplier

Y.YE-YY = LER rate point estimate and

Z.Z = lower 5% confidence divisor.

Tables 18 and 19 provide a summary of I&C LER rate estimates (Appendixes H and I) obtained in this report, for selected components and instrument channels, respectively. The upper and lower bounds were determined as indicated above and are provided in these tables; Appendixes H and I, however, contain the multipliers. LER rate estimates without command faults are shown in parentheses. This summary indicates that the small number of command faults had little or no effect on the LER rate

Table 13. Summary of I&C faults by fault cause and type of event

	Type of Event								
Fault Cause	Random Failure	Recurring Failure	Common Cause Failure	Recurring Common Cause Failure	Command Fault	Recurring Command Fault	Common Cause Command Fault	Recurring Common Cause Command Fault	Total Faults
Unknown	694	188	11	0	14	9	13	1	930
Personnel operation	15	1	19	16	11	5	53	54	174
Personnel maintenance	43	18	111	38	18	5	107	27	367
Personnel testing	0	2	9	3	10	0	20	11	55
Design error	26	20	41	47	5	0	23	17	179
Fabrication/ construction/ quality control	21	4	53	24	4	0	22	7	135
Defective procedures	27	2	122	56	6	1	39	8	261
Extreme environment	43	133	20	54	9	4	8	2	273
Mechanical malfunction	101	135	9	2	8	0	0	0	255
Electrical malfunction	136	108	8	5	4	0	9	1	271
Leaking or blocked instrument sensing lines	48	67	13	5	3	0	3	0	139
Dirty, binding, or sticking	99	175	0	0	3	4	5	0	286
Piece part fault	427	571	27	40	7	5	4	9	1,090
Drift	1,151	1,152	12	28	1	1	4	0	2,349
Total Faults	2,831	2,576	455	318	103	34	310	137	6,764

Table 14. Summary of I&C faults by type of event and parameter

Type of Event	Parameter								
	Liquid Level	Core Flux	Flow	Temperature	Radiation	Pressure/ Vacuum	Position	Other/ Unknown	Total Faults
Random Failure	424	294	333	231	255	607	255	432	2,831
Recurring Failure	345	132	236	166	520	778	232	167	2,576
Common Cause Failure	41	107	49	21	57	78	31	71	455
Recurring Common Cause Failure	62	56	29	4	57	49	57	4	318
Command Fault	16	10	23	9	18	18	4	5	103
Recurring Command Fault	8	6	1	0	6	5	2	6	34
Common Cause Command Fault	47	46	24	29	32	73	15	44	310
Recurring Common Cause Command Fault	23	11	14	5	61	19	0	4	137
Total Faults	966	662	709	465	1,006	1,627	596	733	6,764

Table 15. Summary of I&C faults by type of event and function

	Function					
Type of Event	Reactor Trip	ESF Actuation	Reactor Control	General Control	Radiation Detection	Total Faults
Random Failure	875	666	271	794	225	2,831
Recurring Failure	569	694	285	541	487	2,576
Common Cause Failure	219	85	16	91	44	455
Recurring Common Cause Failure	89	86	28	60	55	318
Command Fault	18	23	4	40	18	103
Recurring Command Fault	4	12	0	13	5	34
Common Cause Command Fault	97	76	7	99	31	310
Recurring Common Cause Command Fault	24	16	4	35	58	137
Total Faults	1,895	1,658	615	1,673	923	6,764

Table 16. Summary of I&C faults by type of event and system

Type of Event	System													Total Faults
	ADS[a]	Condensate and Feed	Containment	CSI	CVCS[b]	HPCI	LPCI	LPCS[a]	RCIC[a]	Reactor Trip	Service Water	Other ESF	All Others	
Random Failure	24	55	138	16	13	69	58	20	65	893	12	549	919	2,831
Recurring Failure	32	11	127	22	4	93	70	40	102	579	15	445	1,036	2,576
Common Cause Failure	1	8	16	2	1	15	6	2	7	223	2	94	78	455
Recurring Common Cause Failure	0	0	15	0	2	7	1	4	11	91	0	66	121	318
Command Fault	2	4	4	0	0	1	2	2	0	19	1	24	44	103
Recurring Command Fault	0	0	4	0	0	1	0	0	0	4	0	9	16	34
Common Cause Command Fault	4	6	24	0	1	20	6	2	8	97	0	52	90	310
Recurring Common Cause Command Fault	1	3	11	0	0	1	0	1	0	24	0	8	88	137
Total Faults	64	87	339	40	21	207	143	71	193	1,930	30	1,247	2,392	6,764

a. System applicable only to BWR plants.

b. System applicable only to PWR plants.

Table 17. Summary of I&C faults by type of event and event classification

Type of Event	Event Classification Frequency	Age	Unknown	Total Faults
Random Failure	282	1,622	927	2,831
Recurring Failure	273	1,786	517	2,576
Common Cause Failure	378	26	51	455
Recurring Common Cause Failure	226	53	39	318
Command Fault	66	15	22	103
Recurring Command Fault	13	12	9	34
Common Cause Command Fault	288	9	13	310
Recurring Common Cause Command Fault	125	3	9	137
Total Faults	1,651	3,526	1,587	6,764

estimates. WASH-1400[15] failure rates for "Instrumentation—General," which are comparable to the instrument channel LER rates in this report, are provided (see note on Table 19). The plant-specific data used for the LER rate estimates are provided in Tables 20 and 21.[2] These tables allow the reader to modify the data and corresponding fault rates if known differences exist.

Scatter plots of plant LER rates by vendor and plant are provided in Figures 15a through 28d. These scatter plots present the LER rates for selected components and instrument channels that failed or experienced command faults making the channel inoperable.

These plots illustrate plant-to-plant variability in LER rate estimates within a vendor. An arrow for a lower confidence bound and the comment *lower bound = 0* indicate that the associated point estimate has no recorded faults and has been obtained from Equations C-6 through C-8. The arrows are employed to indicate a zero lower bound since it is impossible to actually show zero on the logarithmic scales used in the following figures. The LER rate plotted for a plant that reported no faults is the 50% point estimate for that plant (see Appendix C for calculation methodology).

The primary purpose for plotting the bounds is for comparisons. In examining these scatter plots, note that the point estimate of the operating fault rate increases with an increasing number of faults, and the width of the confidence interval decreases. Conversely, a small number of faults will lead to a smaller point estimate with a larger confidence interval (assuming the time is constant). This is because the width of the confidence bounds on a logarithmic scale is sensitive to changes in the number of faults.

The fault data are plotted by increasing fault rates. Scales vary between plots because the scale is automatically adjusted by the fault values associated with the plant having the highest fault rate. Outliers are not necessarily indicators of exceptionally good or bad performers. That is, the plots should not be interpreted at face value without considering some of the underlying causes for LER variations (see Appendix A).

Table 18. Summary of I&C LER rate estimations for components that provide a direct reactor trip

	Babcock & Wilcox			Combustion Engineering			Westinghouse			PWRs			General Electric (BWRs)			Overall		
	UB	Estimate	LB	UB	Estimate	LB	UB	Estimate	LB	UB	Estimate	LB	UB	Estimate	LB	UB	Estimate	LB
Core Flux Sensors																		
Reduced Capability	1.6E-06 [a](9.8E-07	3.1E-07 7.4E-08[b]	1.7E-08 c)	1.4E-06 (1.4E-06	5.9E-07 5.9E-07	2.0E-07 2.0E-07)	1.1E-06 (8.7E-07	6.6E-07 4.6E-07	3.7E-07 2.2E-07)	9.0E-07 (7.5E-07	6.0E-07 4.4E-07	3.8E-07 2.4E-07)	1.5E-07 (1.5E-07	9.9E-08 9.9E-08	6.2E-08 6.2E-08)	2.1E-07 (2.0E-07	1.6E-07 1.4E-07	1.1E-07 1.0E-07)
Inoperable	1.6E-06 (1.6E-06	3.3E-07 3.3E-07	1.7E-08 1.7E-08)	9.3E-07 (9.3E-07	3.0E-07 3.0E-07	5.4E-08 5.4E-08)	2.6E-06 (2.2E-06	2.0E-06 1.6E-06	1.4E-06 1.1E-06)	1.8E-06 (1.5E-06	1.4E-06 1.1E-06	1.0E-06 7.9E-07)	1.8E-07 (1.7E-07	1.3E-07 1.2E-07	8.7E-08 8.0E-08)	3.5E-07 (3.3E-07	2.9E-07 2.5E-07	2.2E-07 1.9E-07)
Temperature Sensors																		
Reduced Capability	3.1E-06 (3.1E-06	6.5E-07 6.5E-07	3.3E-08 3.3E-08)	2.7E-06 (2.7E-06	1.6E-06 1.6E-06	8.4E-07 8.4E-07)	6.8E-07 (6.8E-07	2.2E-07 2.2E-07	3.9E-08 3.9E-08)	1.2E-06 (1.2E-06	7.4E-07 7.4E-07	4.4E-07 4.4E-07)		d		1.2E-06 (1.2E-06	7.4E-07 7.4E-07	4.4E-07 4.4E-07)
Inoperable	4.0E-06 (4.0E-06	1.3E-06 1.3E-06	2.3E-07 2.3E-07)	4.2E-06 (4.2E-06	2.8E-06 2.8E-06	1.8E-06 1.8E-06)	1.9E-06 (1.9E-06	1.1E-06 1.1E-06	6.1E-07 6.1E-07)	2.4E-06 (2.4E-06	1.7E-06 1.7E-06	1.2E-06 1.2E-06)		d		2.4E-06 (2.4E-06	1.7E-06 1.7E-06	1.2E-06 1.2E-06)
Transmitters		F,P			F,L,P			F,L,P			F,L,P			F			F,L,P	
Reduced Capability	7.3E-06 (7.3E-06	5.2E-06 5.2E-06	3.5E-06 3.5E-06)	2.6E-06 (2.1E-06	1.7E-06 1.4E-06	1.1E-06 9.3E-07)	4.3E-06 (4.2E-06	3.9E-06 3.8E-06	3.5E-06 3.5E-06)	3.9E-06 (3.7E-06	3.5E-06 3.4E-06	3.2E-06 3.1E-06)	7.4E-07 (7.4E-07	5.6E-08[b] 5.6E-08[b]	c c)	3.6E-06 (3.5E-06	3.3E-06 3.2E-06	3.0E-06 2.9E-06)
Inoperable	3.4E-06 (3.1E-06	2.0E-06 1.7E-06	1.1E-06 8.5E-07)	1.8E-06 (1.8E-06	1.1E-06 1.1E-06	6.5E-07 6.5E-07)	2.8E-06 (2.4E-06	2.3E-06 2.0E-06	1.9E-06 1.7E-06)	2.4E-06 (2.2E-06	2.0E-06 1.8E-06	1.7E-06 1.5E-06)	7.4E-07 (7.4E-07	5.6E-08[b] 5.6E-08[b]	c c)	2.3E-06 (2.0E-06	1.9E-06 1.7E-06	1.6E-06 1.4E-06)
Conditioning Systems		CF,F,P,T			CF,F,L,P,T			CF,F,L,P,T			CF,F,L,P,T			CF,F			CF,F,L,P,T	
Reduced Capability	5.5E-06 (4.6E-06	3.9E-06 3.7E-06	2.8E-06 2.4E-06)	3.1E-06 (3.1E-06	2.2E-06 2.2E-06	1.6E-06 1.6E-06)	1.1E-06 (1.1E-06	9.3E-07 8.8E-07	7.2E-07 6.8E-07)	1.7E-06 (1.6E-06	1.4E-06 1.3E-06	1.2E-06 1.1E-06)	3.6E-06 (3.6E-06	3.0E-06 3.0E-06	2.5E-06 2.5E-06)	2.0E-06 (1.9E-06	1.8E-06 1.7E-06	1.6E-06 1.5E-06)
Inoperable	1.7E-06 (1.7E-06	9.2E-07 9.2E-07	4.4E-07 4.4E-07)	8.8E-06 (8.6E-06	7.3E-06 7.2E-06	6.1E-06 6.0E-06)	2.6E-06 (2.5E-06	2.2E-06 2.1E-06	1.8E-06 1.8E-06)	3.2E-06 (3.0E-06	2.9E-06 2.7E-06	2.6E-06 2.5E-06)	6.1E-06 (5.9E-06	5.1E-06 4.9E-06	4.3E-06 4.1E-06)	3.7E-06 (3.5E-06	3.4E-06 3.2E-06	3.1E-06 2.9E-06)
Bistables		CF,F,P,T			CF,F,L,P,T			CF,F,L,P,T			CF,F,L,P,T			CF,F			CF,F,L,P,T	
Reduced Capability	2.2E-06 (6.1E-07	1.3E-06 1.3E-07	7.2E-07 6.7E-09)	2.5E-06 (2.7E-06	1.8E-06 1.9E-06	1.3E-06 1.3E-06)	9.4E-07 (8.6E-07	7.2E-07 6.6E-07	5.5E-07 5.1E-07)	1.2E-06 (9.5E-07	9.8E-07 7.9E-07	8.2E-07 6.6E-07)	2.7E-06 (2.7E-06	2.1E-06 2.1E-06	1.6E-06 1.6E-06)	1.4E-06 (1.3E-06	1.2E-06 1.1E-06	1.0E-06 9.2E-07)
Inoperable	1.0E-06 (1.0E-06	3.9E-07 3.9E-07	1.1E-07 1.1E-07)	1.5E-06 (1.5E-06	8.9E-07 8.9E-07	4.9E-07 4.9E-07)	7.5E-07 (6.0E-07	5.8E-07 4.3E-07	4.5E-07 3.1E-07)	7.9E-07 (6.5E-07	6.1E-07 5.0E-07	4.7E-07 3.8E-07)	3.9E-07 (3.9E-07	1.5E-07 1.5E-07	4.1E-08 4.1E-08)	6.8E-07 (5.6E-07	5.2E-07 4.3E-07	4.0E-07 3.3E-07)
Switches		P						P			P			L,P/V			L,P,P/V	
Reduced Capability	7.8E-06 (7.8E-06	3.9E-06 3.9E-06	1.7E-06 1.7E-06)		d d		1.6E-06 (1.6E-06	5.2E-07 5.2E-07	9.3E-08 9.3E-08)	2.7E-06 (2.7E-06	1.5E-06 1.5E-06	7.5E-07 7.5E-07)	9.5E-06 (8.8E-06	8.6E-06 8.0E-06	7.8E-06 7.3E-06)	8.3E-06 (7.8E-06	7.5E-06 7.1E-06	6.8E-06 6.5E-06)
Inoperable	3.1E-06 (3.1E-06	6.5E-07 6.5E-07	3.3E-08 3.3E-08)		d d		7.8E-07 (7.8E-07	5.9E-08[b] 5.9E-08[b]	c c)	8.9E-07 (8.9E-07	1.9E-07 1.9E-07	9.7E-09 9.7E-09)	1.4E-06 (1.3E-06	1.1E-06 1.0E-06	7.9E-07 7.1E-07)	1.3E-06 (1.2E-06	1.0E-06 8.9E-07	7.7E-07 6.4E-07)
Radiation Monitors																		
Reduced Capability		d d			d d			d d			d d		1.2E-05 (1.2E-05	9.6E-06 9.1E-06	7.4E-06 7.0E-06)	1.2E-05 (1.2E-05	9.6E-06 9.1E-06	7.4E-06 7.0E-06)
Inoperable		d d			d d			d d			d d		8.4E-06 (7.8E-06	6.0E-06 5.6E-06	4.3E-06 4.0E-06)	8.4E-06 (7.8E-06	6.0E-06 5.6E-06	4.3E-06 4.0E-06)

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a. Numbers in parentheses are LER rates without command faults.

b. Denotes 50% point estimate when no faults are recorded.

c. Denotes no lower bound.

d. Not applicable—no populations or faults.

CF = Core Flux, F = Flow, L = Level, LB = Lower Bound, P = Pressure, P/V = Pressure/Vacuum, T = Temperature, UB = Upper Bound

Table 19. Summary of I&C LER rate estimations for instrument channels that provide a direct reactor trip

	Babcock & Wilcox			Combustion Engineering			Westinghouse			PWRs			General Electric (BWRs)			Overall		
	UB	Estimate	LB	UB	Estimate	LB	UB	Estimate	LB	UB	Estimate	LB	UB	Estimate	LB	UB	Estimate	LB
Analog Channels																		
Core Flux																		
Reduced Capability	2.6E-05 (2.0E-05	2.0E-05 1.3E-05	1.4E-05 8.7E-06)[a]	8.4E-06 (7.8E-06	5.6E-06 5.2E-06	3.5E-06 3.3E-06)	4.6E-06 (4.2E-06	3.5E-06 3.0E-06	2.5E-06 2.1E-06)	6.8E-06 (5.4E-06	5.7E-06 4.5E-06	4.8E-06 3.8E-06)	7.1E-06 (7.1E-06	5.9E-06 5.9E-06	4.9E-06 4.9E-06)	6.4E-06 (5.8E-06	5.8E-06 5.3E-06	5.3E-06 4.8E-06)
Inoperable	5.2E-06 (5.2E-06	2.0E-06 2.0E-06	5.4E-07 5.4E-07)	2.5E-05 (2.3E-05	1.9E-05 1.8E-05	1.5E-05 1.4E-05)	1.1E-05 (8.9E-06	9.1E-06 7.4E-06	7.6E-06 6.2E-06)	1.1E-05 (1.1E-05	1.0E-05 8.9E-06	8.3E-06 7.4E-06)	8.2E-06 (7.8E-06	6.8E-06 6.5E-06	5.7E-06 5.4E-06)	9.0E-06 (8.3E-06	8.2E-06 7.5E-06	7.5E-06 6.8E-06)
Temperature																		
Reduced Capability	3.1E-06 (3.1E-06	6.5E-07 6.5E-07	3.3E-08 3.3E-08)	2.0E-05 (2.0E-05	1.3E-05 1.3E-05	8.7E-06 8.7E-06)	8.8E-06 (9.2E-06	6.8E-06 6.6E-06	4.9E-06 4.7E-06)	8.8E-06 (8.7E-06	6.8E-06 6.7E-06	5.2E-06 5.2E-06)		b		8.8E-06 (8.7E-06	6.8E-06 6.7E-06	5.2E-06 5.2E-06)
Inoperable	7.8E-06 (7.8E-06	3.9E-06 3.9E-06	1.7E-06 1.7E-06)	3.6E-05 (3.6E-05	2.8E-05 2.8E-05	2.2E-05 2.2E-05)	1.6E-05 (1.4E-05	1.2E-05 1.1E-05	9.2E-06 8.5E-06)	1.7E-05 (1.6E-05	1.4E-05 1.3E-05	1.2E-05 1.1E-05)		b		1.7E-05 (1.6E-05	1.4E-05 1.3E-05	1.2E-05 1.1E-05)
Flow																		
Reduced Capability	1.5E-05 (1.3E-05	1.0E-05 7.9E-06	6.3E-06 4.6E-06)	1.7E-05 (1.7E-05	1.1E-05 1.1E-05	6.9E-06 6.9E-06)	5.3E-06 (5.2E-06	4.4E-06 4.3E-06	3.7E-06 3.6E-06)	6.4E-06 (6.0E-06	5.3E-06 5.0E-06	4.4E-06 4.2E-06)	6.8E-06 (6.8E-06	4.0E-06 4.0E-06	2.1E-06 2.1E-06)	6.2E-06 (5.9E-06	5.2E-06 4.9E-06	4.3E-06 4.1E-06)
Inoperable	9.4E-06 (9.4E-06	5.2E-06 5.2E-06	2.6E-06 2.6E-06)	1.3E-05 (1.3E-05	7.7E-06 7.7E-06	4.3E-06 4.3E-06)	5.4E-06 (5.0E-06	4.5E-06 4.2E-06	3.8E-06 3.5E-06)	5.8E-06 (5.4E-06	4.8E-06 4.5E-06	4.0E-06 3.8E-06)	3.4E-06 (3.4E-06	1.3E-06 1.3E-06	3.5E-07 3.5E-07)	5.4E-06 (5.0E-06	4.5E-06 4.2E-06	3.8E-06 3.5E-06)
Level																		
Reduced Capability		b		1.4E-05 (1.4E-05	8.5E-06 8.5E-06	5.0E-06 5.0E-06)	7.8E-06 (7.2E-06	6.5E-06 6.0E-06	5.4E-06 5.0E-06)	8.0E-06 (7.4E-06	6.7E-06 6.2E-06	5.6E-06 5.2E-06)		b		8.0E-06 (7.4E-06	6.7E-06 6.2E-06	5.6E-06 5.2E-06)
Inoperable		b		6.0E-06 (6.0E-06	2.6E-06 2.6E-06	9.0E-07 9.0E-07)	5.6E-06 (5.2E-06	4.7E-06 4.3E-06	3.9E-06 3.3E-06)	5.4E-06 (4.9E-06	4.5E-06 4.1E-06	3.8E-06 3.4E-06)		b		5.4E-06 (4.9E-06	4.5E-06 4.1E-06	3.8E-06 3.4E-06)
Pressure																		
Reduced Capability	1.8E-05 (1.8E-05	1.2E-05 1.2E-05	8.0E-06 8.0E-06)	6.3E-06 (5.7E-06	4.2E-06 3.8E-06	2.8E-06 2.4E-06)	1.4E-05 (1.4E-05	1.1E-05 1.1E-05	8.5E-06 8.5E-06)	9.8E-06 (9.4E-06	8.2E-06 7.8E-06	6.8E-06 6.5E-06)		b		9.8E-06 (9.4E-06	8.2E-06 7.8E-06	6.8E-06 6.5E-06)
Inoperable	7.6E-06 (6.0E-06	3.9E-06 2.6E-06	1.7E-06 9.0E-07)	6.6E-06 (6.6E-06	4.7E-06 4.7E-06	3.1E-06 3.1E-06)	6.6E-06 (5.1E-06	4.7E-06 3.4E-06	3.1E-06 2.1E-06)	6.0E-06 (4.9E-06	4.6E-06 3.8E-06	3.5E-06 2.9E-06)		b		6.0E-06 (4.9E-06	4.6E-06 3.8E-06	3.5E-06 2.9E-06)
Digital Channels																		
Level																		
Reduced Capability		b			b			b			b		1.0E-05 (8.2E-06	8.3E-06 6.8E-06	6.9E-06 5.7E-06)	1.0E-05 (8.2E-06	8.3E-06 6.8E-06	6.9E-06 5.7E-06)
Inoperable		b			b			b			b		3.8E-06 (3.4E-06	2.7E-06 2.4E-06	1.9E-06 1.6E-06)	3.8E-06 (3.4E-06	2.7E-06 2.4E-06	1.9E-06 1.6E-06)
Pressure																		
Reduced Capability	7.8E-06 (7.8E-06	3.9E-06 3.9E-06	1.7E-06 1.7E-06)		b		1.6E-06 (1.6E-06	5.2E-07 5.2E-07	9.3E-08 9.3E-08)	2.7E-06 (2.7E-06	1.5E-06 1.5E-06	7.5E-07 7.5E-07)	9.6E-06 (9.4E-06	8.7E-06 8.5E-06	7.9E-06 7.7E-06)	8.0E-06 (7.8E-06	7.3E-06 7.1E-06	6.6E-06 6.5E-06)
Inoperable	3.1E-06 (3.1E-06	6.5E-07 6.5E-07	3.3E-08 3.3E-08)		b		7.8E-07 (7.8E-07	5.9E-08[c] 5.9E-08[c]	d d)	8.9E-07 (8.9E-07	1.9E-07 1.9E-07	9.7E-09 9.7E-09)	8.0E-07 (7.1E-07	4.7E-07 4.2E-07	2.6E-07 2.2E-07)	7.0E-07 (6.3E-07	4.1E-07 3.7E-07	2.3E-07 2.1E-07)

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a. Numbers in parentheses are LER rates without command faults.

b. Not applicable—no populations or faults.

c. Denotes 50% point estimate when no faults are recorded.

d. Denotes no lower bound.

Note: WASH-1400 failure rates for Instrumentation—General (includes transmitter, amplifier, and output device):

Failure to operate 1 X 10^{-6}/hr (comparable to fault mode Inoperable)
Shift in calibration 3 x 10^{-5}/hr (comparable to fault mode Reduced Capability).

UB = Upper Bound, LB = Lower Bound.

Table 20. Summary of input data for LER rate estimations for components

Babcock & Wilcox Plants

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Arkansas 1	AR1	☐	Core Flux Sensors	8	52608				
			Temperature Sensors	4	52608				
			Transmitters	12	52608				
			Conditioning Systems	20	52608	1			
			Comparators/Bistables	20	52608				
		▨	Switches	4	52608		1		
Crystal River 3	CR3	☐	Core Flux Sensors	8	43512	1			
			Temperature Sensors	4	43512				
			Transmitters	12	43512		12		1
			Conditioning Systems	20	43512	4	3		1
			Comparators/Bistables	20	43512				1
		▨	Switches	4	43512		1		
Davis-Besse 1	DB1	☐	Core Flux Sensors	8	38472				
			Temperature Sensors	4	38472				2
			Transmitters	12	38472				3
			Conditioning Systems	20	38472				4
			Comparators/Bistables	20	38472				1
		▨	Switches	4	38472				

Table 20. (continued)

Babcock & Wilcox Plants (continued)

☐ Analog

▨ Digital

			Component	Component Population	Hours Per Component	Fault Modes			
						Reduced Capability		Inoperable	
						Command Faults	Failures	Command Faults	Failures
Oconee 1	OE1		Core Flux Sensors	8	52608				
			Temperature Sensors	4	52608				
			Transmitters	12	52608		1		1
			Conditioning Systems	20	52608		13		
			Comparators/Bistables	20	52608	8			
		▨	Switches	4	52608		3		
Oconee 2	OE2		Core Flux Sensors	8	52608				
			Temperature Sensors	4	52608				
			Transmitters	12	52608		2		
			Conditioning Systems	20	52608				
			Comparators/Bistables	20	52608				
		▨	Switches	4	52608		1		1
Oconee 3	OE3		Core Flux Sensors	8	52608				
			Temperature Sensors	4	52608		1		
			Transmitters	12	52608		1	1	
			Conditioning Systems	20	52608		8		
			Comparators/Bistables	20	52608		1		1
		▨	Switches	4	52608				

Table 20. (continued)

Babcock & Wilcox Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Rancho Seco 1	RS1		Core Flux Sensors	8	52608				
			Temperature Sensors	4	52608				
			Transmitters	12	52608		6		2
			Conditioning Systems	20	52608		1		
			Comparators/Bistables	20	52608	1			
		▨	Switches	4	52608				
Three Mile Is. 1	TI1		Core Flux Sensors	8	28368				
			Temperature Sensors	4	28368				
			Transmitters	12	28368		2		1
			Conditioning Systems	20	28368				2
			Comparators/Bistables	20	28368				
		▨	Switches	4	28368				
Three Mile Is. 2	TI2		Core Flux Sensors	8	8760				1
			Temperature Sensors	4	8760				
			Transmitters	12	8760				
			Conditioning Systems	20	8760				
			Comparators/Bistables	20	8760				
		▨	Switches	4	8760				

Table 20. (continued)

Combustion Engineering Plants[a]

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Arkansas 2	AR2		Core Flux Sensors	12	26952				
			Temperature Sensors	16	26952				
			Transmitters	28	26952				
			Conditioning Systems	32	26952				2
			Comparators/Bistables	36	26952				4
Calvert Cliffs 1	CC1		Core Flux Sensors	20	52608				
			Temperature Sensors	16	52608		4		6
			Transmitters	32	52608		7		2
			Conditioning Systems	32	52608		10		9
			Comparators/Bistables	32	52608		1		3
Calvert Cliffs 2	CC2		Core Flux Sensors	20	44592		2		1
			Temperature Sensors	16	44592		1		6
			Transmitters	32	44592		2		
			Conditioning Systems	32	44592		7	1	20
			Comparators/Bistables	32	44592		1		

Table 20. (continued)

Combustion Engineering Plants[a] (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Fort Calhoun 1	FC1	☐	Core Flux Sensors	20	52608				
			Temperature Sensors	16	52608				2
			Transmitters	32	52608		1		1
			Conditioning Systems	32	52608		3	1	15
			Comparators/Bistables	32	52608		1		3
Millstone 2	MI2	☐	Core Flux Sensors	20	52608		2		
			Temperature Sensors	16	52608		1		
			Transmitters	32	52608		5		3
			Conditioning Systems	32	52608		1		18
			Comparators/Bistables	32	52608	2	9		
Maine Yankee	MY1	☐	Core Flux Sensors	16	52608				1
			Temperature Sensors	6	52608				2
			Transmitters	44	52608		1		2
			Conditioning Systems	32	52608		3		16
			Comparators/Bistables	36	52608	1			1

Table 20. (continued)

Combustion Engineering Plants[a] (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Palisades	PA1		Core Flux Sensors	10	52608				
			Temperature Sensors	16	52608				
			Transmitters	28	52608		1		3
			Conditioning Systems	26	52608		2		
			Comparators/Bistables	26	52608		5		
St. Lucie 1	SL1		Core Flux Sensors	20	49920				
			Temperature Sensors	16	49920		3		
			Transmitters	32	49920		1		3
			Conditioning Systems	32	49920				6
			Comparators/Bistables	32	49920		6		

Table 20. (continued)

Westinghouse Plants

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Beaver Valley 1	BV1	☐	Core Flux Sensors	12	49488		1		
			Temperature Sensors	6	49488		1		
			Transmitters	36	49488		1	1	5
			Conditioning Systems	47	49488		4		15
			Comparators/Bistables	50	49488		3	3	
		▨	Switches	3	49488				
Cook 1	DC1	☐	Core Flux Sensors	12	52608				8
			Temperature Sensors	8	52608				3
			Transmitters	47	52608		11		9
			Conditioning Systems	59	52608		3		7
			Comparators/Bistables	59	52608	1	1		4
		▨	Switches	3	52608				
Cook 2	DC2	☐	Core Flux Sensors	12	33432				2
			Temperature Sensors	8	33432				1
			Transmitters	47	33432		6		7
			Conditioning Systems	59	33432		1		2
			Comparators/Bistables	59	33432		2	1	3
		▨	Switches	3	33432				

Table 20. (continued)

Westinghouse Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Haddam Neck	HN1	☐	Core Flux Sensors	8	52608				1
		☐	Temperature Sensors	8	52608				
		☐	Transmitters	18	52608		1		2
		☐	Conditioning Systems	24	52608		1		
		☐	Comparators/Bistables	23	52608		2		
		▨	Switches	4	52608				
Indian Point 2	IP2	☐	Core Flux Sensors	12	52608			1	
		☐	Temperature Sensors	8	52608				1
		☐	Transmitters	47	52608		1		1
		☐	Conditioning Systems	59	52608		3		1
		☐	Comparators/Bistables	58	52608				
		▨	Switches	3	52608				
Indian Point 3	IP3	☐	Core Flux Sensors	12	50304				1
		☐	Temperature Sensors	8	50304				1
		☐	Transmitters	47	50304				2
		☐	Conditioning Systems	59	50304		7		1
		☐	Comparators/Bistables	58	50304		1		
		▨	Switches	3	50304				

Table 20. (continued)

Westinghouse Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Farley 1	JF1		Core Flux Sensors	12	38544		1	2	
			Temperature Sensors	6	38544				
			Transmitters	36	38544		1	1	2
			Conditioning Systems	47	38544		5		7
			Comparators/Bistables	50	38544	2	6	1	2
		▨	Switches	3	38544				
Farley 2	JF2		Core Flux Sensors	12	5734				
			Temperature Sensors	6	5734				
			Transmitters	36	5734		2	2	
			Conditioning Systems	47	5734				1
			Comparators/Bistables	50	5734				2
		▨	Switches	3	5734				
Kewaunee	KE1		Core Flux Sensors	12	52608				1
			Temperature Sensors	8	52608				
			Transmitters	27	52608		27		5
			Conditioning Systems	43	52608				
			Comparators/Bistables	46	52608		3		
		▨	Switches	3	52608				

Table 20. (continued)

Westinghouse Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
McGuire 1	MG1	☐	Core Flux Sensors	12	3504				
			Temperature Sensors	8	3504				
			Transmitters	47	3504			1	2
			Conditioning Systems	59	3504		1	1	4
			Comparators/Bistables	59	3504				
		▨	Switches	3	3504				
North Anna 1	NA1	☐	Core Flux Sensors	12	32808		2		1
			Temperature Sensors	6	32808				1
			Transmitters	36	32808	6	10	1	2
			Conditioning Systems	47	32808	2	2	1	8
			Comparators/Bistables	50	32808	1			
		▨	Switches	3	32808		1		
North Anna 2	NA2	☐	Core Flux Sensors	12	13632		1		
			Temperature Sensors	6	13632				1
			Transmitters	36	13632		7		
			Conditioning Systems	47	13632	1	5		5
			Comparators/Bistables	50	13632		3		1
		▨	Switches	3	13632				

Table 20. (continued)

Westinghouse Plants (continued)

□ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Prairie Island 1	PR1	□	Core Flux Sensors	12	52608	2	2	1	3
		□	Temperature Sensors	8	52608				
		□	Transmitters	27	52608		3		1
		□	Conditioning Systems	43	52608			2	1
		□	Comparators/Bistables	46	52608				2
		▨	Switches	3	52608				
Prairie Island 2	PR2	□	Core Flux Sensors	12	52608				
		□	Temperature Sensors	8	52608				1
		□	Transmitters	27	52608		4		1
		□	Conditioning Systems	43	52608		3		3
		□	Comparators/Bistables	46	52608		2		
		▨	Switches	3	52608				
Point Beach 1	PT1	□	Core Flux Sensors	12	52608				
		□	Temperature Sensors	8	52608				
		□	Transmitters	27	52608				2
		□	Conditioning Systems	43	52608				4
		□	Comparators/Bistables	46	52608				
		▨	Switches	3	52608				

Table 20. (continued)

Westinghouse Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Point Beach 2	PT2		Core Flux Sensors	12	52608				1
			Temperature Sensors	8	52608				
			Transmitters	27	52608		1		
			Conditioning Systems	43	52608				2
			Comparators/Bistables	46	52608		1		
		▨	Switches	3	52608				
Ginne	RG1		Core Flux Sensors	12	52608				
			Temperature Sensors	8	52608				
			Transmitters	27	52608		1		
			Conditioning Systems	43	52608				2
			Comparators/Bistables	46	52608				
		▨	Switches	3	52608				
Robinson 2	RO2		Core Flux Sensors	12	52608	1		1	1
			Temperature Sensors	6	52608				1
			Transmitters	36	52608				
			Conditioning Systems	47	52608			2	1
			Comparators/Bistables	50	52608				1
		▨	Switches	3	52608				

Table 20. (continued)

Westinghouse Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Salem 1	SA1	☐	Core Flux Sensors	12	44328				
		☐	Temperature Sensors	8	44328				
		☐	Transmitters	47	44328		6	1	9
		☐	Conditioning Systems	59	44328		4	1	19
		☐	Comparators/Bistables	59	44328		1		4
		▨	Switches	3	44328				
Salem 2	SA2	☐	Core Flux Sensors	12	12254				1
		☐	Temperature Sensors	8	12254				
		☐	Transmitters	47	12264		2		9
		☐	Conditioning Systems	59	12254				3
		☐	Comparators/Bistables	59	12254				
		▨	Switches	3	12254				
Sequoyah 1	SE1	☐	Core Flux Sensors	12	13080				
		☐	Temperature Sensors	8	13080				
		☐	Transmitters	47	13080		4	6	10
		☐	Conditioning Systems	59	13080		1	1	1
		☐	Comparators/Bistables	59	13080		2	2	2
		▨	Switches	3	13080				

Table 20. (continued)

Westinghouse Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Sequoyah 2	SE2		Core Flux Sensors	12	1368				
			Temperature Sensors	8	1368				
			Transmitters	47	1368				
			Conditioning Systems	59	1368			1	1
			Comparators/Bistables	59	1368				
		▨	Switches	3	1368				
San Onofre 1	SO1		Core Flux Sensors	8	52608				
			Temperature Sensors	6	52608				
			Transmitters	15	52608				1
			Conditioning Systems	21	52608				4
			Comparators/Bistables	21	52608		6		
		▨	Switches	4	52608				
Surry 1	SU1		Core Flux Sensors	12	52608				
			Temperature Sensors	6	52608				
			Transmitters	36	52608		8		
			Conditioning Systems	47	52608				1
			Comparators/Bistables	50	52608				2
		▨	Switches	3	52608				

Table 20. (continued)

Westinghouse Plants (continued)

☐ Analog

▨ Digital

			Component	Component Population	Hours Per Component	Fault Modes: Reduced Capability		Fault Modes: Inoperable	
						Command Faults	Failures	Command Faults	Failures
Surry 2	SU2		Core Flux Sensors	12	52608				
			Temperature Sensors	6	52608		1		
			Transmitters	36	52608		2		1
			Conditioning Systems	47	52608		2		2
			Comparators/Bistables	50	52608		1		2
		▨	Switches	3	52608				
Trojan	TR1		Core Flux Sensors	12	52608			2	2
			Temperature Sensors	8	52608				
			Transmitters	47	52608		11		1
			Conditioning Systems	59	52608			1	1
			Comparators/Bistables	67	52608		1		
		▨	Switches	3	52608		1		
Turkey Point 3	TU3		Core Flux Sensors	12	52608				
			Temperature Sensors	6	52608				
			Transmitters	36	52608				
			Conditioning Systems	47	52608				3
			Comparators/Bistables	50	52608		3	2	
		▨	Switches	3	52608				

Table 20. (continued)

Westinghouse Plants (continued)

☐ Analog

▨ Digital

			Component	Component Population	Hours Per Component	Fault Modes			
						Reduced Capability		Inoperable	
						Command Faults	Failures	Command Faults	Failures
Turkey Point 4	TU4	☐	Core Flux Sensors	12	52608				
		☐	Temperature Sensors	6	52608				
		☐	Transmitters	36	52608				
		☐	Conditioning Systems	47	52608				1
		☐	Comparators/Bistables	50	52608				
		▨	Switches	3	52608				
Yankee-Rowe 1	YR1	☐	Core Flux Sensors	12	52608				
		☐	Temperature Sensors[b]						
		☐	Transmitters[b]						
		☐	Conditioning Systems	3	52608				
		☐	Comparators/Bistables	3	52608				
		▨	Switches[b]						
Zion 1	ZI1	☐	Core Flux Sensors	12	52608				
		☐	Temperature Sensors	8	52608				
		☐	Transmitters	47	52608		33		12
		☐	Conditioning Systems	59	52608		7		11
		☐	Comparators/Bistables	59	52608		2		
		▨	Switches	3	52608				

Table 20. (continued)

Westinghouse Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Zion 2	ZI2	☐	Core Flux Sensors	12	52608				2
		☐	Temperature Sensors	8	52608				
		☐	Transmitters	47	52608		26		6
		☐	Conditioning Systems	59	52608		4		12
		☐	Comparators/Bistables	59	52608		1		2
		▨	Switches	3	52608				

Table 20. (continued)

General Electric Plants

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Browns Ferry 1	BF1	☐	Core Flux Sensors	188	52608				
			Transmitters	4	52608				
			Radiation Monitors	4	52608		1		
			Conditioning Systems	20	52608				
			Comparators/Bistables	18	52608				
		▨	Switches	28	52608		16	1	3
Browns Ferry 2	BF2	☐	Core Flux Sensors	188	52608				
			Transmitters	4	52608				
			Radiation Monitors	4	52608		4		3
			Conditioning Systems	20	52608				4
			Comparators/Bistables	18	52608				
		▨	Switches	28	52608	7	21		4
Browns Ferry 3	BF3	☐	Core Flux Sensors	188	47328				
			Transmitters	4	47328				
			Radiation Monitors	4	47328		1		
			Conditioning Systems	20	47328		1		45
			Comparators/Bistables	18	47328				
		▨	Switches	28	47328		24	2	2

Table 20. (continued)

General Electric Plants (continued)

☐ Analog

▨ Digital

			Component	Component Population	Hours Per Component	Fault Modes: Reduced Capability: Command Faults	Fault Modes: Reduced Capability: Failures	Fault Modes: Inoperable: Command Faults	Fault Modes: Inoperable: Failures
Big Rock Point 1	BP1	☐	Core Flux Sensors	8	52608				
			Transmitters[b]						
			Radiation Monitors[b]						
			Conditioning Systems	8	52608				1
			Comparators/Bistables	8	52608				
		▨	Switches	16	52608		1		
Brunswick 1	BR1	☐	Core Flux Sensors	140	45854		1		2
			Transmitters	4	45864				
			Radiation Monitors	4	45864		11		2
			Conditioning Systems	20	45864		3		2
			Comparators/Bistables	18	45864		9		
		▨	Switches	24	45864		8		2
Brunswick 2	BR2	☐	Core Flux Sensors	140	52608		1		1
			Transmitters	4	52608				
			Radiation Monitors	4	52608		3		2
			Conditioning Systems	20	52608		1	4	10
			Comparators/Bistables	18	52608				
		▨	Switches	28	52608		33		

Table 20. (continued)

General Electric Plants (continued)

□ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Cooper Station	CO1	□	Core Flux Sensors	140	52608		1		1
			Transmitters	4	52608				
			Radiation Monitors	4	52608		1		
			Conditioning Systems	20	52608		3		2
			Comparators/Bistables	18	52608				
		▨	Switches	24	52608		4		3
Duane Arnold	DA1	□	Core Flux Sensors	98	52608		1		1
			Transmitters	4	52608				
			Radiation Monitors	4	52608				1
			Conditioning Systems	18	52608		4		4
			Comparators/Bistables	16	52608		2		
		▨	Switches	24	52608				
Dresden 1	DR1	□	Core Flux Sensors	9	24840		1		
			Transmitters[b]						
			Radiation Monitors[b]						
			Conditioning Systems	9	24840		12		1
			Comparators/Bistables	9	24840		3		
		▨	Switches	12	24840				

Table 20. (continued)

General Electric Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Dresden 2	DR2	☐	Core Flux Sensors	180	52608		1		
			Transmitters	4	52608				
			Radiation Monitors	4	52608		4		2
			Conditioning Systems	20	52608		8		6
			Comparators/Bistables	18	52608		3		1
		▨	Switches	28	52608	2	15		2
Dresden 3	DR3	☐	Core Flux Sensors	180	52608			1	1
			Transmitters	4	52608				
			Radiation Monitors	4	52608		1		2
			Conditioning Systems	20	52608		16		4
			Comparators/Bistables	18	52608		4		
		▨	Switches	28	52608		8		1
Hatch 1	EN1	☐	Core Flux Sensors	140	52608				1
			Transmitters	4	52608				
			Radiation Monitors	4	52608	1			2
			Conditioning Systems	20	52608				
			Comparators/Bistables	18	52608		1		
		▨	Switches	24	52608		9		

Table 20. (continued)

General Electric Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Hatch 2	EN2	☐	Core Flux Sensors	140	30648				4
		☐	Transmitters	4	30648				
		☐	Radiation Monitors	4	30648	1	1		
		☐	Conditioning Systems	20	30648		1		1
		☐	Comparators/Bistables	18	30648		6		
		▨	Switches	24	30648		18	1	4
Fitzpatrick	FP1	☐	Core Flux Sensors	140	52608		3	1	4
		☐	Transmitters	4	52608				
		☐	Radiation Monitors	4	52608		1		2
		☐	Conditioning Systems	20	52608		13	1	24
		☐	Comparators/Bistables	18	52608		1		
		▨	Switches	24	52608	6	12		5
Millstone 1	MI1	☐	Core Flux Sensors	136	52608		2		
		☐	Transmitters	4	52608				
		☐	Radiation Monitors	4	52608		3		1
		☐	Conditioning Systems	20	52608		1		
		☐	Comparators/Bistables	18	52608		1		
		▨	Switches	24	52608	1	16		

Table 20. (continued)

General Electric Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Monticello	MO1		Core Flux Sensors	112	52608				
			Transmitters	4	52608				
			Radiation Monitors	4	52608				
			Conditioning Systems	20	52608				
			Comparators/Bistables	18	52608		4		2
		▨	Switches	28	52608				1
Nine Mile Point 1	NM1		Core Flux Sensors	128	52608				4
			Transmitters[b]						
			Radiation Monitors	4	52608				1
			Conditioning Systems	18	52608		1		
			Comparators/Bistables	16	52608		5		
		▨	Switches	24	52608		5		
Oyster Creek 1	OC1		Core Flux Sensors	128	52608		6		
			Transmitters[b]						
			Radiation Monitors	4	52608		2		
			Conditioning Systems	18	52608				5
			Comparators/Bistables	16	52608				
		▨	Switches	24	52608		7		1

Table 20. (continued)

General Electric Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Peach Bottom 2	PB2	☐	Core Flux Sensors	188	52608				1
		☐	Transmitters	4	52608				
		☐	Radiation Monitors	4	52608		3	2	3
		☐	Conditioning Systems	20	52608		1		
		☐	Comparators/Bistables	18	52608		3		
		▨	Switches	28	52608		3		1
Peach Bottom 3	PB3	☐	Core Flux Sensors	188	52608				
		☐	Transmitters	4	52608				
		☐	Radiation Monitors	4	52608		4		3
		☐	Conditioning Systems	20	52608		2		1
		☐	Comparators/Bistables	18	52608		2		
		▨	Switches	28	52608	1	2		1
Pilgrim 1	PI1	☐	Core Flux Sensors	136	52608				1
		☐	Transmitters	4	52608				
		☐	Radiation Monitors	4	52608				
		☐	Conditioning Systems	20	52608				1
		☐	Comparators/Bistables	18	52608				
		▨	Switches	28	52608		9		

Table 20. (continued)

General Electric Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Component	Component Population	Hours Per Component	Command Faults	Failures	Command Faults	Failures
Quad-Cities 1	QC1	☐	Core Flux Sensors	180	52608				
			Transmitters	4	52608				
			Radiation Monitors	4	52608				
			Conditioning Systems	20	52608				
			Comparators/Bistables	18	52608				
		▨	Switches	28	52608		18		1
Quad-Cities 2	QC2	☐	Core Flux Sensors	180	52608				
			Transmitters	4	52608				
			Radiation Monitors	4	52608		1		1
			Conditioning Systems	20	52608				
			Comparators/Bistables	18	52608				
		▨	Switches	28	52608		15		
Vermont Yankee 1	VY1	☐	Core Flux Sensors	94	52608				
			Transmitters	4	52608				
			Radiation Monitors	4	52608				
			Conditioning Systems	18	52608		1		
			Comparators/Bistables	18	52608				
		▨	Switches	24	52608		2		

a. Switches or digital type channels found not to be incorporated in reactor trip systems for these plants.

b. Population unknown.

Note. Components affected by the footnotes above are omitted from the LER rate calculations.

Table 21. Summary of input data for LER rate estimations for channels

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Babcock & Wilcox Plants[a]

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Arkanses 1	AR1	☐	Core Flux	4	52608	1			
		☐	Temperature	4	52608				
		☐	Flow	4	52608				
		☐	Pressure	4	52608				
		▨	Pressure	4	52608		1		
Crystal River 3	CR3	☐	Core Flux	4	43512	5	3		1
		☐	Temperature	4	43512				
		☐	Flow	4	43512		4		1
		☐	Pressure	4	43512		8		1
		▨	Pressure	4	43512		1		
Davis-Besse 1	DB1	☐	Core Flux	4	38472				1
		☐	Temperature	4	38472				4
		☐	Flow	4	38472				4
		☐	Pressure	4	38472			1	1
		▨	Pressure	4	38472				

Table 21. (continued)

Babcock & Wilcox Plants[a] (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Oconee 1	OE1	☐	Core Flux	4	52608	4	13		
			Temperature	4	52608				
			Flow	4	52608	4			1
			Pressure	4	52608		1		
		▨	Pressure	4	52608		3		
Oconee 2	OE2	☐	Core Flux	4	52608				
			Temperature	4	52608				
			Flow	4	52608		2		
			Pressure	4	52608				
		▨	Pressure	4	52608		1		1
Oconee 3	OE3	☐	Core Flux	4	52608		4		
			Temperature	4	52608		1		1
			Flow	4	52608		5		
			Pressure	4	52608		1	1	
		▨	Pressure	4	52608				

Table 21. (continued)

Babcock & Wilcox Plants[a] (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Rancho Seco 1	RS1	☐	Core Flux	4	52608	1			
		☐	Temperature	4	52608				
		☐	Flow	4	52608		1		1
		☐	Pressure	4	52608		5		1
		▨	Pressure	4	52608				
Three Mile Is. 1	TI1	☐	Core Flux	4	28358				
		☐	Temperature	4	28358				1
		☐	Flow	4	28368				1
		☐	Pressure	4	28358		2		1
		▨	Pressure	4	28358				
Three Mile Is. 2	TI2	☐	Core Flux	4	8750				1
		☐	Temperature	4	8750				
		☐	Flow	4	8750				
		☐	Pressure	4	8750				
		▨	Pressure	4	8750				

Table 21. (continued)

Combustion Engineering Plants[b]

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Arkansas 2	AR2		Core Flux	4	26952				1
			Temperature	4	26952				4
			Flow[c]						
			Level	4	26952				
			Pressure	16	26952				1
Calvert Cliffs 1	CC1		Core Flux	8	52608		4		8
			Temperature	4	52608		5		7
			Flow	4	52608		7		1
			Level	4	52608		2		
			Pressure	12	52608		5		4
Calvert Cliffs 2	CC2		Core Flux	8	44592		4	1	10
			Temperature	4	44592		6		14
			Flow	4	44592				1
			Level	4	44592				
			Pressure	12	44592		3		2

Table 21. (continued)

Combustion Engineering Plants[b] (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Fort Calhoun 1	FC1		Core Flux	8	52608		1	1	11
			Temperature	4	52608		1		4
			Flow	4	52608		2		
			Level	4	52608		1		2
			Pressure	12	52608				4
Millstone 2	MI2		Core Flux	8	52608	1	4		11
			Temperature	4	52608		1		6
			Flow	4	52608		6		3
			Level	4	52608		4		
			Pressure	12	52608	1	3		1
Maine Yankee	MY1		Core Flux	8	52608				7
			Temperature	4	52608		3		7
			Flow	4	52608				3
			Level	4	52608				2
			Pressure	12	52608	1	1		3

Table 21. (continued)

Combustion Engineering Plants[b] (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Palisades	PA1	☐	Core Flux	6	52608		2		
			Temperature	4	52608		1		
			Flow	4	52608		1		3
			Level	4	52608		2		
			Pressure	8	52608		2		
St. Lucie 1	SL1	☐	Core Flux	8	49920				3
			Temperature	4	49920		3		1
			Flow	4	49920				
			Level	4	49920		4		
			Pressure	12	49920		3		6

Table 21. (continued)

Westinghouse Plants

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Beaver Valley 1	BV1	☐	Core Flux	8	49488		2		8
		☐	Temperature	3	49488		4	3	4
		☐	Flow	15	49488		4	1	4
		☐	Level	12	49488				3
		☐	Pressure	3	49488				1
		▨	Pressure	3	49488				
Cook 1	DC1	☐	Core Flux	8	52608				13
		☐	Temperature	4	52608		2		5
		☐	Flow	20	52608	1	3		2
		☐	Level	15	52608		5		11
		☐	Pressure	4	52608		5		
		▨	Pressure	3	52608				
Cook 2	DC2	☐	Core Flux	8	33432		1		3
		☐	Temperature	4	33432				2
		☐	Flow	20	33432		1		5
		☐	Level	15	33432		3		3
		☐	Pressure	4	33432		4		2
		▨	Pressure	3	33432				

Table 21. (continued)

Westinghouse Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Haddam Neck	HN1	☐	Core Flux	6	52608		2		1
			Temperature	4	52608				
			Flow	8	52608		1		2
			Level	3	52608		1		
			Pressure	3	52608				
		▨	Pressure	4	52608				
Indian Point 2	IP2	☐	Core Flux	8	52608		2	1	
			Temperature	4	52608		1		1
			Flow	20	52608				
			Level	15	52608		1		2
			Pressure	4	52608				
		▨	Pressure	3	52608				
Indian Point 3	IP3	☐	Core Flux	8	50304		1		2
			Temperature	4	50304		6		1
			Flow	20	50304				1
			Level	15	50304				1
			Pressure	4	50304		1		
		▨	Pressure	3	50304				

Table 21. (continued)

Westinghouse Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Farley 1	JF1	☐	Core Flux	8	38544		4	2	1
			Temperature	3	38544		2		5
			Flow	15	38544		4	1	1
			Level	12	38544		2		2
			Pressure	3	38544	2	1	1	2
		▨	Pressure	3	38544				
Farley 2	JF2	☐	Core Flux	8	5784				
			Temperature	3	5784				2
			Flow	15	5784			2	1
			Level	12	5784		2		
			Pressure	3	5784				
		▨	Pressure	3	5784				
Kewaunee	KE1	☐	Core Flux	8	52608				1
			Temperature	4	52608		1		
			Flow	10	52608		8		2
			Level	9	52608		8		3
			Pressure	4	52608		13		
		▨	Pressure	3	52608				

Table 21. (continued)

Westinghouse Plants (continued)

☐ Analog

▨ Digital

			Parameter	Channel Population	Hours Per Channel	Fault Modes: Reduced Capability: Command Faults	Fault Modes: Reduced Capability: Failures	Fault Modes: Inoperable: Command Faults	Fault Modes: Inoperable: Failures
McGuire 1	MG1	☐	Core Flux	8	3504			1	1
			Temperature	4	3504				3
			Flow	20	3504				2
			Level	15	3504		1	1	
			Pressure	4	3504				
		▨	Pressure	3	3504				
North Anna 1	NA1	☐	Core Flux	8	32808	1	2		3
			Temperature	3	32808	1			4
			Flow	15	32808		4		2
			Level	12	32808	7	6	2	3
			Pressure	3	32808		2		1
		▨	Pressure	3	32808		1		
North Anna 2	NA2	☐	Core Flux	8	13632	1	5		4
			Temperature	3	13632		2		1
			Flow	15	13632		4		1
			Level	12	13632		1		
			Pressure	3	13632		5		1
		▨	Pressure	3	13632				

Table 21. (continued)

Westinghouse Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Prairie Island 1	PR1	☐	Core Flux	8	52608	2	2	3	4
			Temperature	4	52608				1
			Flow	10	52608				1
			Level	9	52608		2		
			Pressure	4	52608		1		1
		▨	Pressure	3	52608				
Prairie Island 2	PR2	☐	Core Flux	8	52608				3
			Temperature	4	52608		4		1
			Flow	10	52608		4		1
			Level	9	52608				
			Pressure	4	52608		1		
		▨	Pressure	3	52608				
Point Beach 1	PT1	☐	Core Flux	8	52608				3
			Temperature	4	52608				1
			Flow	10	52608				2
			Level	9	52608				
			Pressure	4	52608				
		▨	Pressure	3	52608				

Table 21. (continued)

Westinghouse Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Point Beach 2	PT2		Core Flux	8	52608		1		3
			Temperature	4	52608				
			Flow	10	52608				
			Level	9	52608		1		
			Pressure	4	52608			1	
		▨	Pressure	3	52608				
Ginna	RG1		Core Flux	8	52608				2
			Temperature	4	52608				
			Flow	10	52608				
			Level	9	52608				
			Pressure	4	52608		1		
		▨	Pressure	3	52608				
Robinson 2	RO2		Core Flux	8	52608	1		3	1
			Temperature	3	52608				1
			Flow	15	52608				
			Level	12	52608				2
			Pressure	3	52608				
		▨	Pressure	3	52608				

Table 21. (continued)

Westinghouse Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Salem 1	SA1	☐	Core Flux	8	44328		1		11
		☐	Temperature	4	44328		2		2
		☐	Flow	20	44328		5	1	10
		☐	Level	15	44328		3		8
		☐	Pressure	4	44328			1	1
		▨	Pressure	3	44328				
Salem 2	SA2	☐	Core Flux	8	12264				1
		☐	Temperature	4	12264				
		☐	Flow	20	12264				11
		☐	Level	15	12264		1		
		☐	Pressure	4	12264		1		1
		▨	Pressure	3	12264				
Sequoyah 1	SE1	☐	Core Flux	8	13080		1	1	
		☐	Temperature	4	13080			2	
		☐	Flow	20	13080		2		3
		☐	Level	15	13080		2	3	10
		☐	Pressure	4	13080		2	3	
		▨	Pressure	3	13080				

Table 21. (continued)

Westinghouse Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Sequoyah 2	SE2	☐	Core Flux	8	1368			1	
		☐	Temperature	4	1368				1
		☐	Flow	20	1368				
		☐	Level	15	1368				
		☐	Pressure	4	1368				
		▨	Pressure	3	1368				
San Onofre 1	SO1	☐	Core Flux	6	52608				
		☐	Temperature	3	52608				1
		☐	Flow	6	52608				6
		☐	Level	3	52608				
		☐	Pressure	3	52608		6		
		▨	Pressure	4	52608				
Surry 1	SU1	☐	Core Flux	8	52608				
		☐	Temperature	3	52608				1
		☐	Flow	15	52608		6		1
		☐	Level	12	52608		2		1
		☐	Pressure	3	52608				
		▨	Pressure	3	52608				

Table 21. (continued)

Westinghouse Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Surry 2	SU2	☐	Core Flux	8	52608		2		1
		☐	Temperature	3	52608		2		1
		☐	Flow	15	52608				1
		☐	Level	12	52608		2		1
		☐	Pressure	3	52608				1
		▨	Pressure	3	52608				
Trojan	TR1	☐	Core Flux	8	52608			3	2
		☐	Temperature	4	52608				
		☐	Flow	20	52608	1	1		
		☐	Level	15	52608		8		1
		☐	Pressure	4	52608		3		1
		▨	Pressure	3	52608		1		
Turkey Point 3	TU3	☐	Core Flux	8	52608			2	1
		☐	Temperature	3	52608		2		
		☐	Flow	15	52608				2
		☐	Level	12	52608		1		
		☐	Pressure	3	52608				
		▨	Pressure	3	52608				

Table 21. (continued)

Westinghouse Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Turkey Point 4	TU4		Core Flux	8	52608				
			Temperature	3	52608				1
			Flow	15	52608				
			Level	12	52608				
			Pressure	3	52608				
		▨	Pressure	3	52608				
Yankee-Rowe 1	YR1		Core Flux	3	52608				
			Temperature[d]						
			Flow[d]						
			Level[d]						
			Pressure[d]						
		▨	Pressure[d]						
Zion 1	ZI1		Core Flux	8	52608		4		1
			Temperature	4	52608		2		8
			Flow	20	52608		20		10
			Level	15	52608		15		3
			Pressure	4	52608		1		1
		▨	Pressure	3	52608				

Table 21. (continued)

Westinghouse Plants (continued)

□	Analog
▨	Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Zion 2	ZI2		Core Flux	8	52608				3
			Temperature	4	52608				3
			Flow	20	52608		12		7
			Level	15	52608		19		7
			Pressure	4	52608				2
		▨	Pressure	3	52608				

Table 21. (continued)

General Electric Plants

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Browns Ferry 1	BF1	☐	Core Flux	18	52608				
		☐	Flow	2	52608				
		▨	Level	8	52608		3		3
		▨	Pressure	20	52608		13	1	
Browns Ferry 2	BF2	☐	Core Flux	18	52608				3
		☐	Flow	2	52608				1
		▨	Level	8	52608	7	2		3
		▨	Pressure	20	52608		19		1
Browns Ferry 3	BF3	☐	Core Flux	18	47328		1		45
		☐	Flow	2	47328				
		▨	Level	8	47328		2	2	2
		▨	Pressure	20	47328		22		

Table 21. (continued)

General Electric Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Big Rock Point 1	BP1	☐	Core Flux	8	52608				1
		☐	Flow^e						
		▨	Level	4	52608				
		▨	Pressure	12	52608		1		
Brunswick 1	BR1	☐	Core Flux	18	45864		13		4
		☐	Flow	2	45864				
		▨	Level	8	45864		7		2
		▨	Pressure	16	45864		1		
Brunswick 2	BR2	☐	Core Flux	18	52608		2	4	11
		☐	Flow	2	52608				
		▨	Level	8	52608		17		
		▨	Pressure	20	52608		16		

Table 21. (continued)

General Electric Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Cooper Station	CO1	☐	Core Flux	18	52608		4		3
		☐	Flow	2	52608				
		▨	Level	8	52608				2
		▨	Pressure	16	52608		4		1
Duane Arnold	DA1	☐	Core Flux	16	52608		7		4
		☐	Flow	2	52608				1
		▨	Level	8	52608				
		▨	Pressure	16	52608				
Dresden 1	DR1	☐	Core Flux	9	24840		16		1
		☐	Flow[e]						
		▨	Level[f]						
		▨	Pressure	12	24840				

Table 21. (continued)

General Electric Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Dresden 2	DR2	☐	Core Flux	18	52608		6		7
		☐	Flow	2	52608		6		
		▨	Level	8	52608		4		
		▨	Pressure	20	52608	2	11		2
Dresden 3	DR3	☐	Core Flux	18	52608		20	1	4
		☐	Flow	2	52608				1
		▨	Level	8	52608		4		
		▨	Pressure	20	52608		4		1
Hatch 1	EN1	☐	Core Flux	18	52608		1		1
		☐	Flow	2	52608				
		▨	Level	8	52608		4		
		▨	Pressure	16	52608		5		

Table 21. (continued)

General Electric Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Hatch 2	EN2	☐	Core Flux	18	30648		7		5
		☐	Flow	2	30648				
		▨	Level	8	30648		3	1	4
		▨	Pressure	16	30648		15		
Fitzpatrick	FP1	☐	Core Flux	18	52608		16	2	28
		☐	Flow	2	52608		1		
		▨	Level	8	52608	6	2		3
		▨	Pressure	16	52608		10		2
Millstone 1	MI1	☐	Core Flux	18	52608		4		
		☐	Flow	2	52608				
		▨	Level	8	52608				
		▨	Pressure	16	52608	1	16		

Table 21. (continued)

General Electric Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Monticello	MO1		Core Flux	18	52608		4		2
			Flow	2	52608				
		▨	Level	8	52608				1
		▨	Pressure	20	52608				
Nine Mile Point 1	NM1		Core Flux	16	52608		6		4
			Flow	2	52608				
		▨	Level	8	52608		4		
		▨	Pressure	16	52608		1		
Oyster Creek 1	OC1		Core Flux	16	52608		6		5
			Flow	2	52608				
		▨	Level	8	52608		5		
		▨	Pressure	16	52608		2		1

Table 21. (continued)

General Electric Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Peach Bottom 2	PB2	☐	Core Flux	18	52608		4		1
		☐	Flow	2	52608				
		▨	Level	8	52608				1
		▨	Pressure	20	52608		3		
Peach Bottom 3	PB3	☐	Core Flux	18	52608		3		1
		☐	Flow	2	52608		1		
		▨	Level	8	52608				
		▨	Pressure	20	52608	1	2		1
Pilgrim 1	PI1	☐	Core Flux	18	52608				2
		☐	Flow	2	52608				
		▨	Level	8	52608		2		
		▨	Pressure	20	52608		7		

Table 21. (continued)

General Electric Plants (continued)

☐ Analog

▨ Digital

						Fault Modes			
						Reduced Capability		Inoperable	
			Parameter	Channel Population	Hours Per Channel	Command Faults	Failures	Command Faults	Failures
Quad-Cities 1	QC1	☐	Core Flux	18	52608				
		☐	Flow	2	52608				
		▨	Level	8	52608		4		1
		▨	Pressure	20	52608		14		
Quad-Cities 2	QC2	☐	Core Flux	18	52608				
		☐	Flow	2	52608				
		▨	Level	8	52608				
		▨	Pressure	20	52608		15		
Vermont Yankee 1	VY1	☐	Core Flux	16	52608				
		☐	Flow	2	52608		1		
		▨	Level	8	52608				
		▨	Pressure	16	52608		2		

Table 21. (continued)

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a. Level found not to be incorporated in reactor trip systems for these plants.

b. Digital type channels found not to be incorporated in reactor trip systems for these plants.

c. RCP proximity devices used and considered atypical.

d. Population unknown.

e. Flow found not to be incorporated in reactor trip systems for these plants.

f. The steam dome level switches found at DR1 were considered atypical and populations for these switches were unknown.

Note. Channels affected by the footnotes above are omitted from the LER rate calculations.

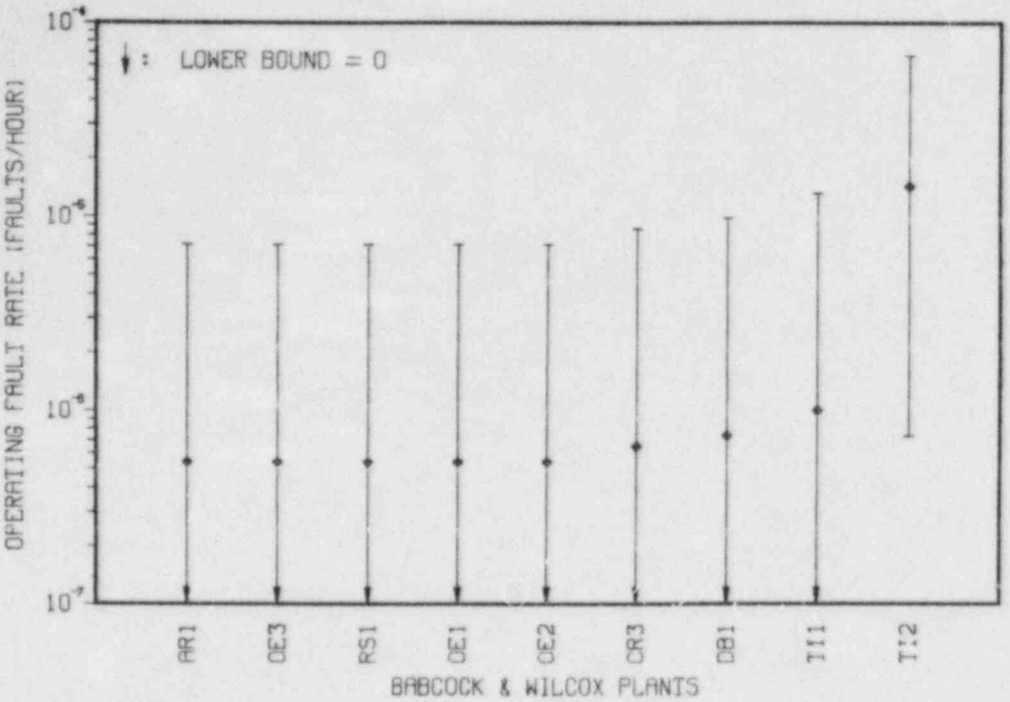

Figure 15a. Scatter plot of operating LER rates for Babcock & Wilcox plant core flux sensors, inoperable, with command faults.

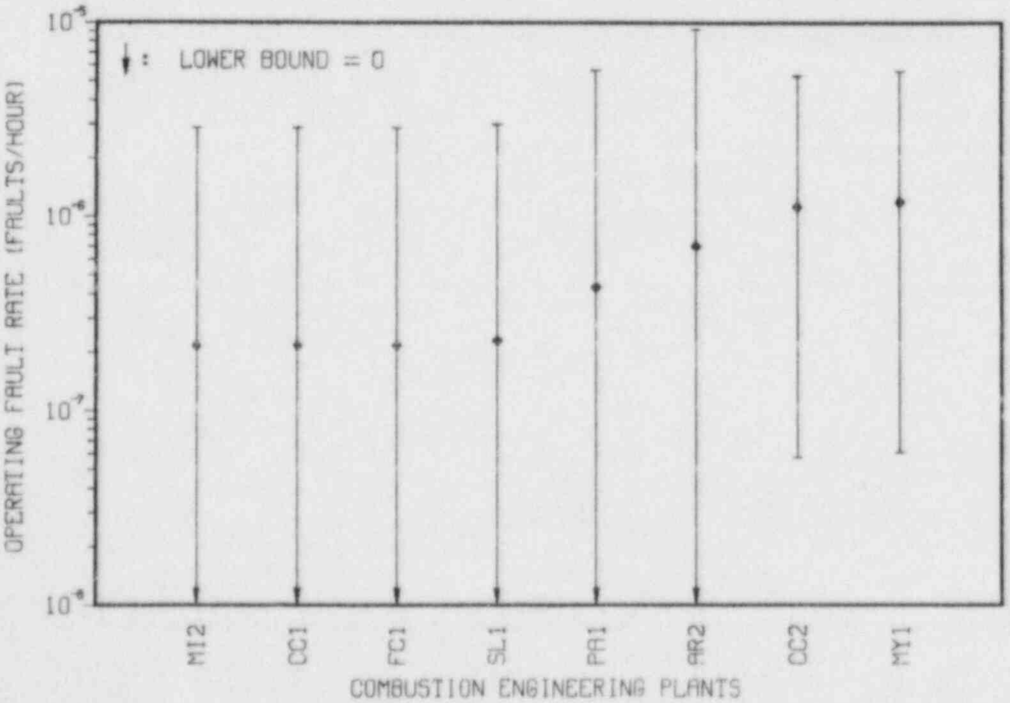

Figure 15b. Scatter plot of operating LER rates for Combustion Engineering plant core flux sensors, inoperable, with command faults.

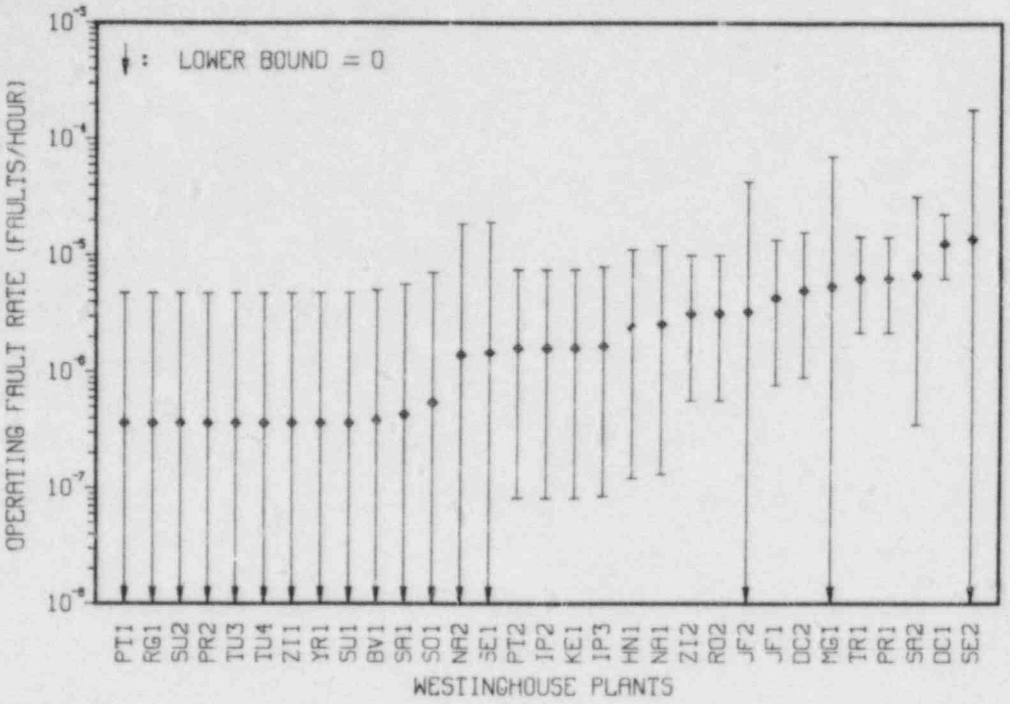

Figure 15c. Scatter plot of operating LER rates for Westinghouse plant core flux sensors, inoperable, with command faults.

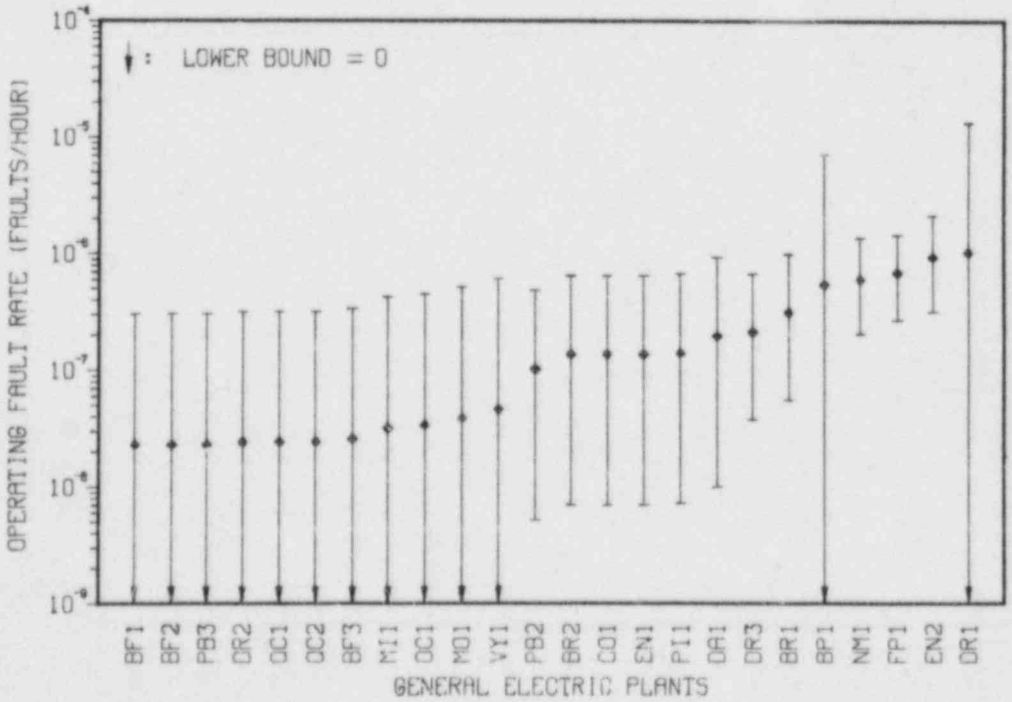

Figure 15d. Scatter plot of operating LER rates for General Electric plant core flux sensors, inoperable, with command faults.

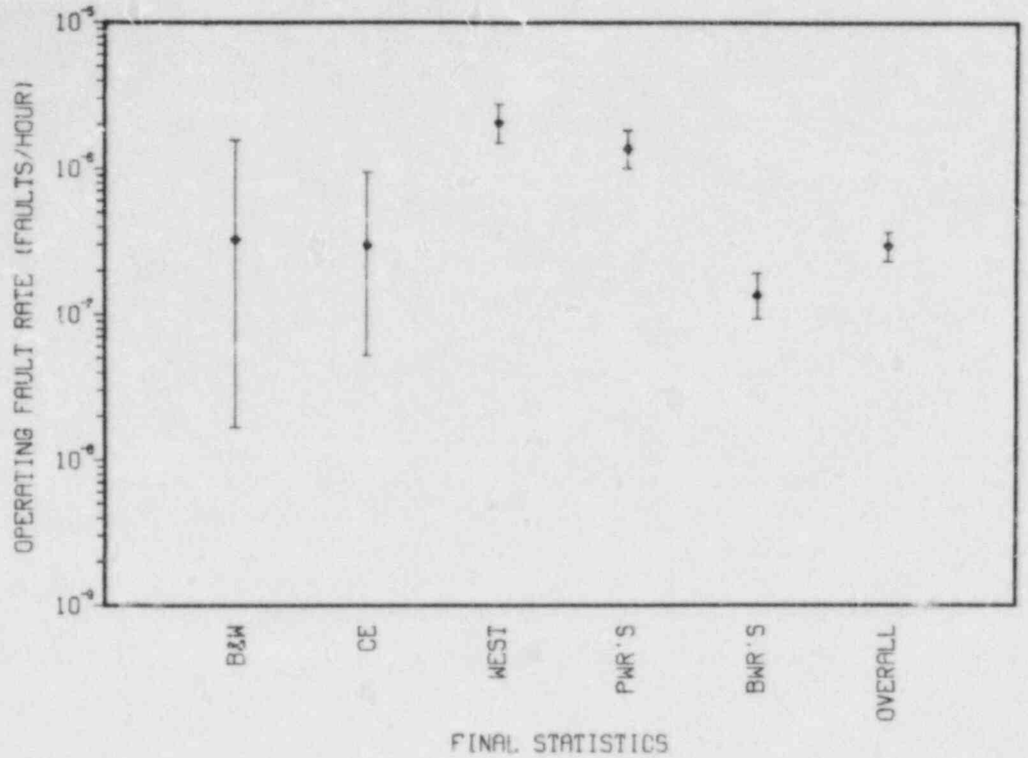

Figure 15e. Scatter plot summarizing operating LER rates of core flux sensors, inoperable, with command faults.

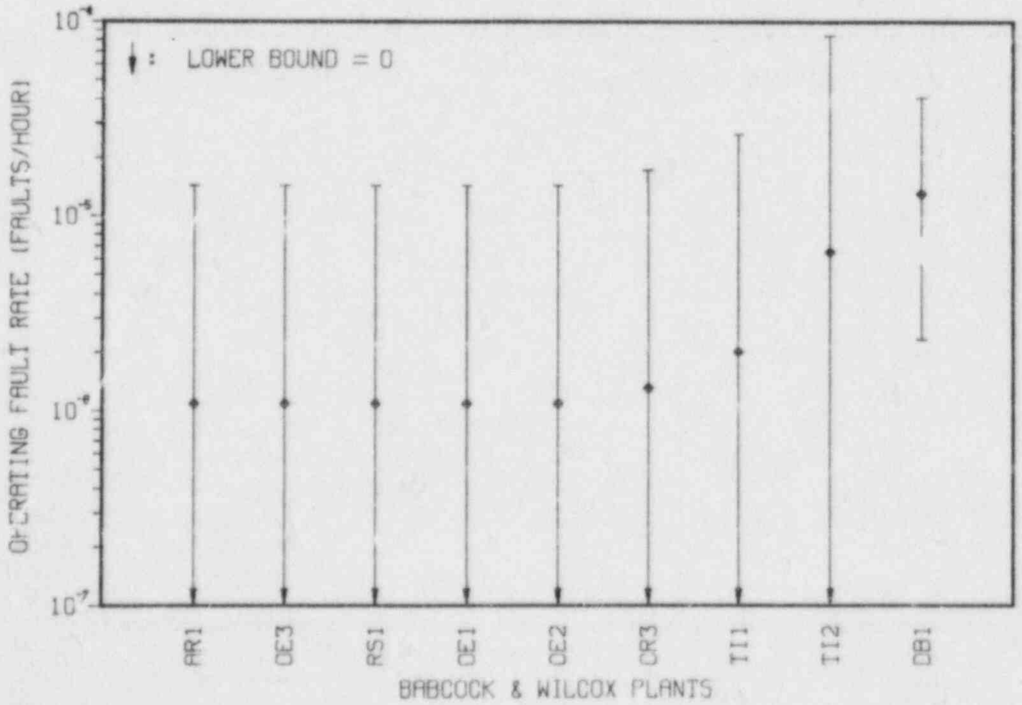

Figure 16a. Scatter plot of operating LER rates for Babcock & Wilcox plant temperature sensors, inoperable, with command faults.

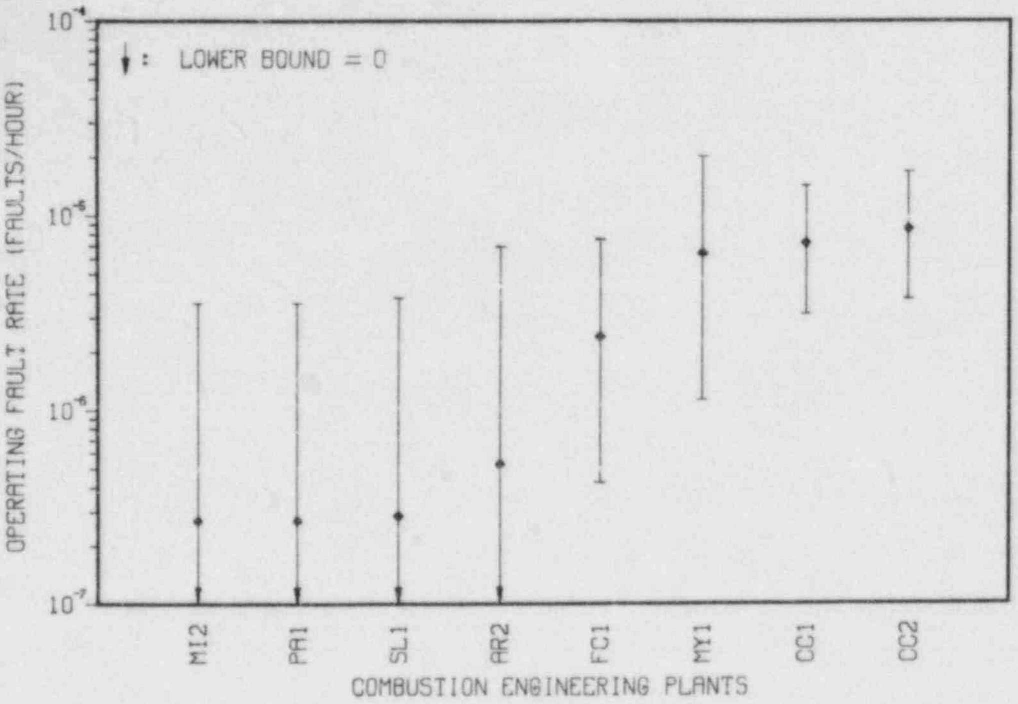

Figure 16b. Scatter plot of operating LER rates for Combustion Engineering plant temperature sensors, inoperable, with command faults.

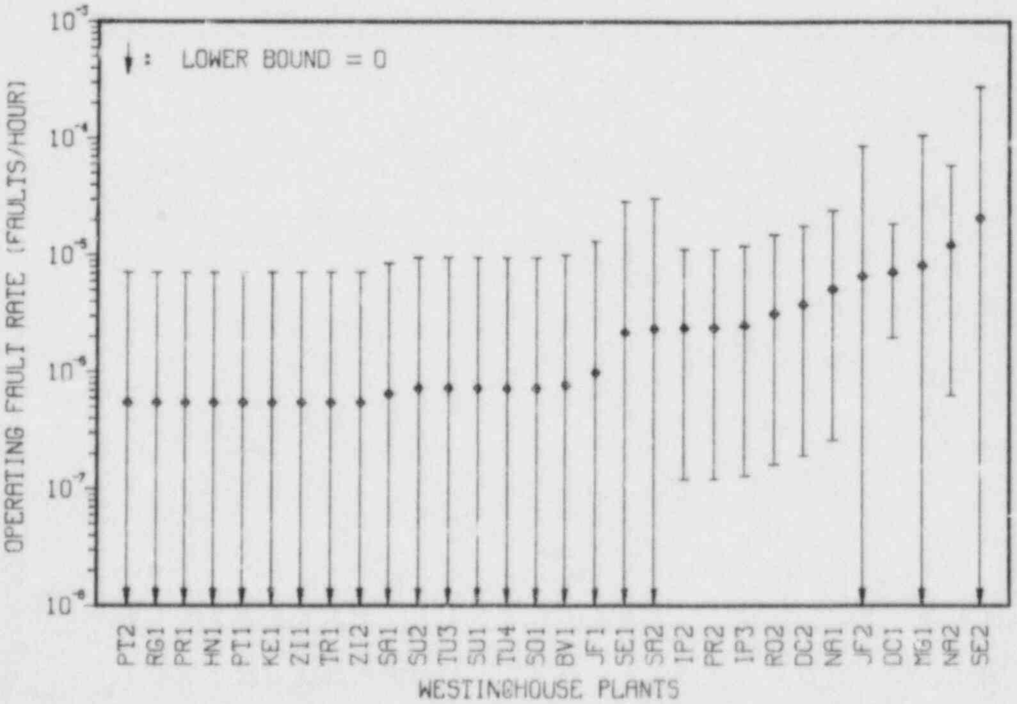

Figure 16c. Scatter plot of operating LER rates for Westinghouse plant temperature sensors, inoperable, with command faults.

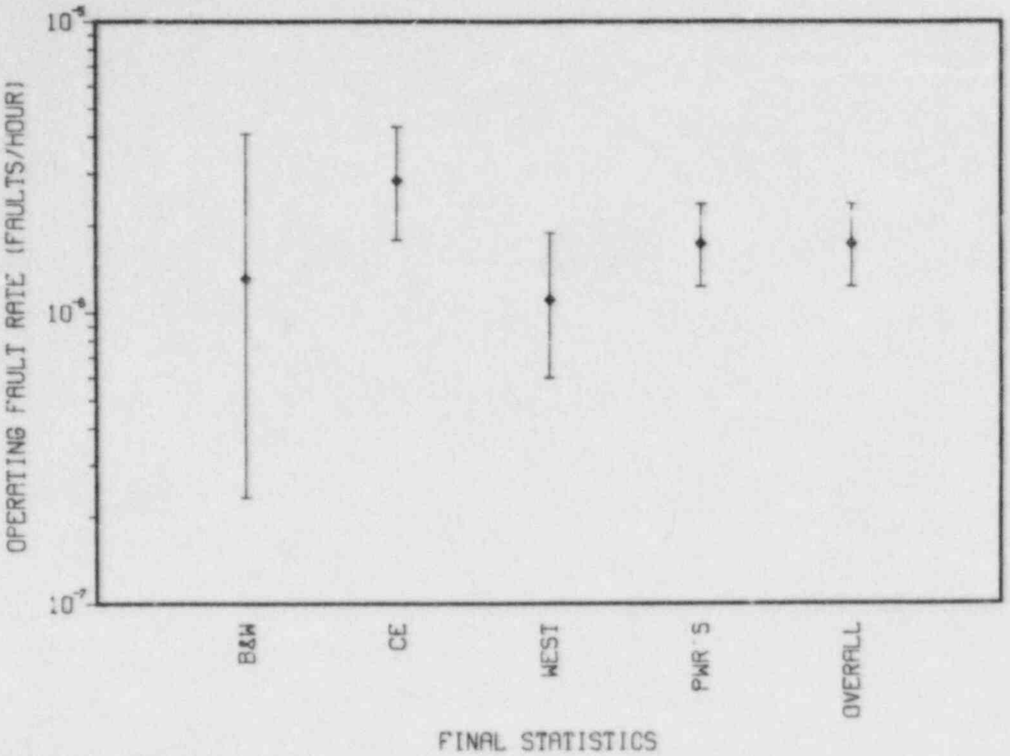

Figure 16d. Scatter plot summarizing operating LER rates of temperature sensors, inoperable, with command faults.

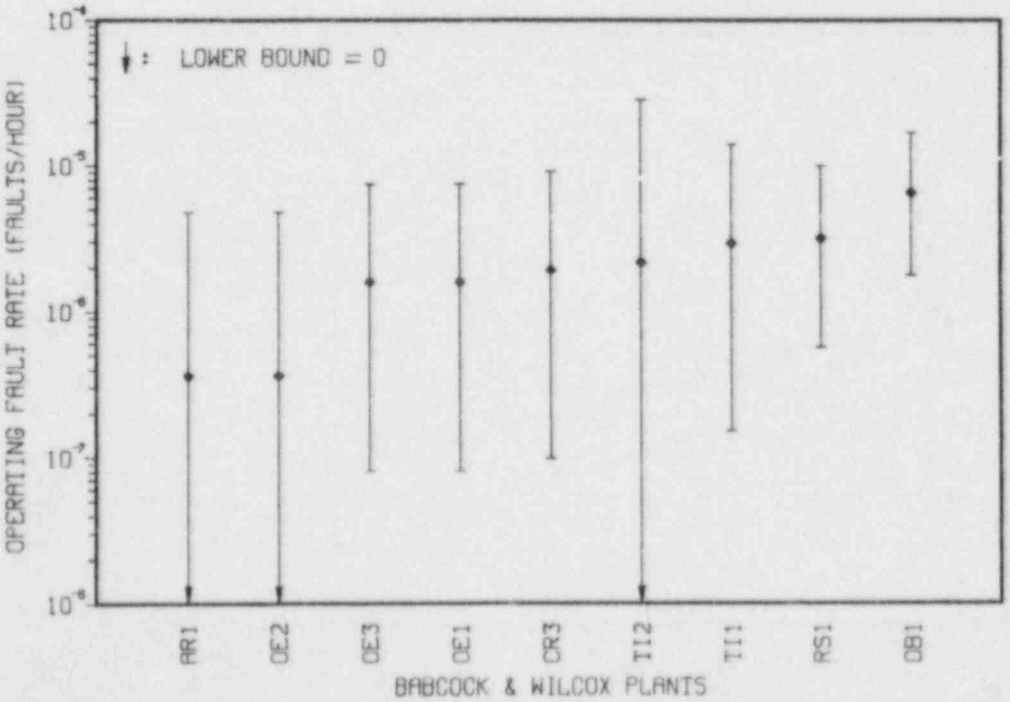

Figure 17a. Scatter plot of operating LER rates for Babcock & Wilcox plant flow and pressure transmitters, inoperable, with command faults.

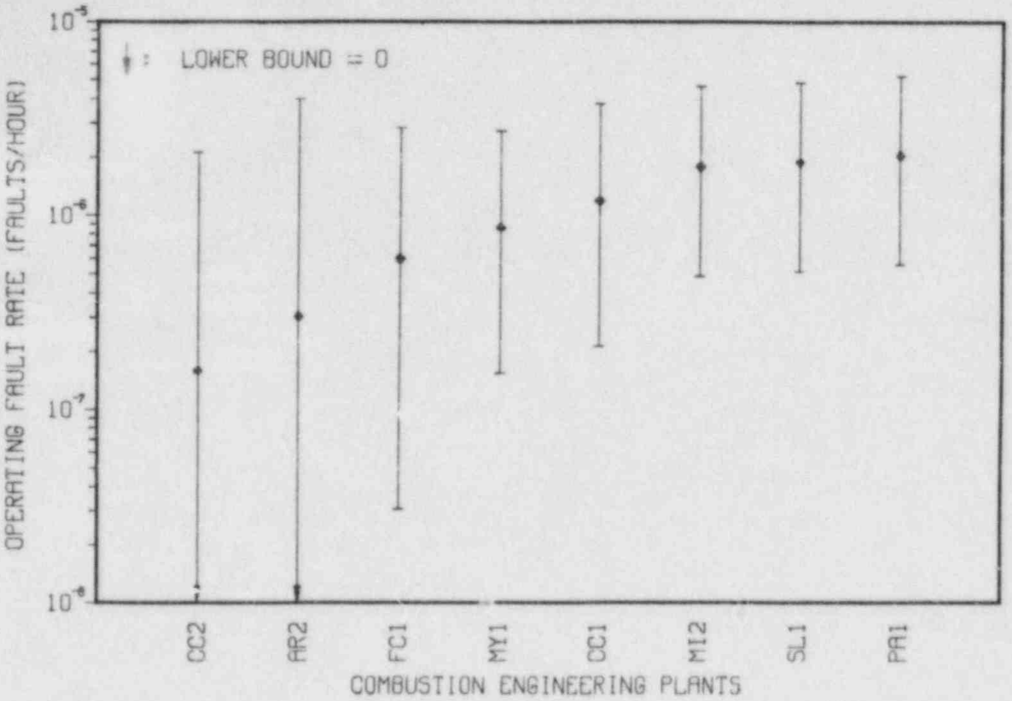

Figure 17b. Scatter plot of operating LER rates for Combustion Engineering plant flow, level, and pressure transmitters, inoperable, with command faults.

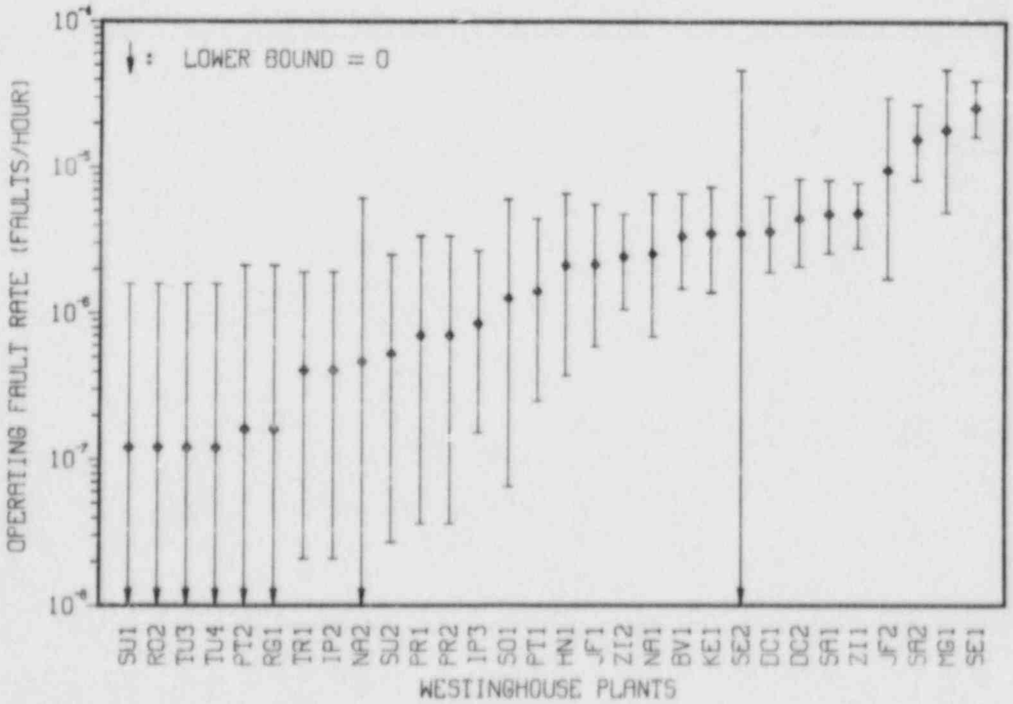

Figure 17c. Scatter plot of operating LER rates for Westinghouse plant flow, level, and pressure transmitters, inoperable, with command faults.

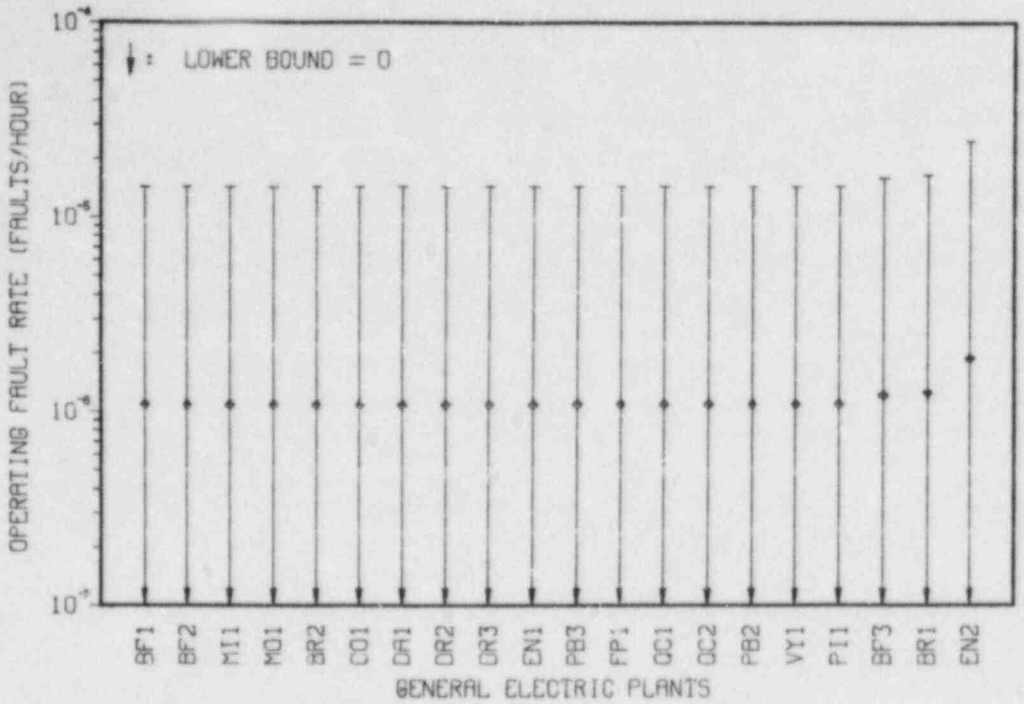

Figure 17d. Scatter plot of operating LER rates for General Electric plant flow transmitters, inoperable, with command faults.

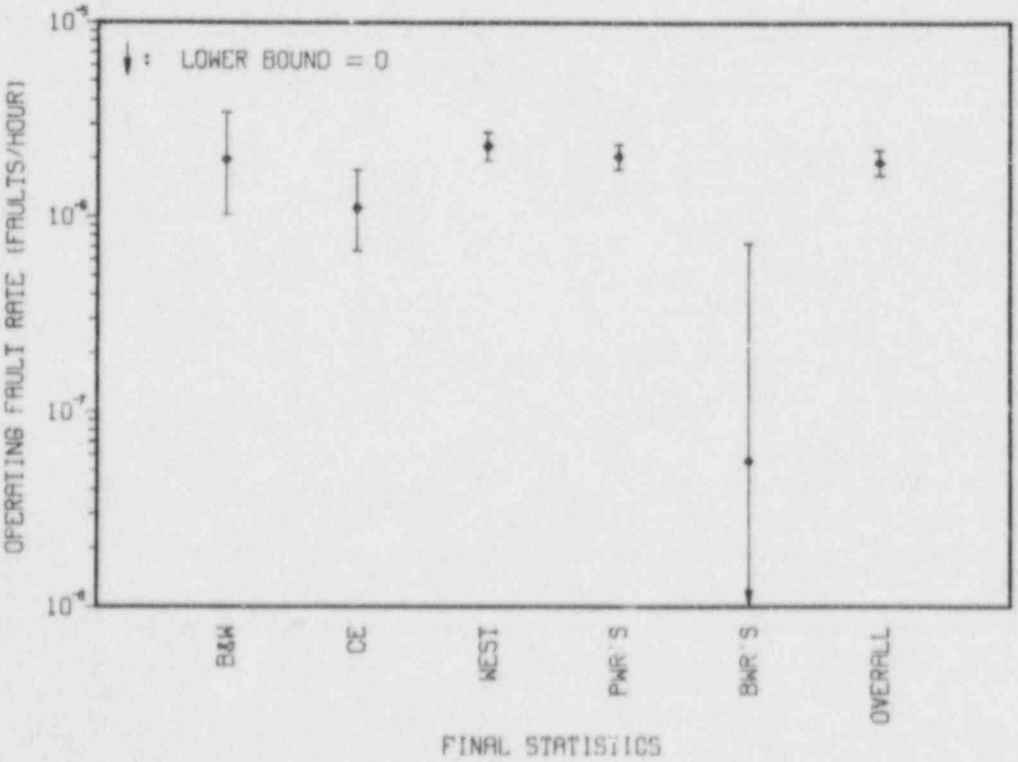

Figure 17e. Scatter plot summarizing operating LER rates of flow, level, and pressure transmitters, inoperable, with command faults.

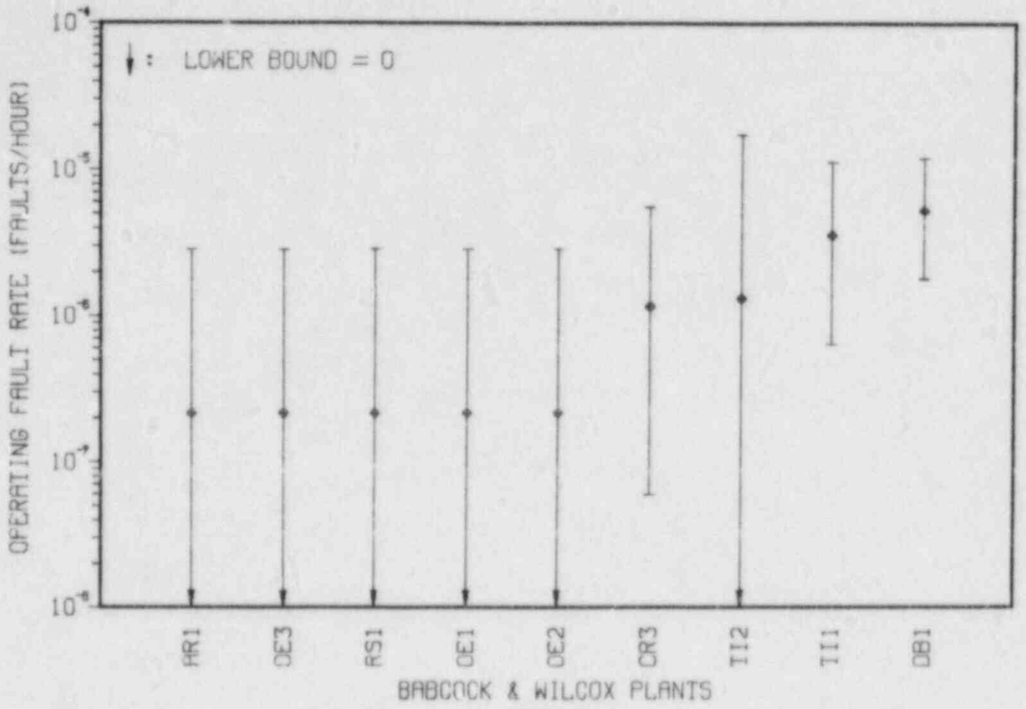

Figure 18a. Scatter plot of operating LER rates for Babcock & Wilcox plant flow, pressure, temperature, and core flux conditioning systems, inoperable, with command faults.

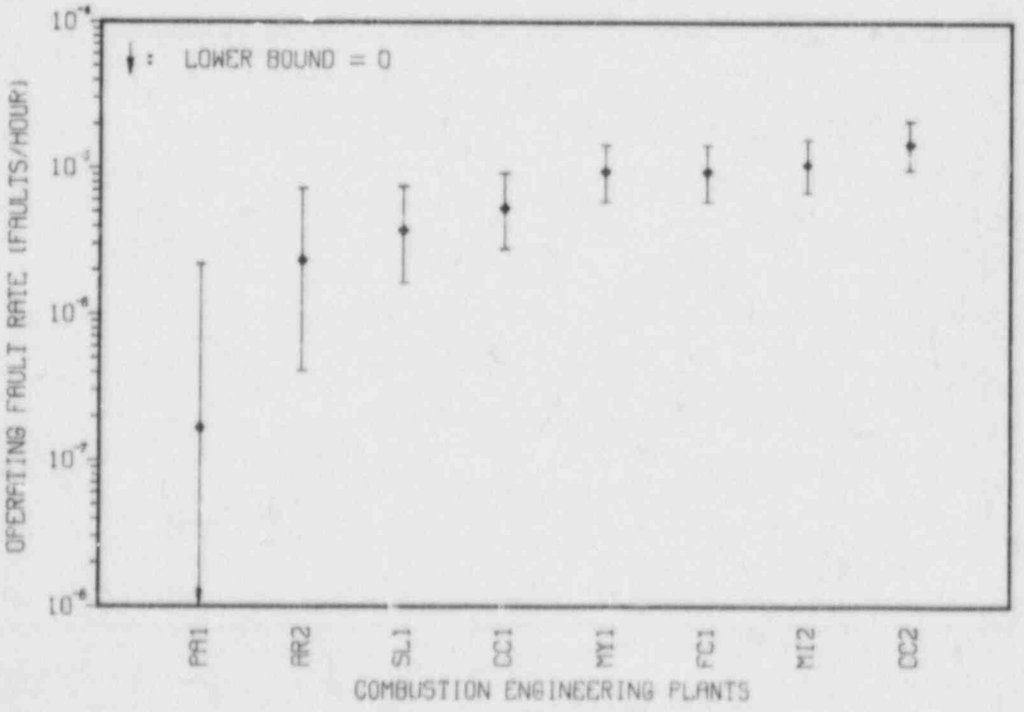

Figure 18b. Scatter plot of operating LER rates for Combustion Engineering plant flow, level, pressure, temperature, and core flux conditioning systems, inoperable, with command faults.

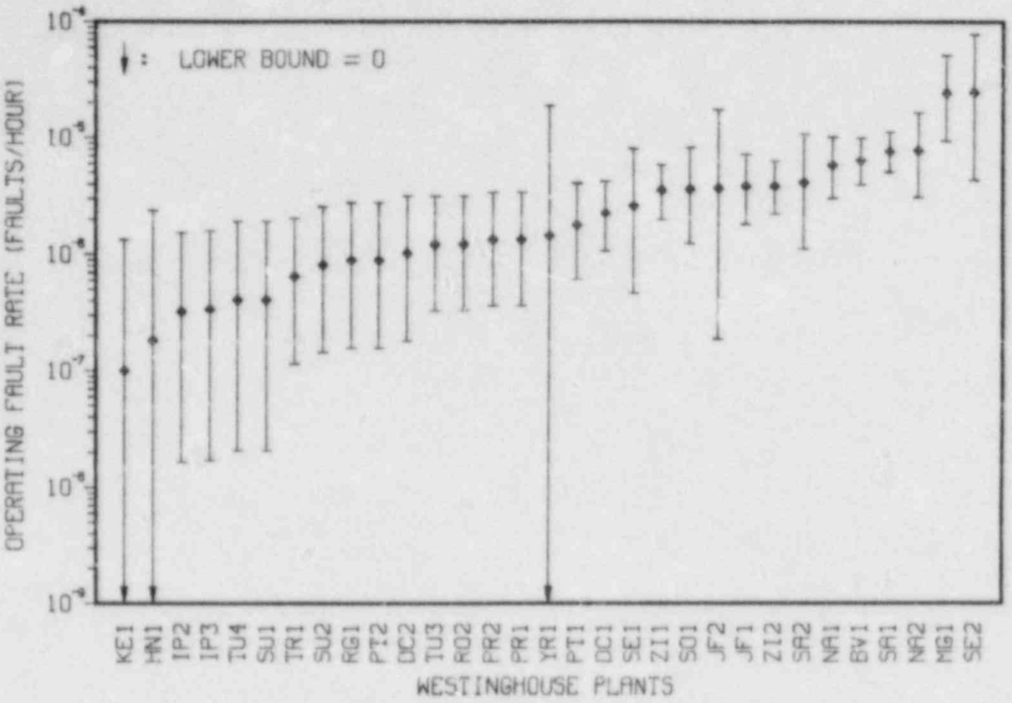

Figure 18c. Scatter plot of operating LER rates for Westinghouse plant flow, level, pressure, temperature, and core flux conditioning systems, inoperable, with command faults.

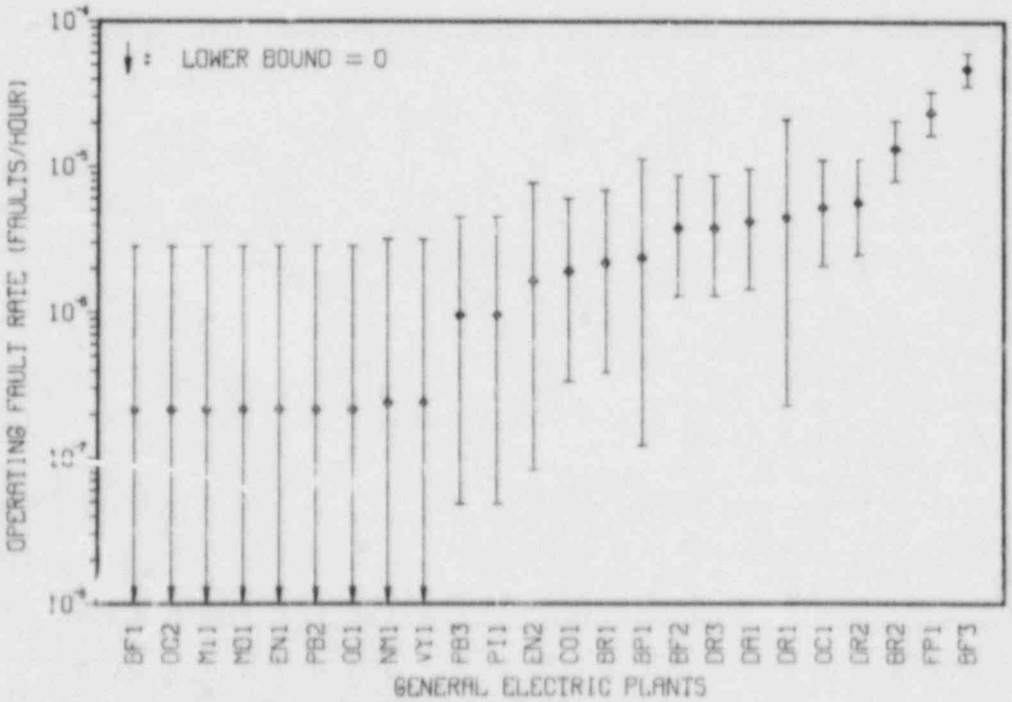

Figure 18d. Scatter plot of operating LER rates for General Electric plant flow and core flux conditioning systems, inoperable, with command faults.

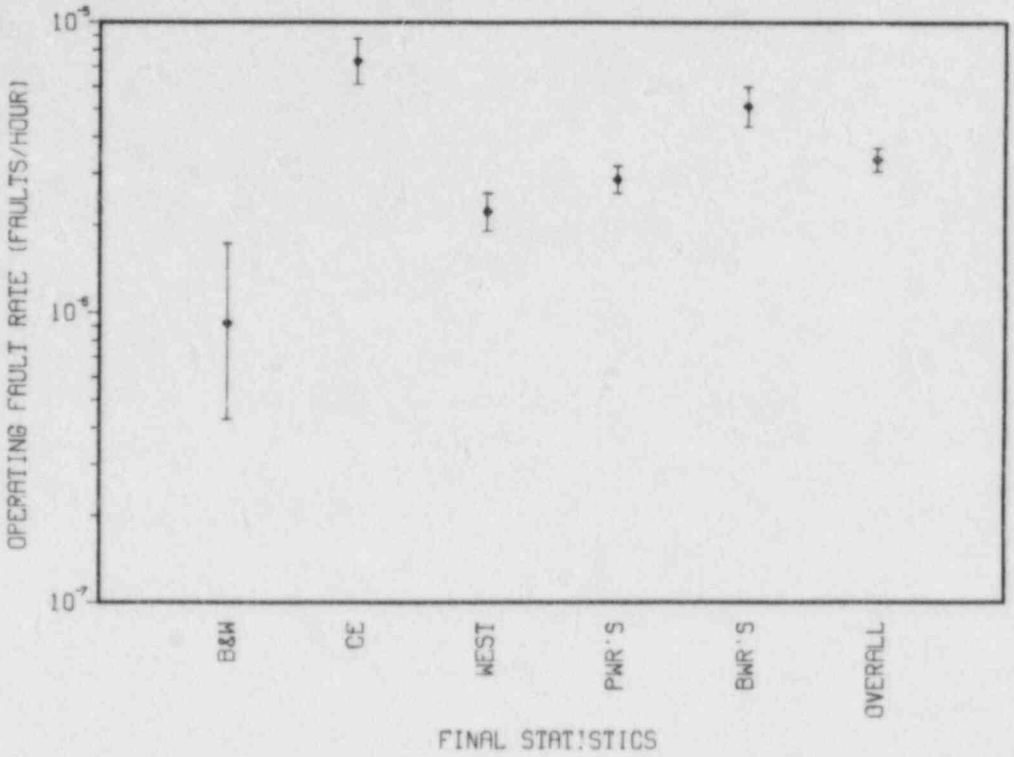

Figure 18e. Scatter plot summarizing operating LER rates of flow, level, pressure, temperature, and core flux conditioning systems, inoperable, with command faults.

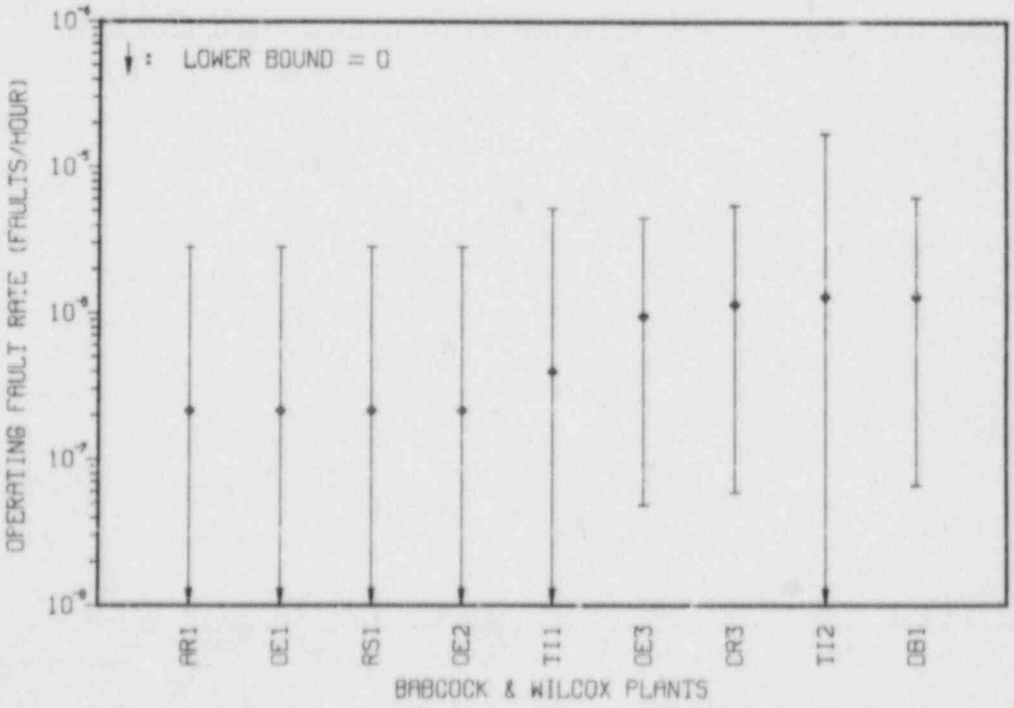

Figure 19a. Scatter plot of operating LER rates for Babcock & Wilcox plant flow, pressure, temperature, and core flux bistables, inoperable, with command faults.

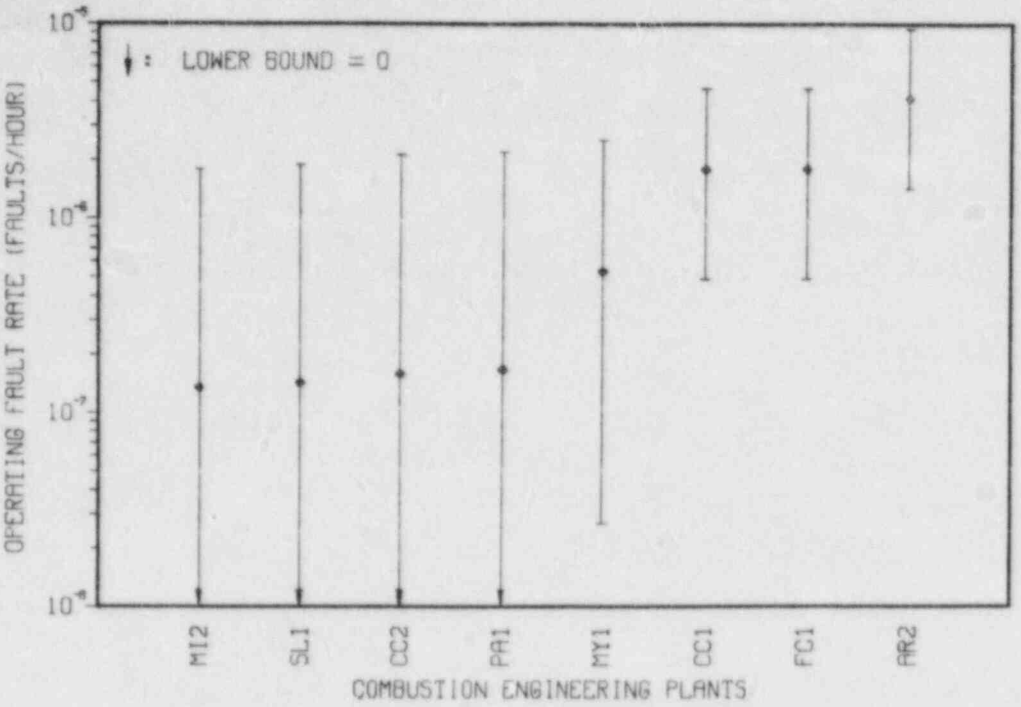

Figure 19b. Scatter plot of operating LER rates for Combustion Engineering plant flow, level, pressure, temperature, and core flux bistables, inoperable, with command faults.

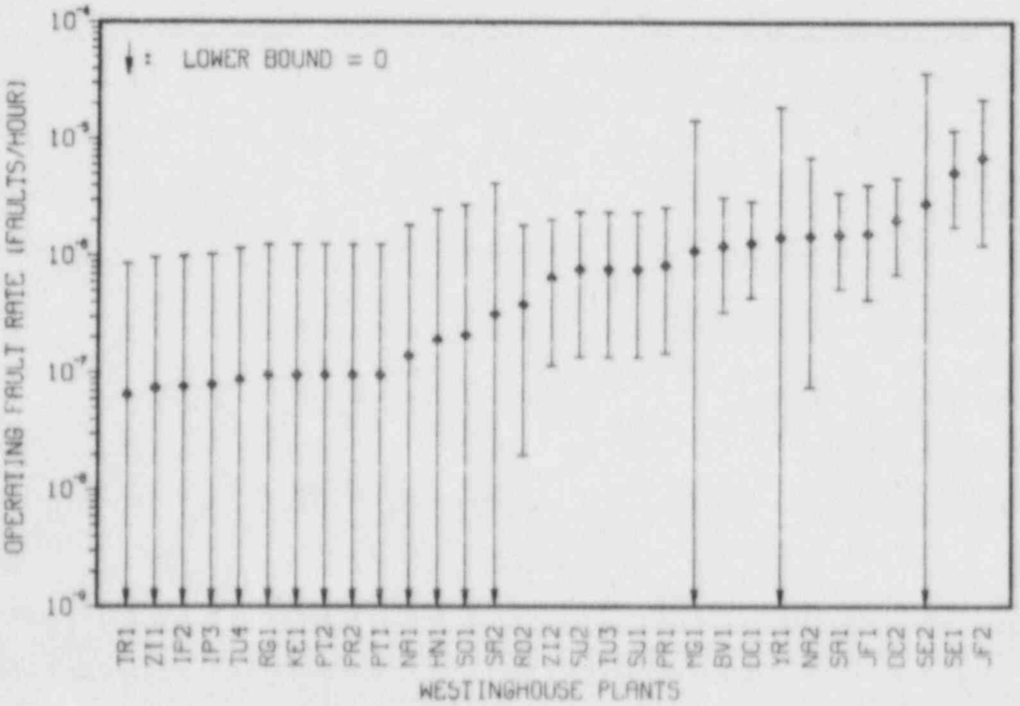

Figure 19c. Scatter plot of operating LER rates for Westinghouse plant flow, level, pressure, temperature, a l core flux bistables, inoperable, with command faults.

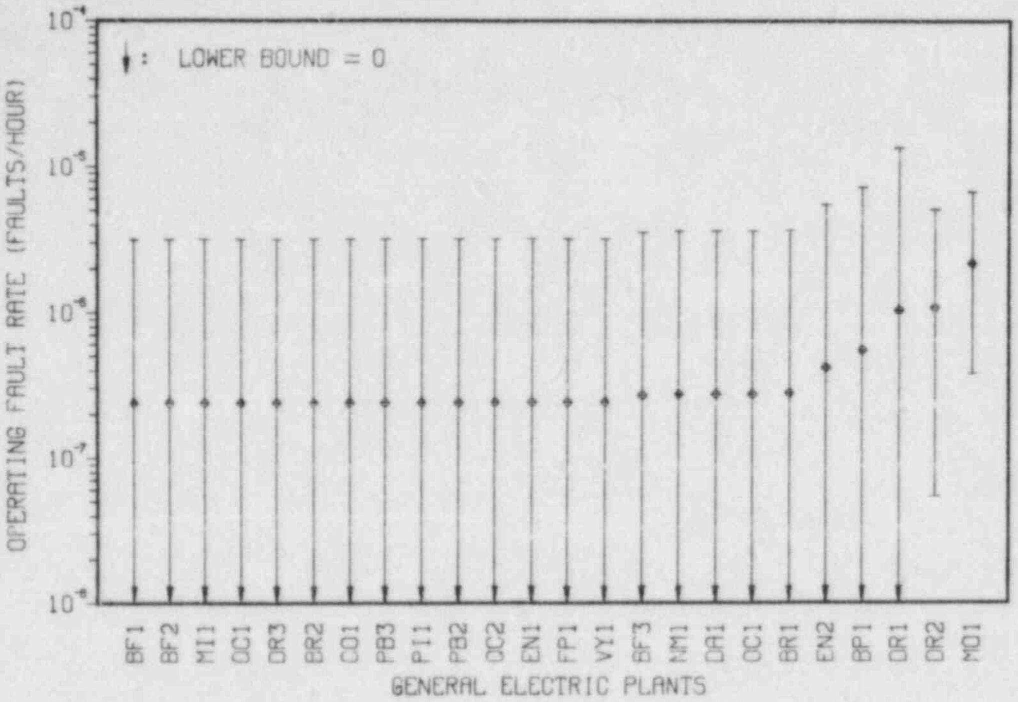

Figure 19d. Scatter plot of operating LER rates for General Electric plant flow and core flux bistables, inoperable, with command faults.

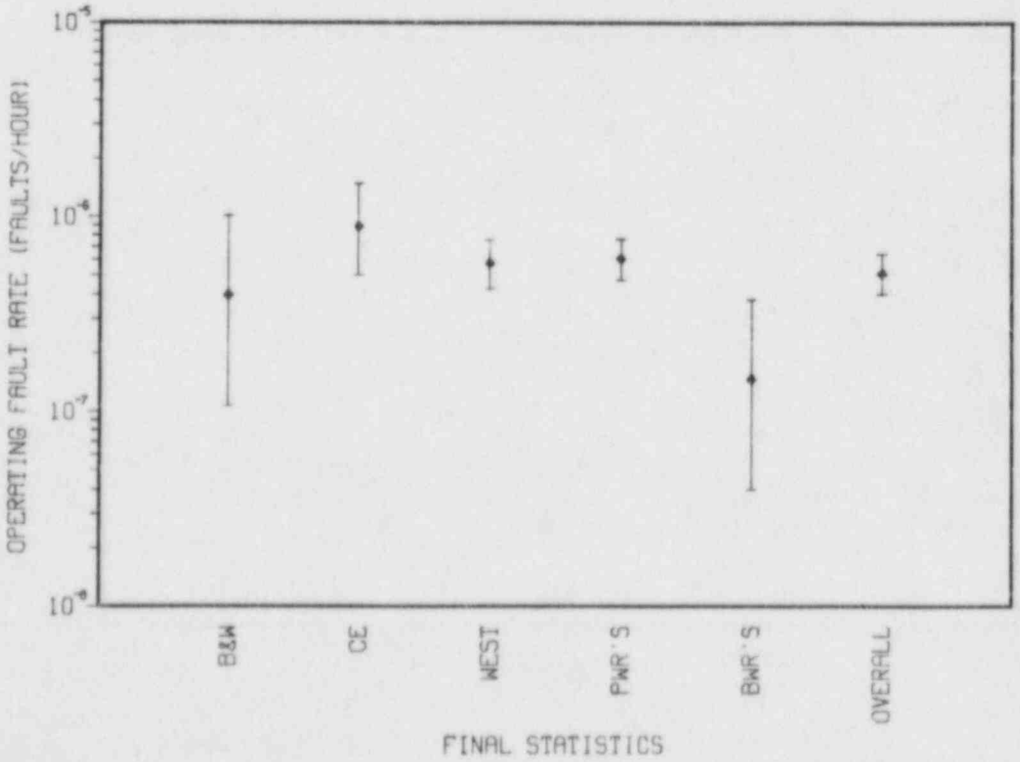

Figure 19e. Scatter plot summarizing operating LER rates of flow, level, pressure, temperature, and core flux bistables, inoperable, with command faults.

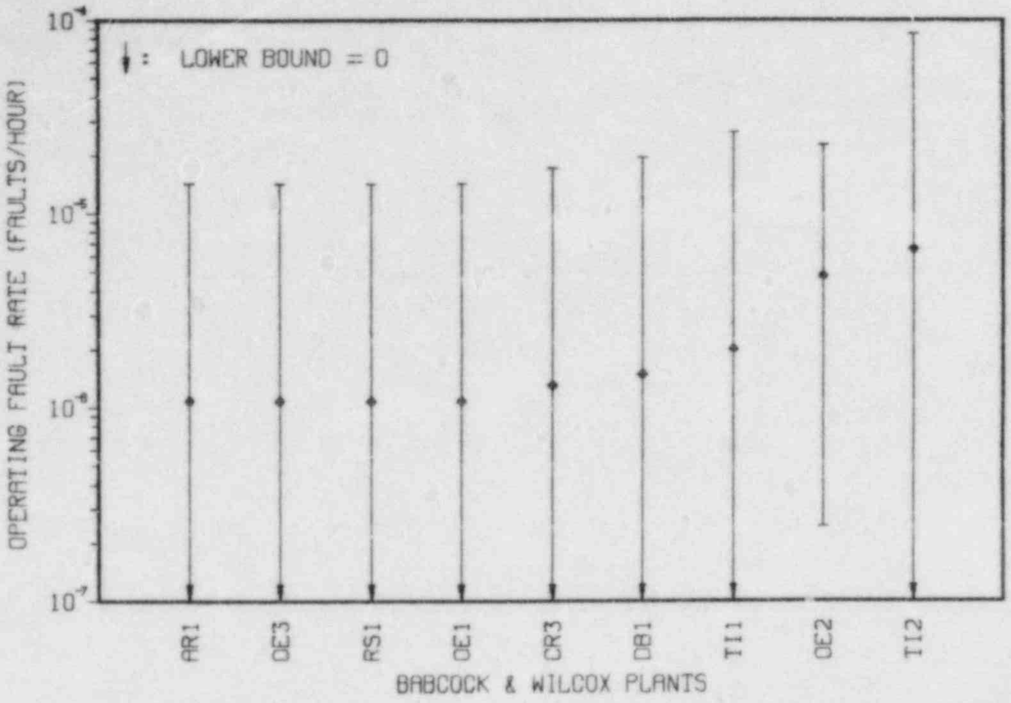

Figure 20a. Scatter plot of operating LER rates for Babcock & Wilcox plant pressure switches, inoperable, with command faults.

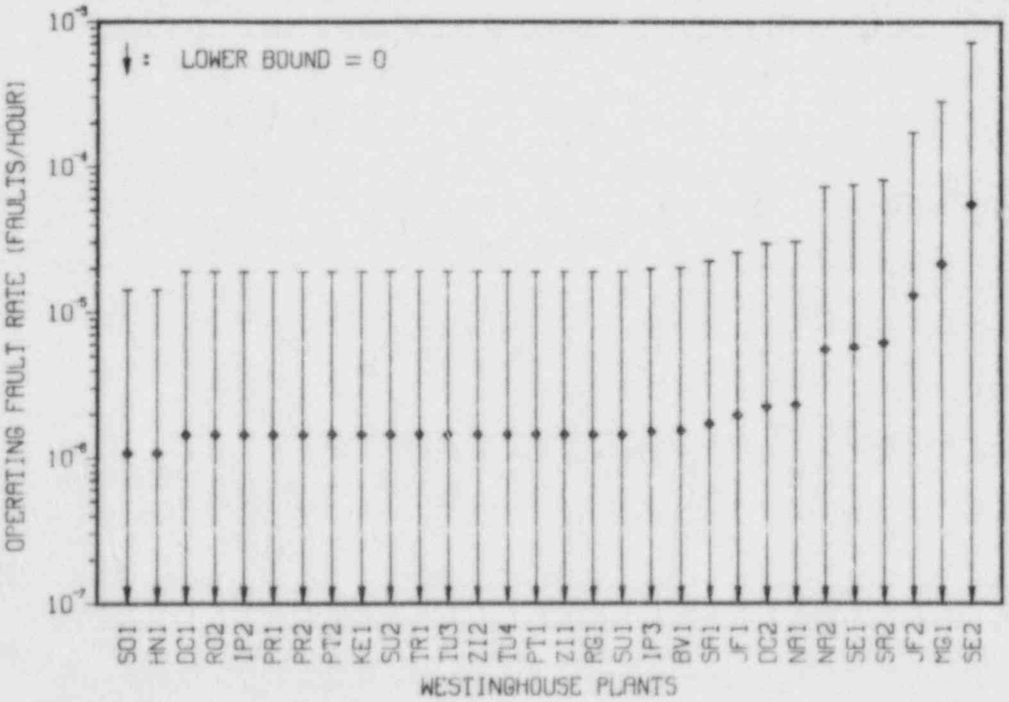

Figure 20b. Scatter plot of operating LER rates for Westinghouse plant pressure switches, inoperable, with command faults.

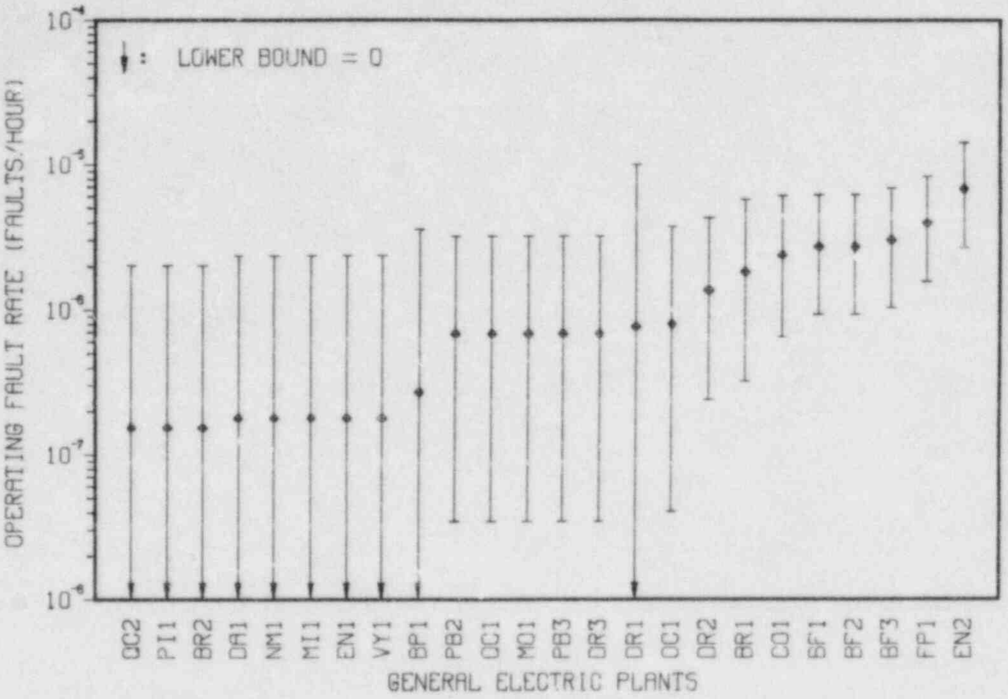

Figure 20c. Scatter plot of operating LER rates for General Electric plant pressure/vacuum and level switches, inoperable, with command faults.

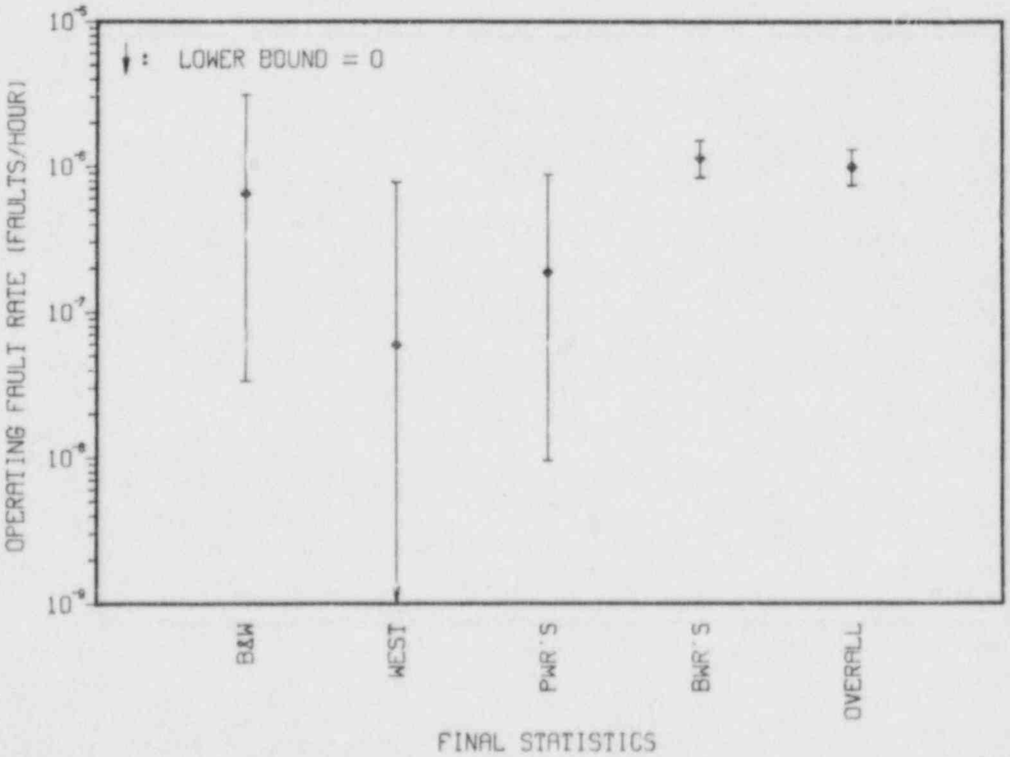

Figure 20d. Scatter plot summarizing operating LER rates of level, pressure, and pressure/vacuum switches, inoperable, with command faults.

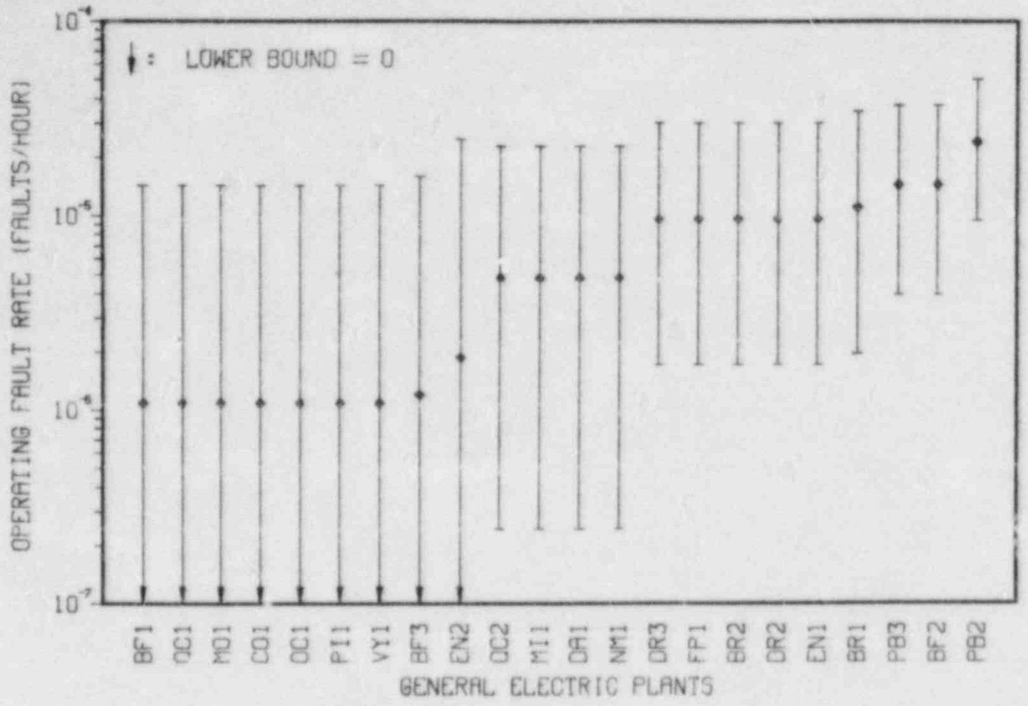

Figure 21a. Scatter plot of operating LER rates for General Electric plant radiation monitors, inoperable, with command faults.

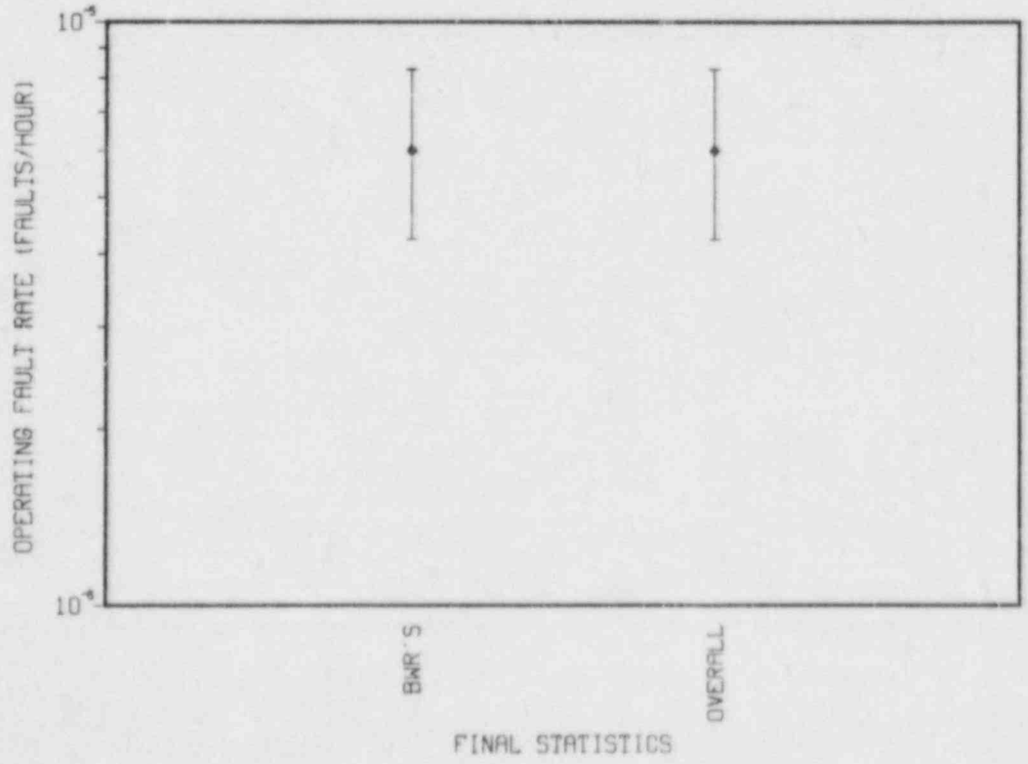

Figure 21b. Scatter plot summarizing operating LER rates of radiation monitors, inoperable, with command faults.

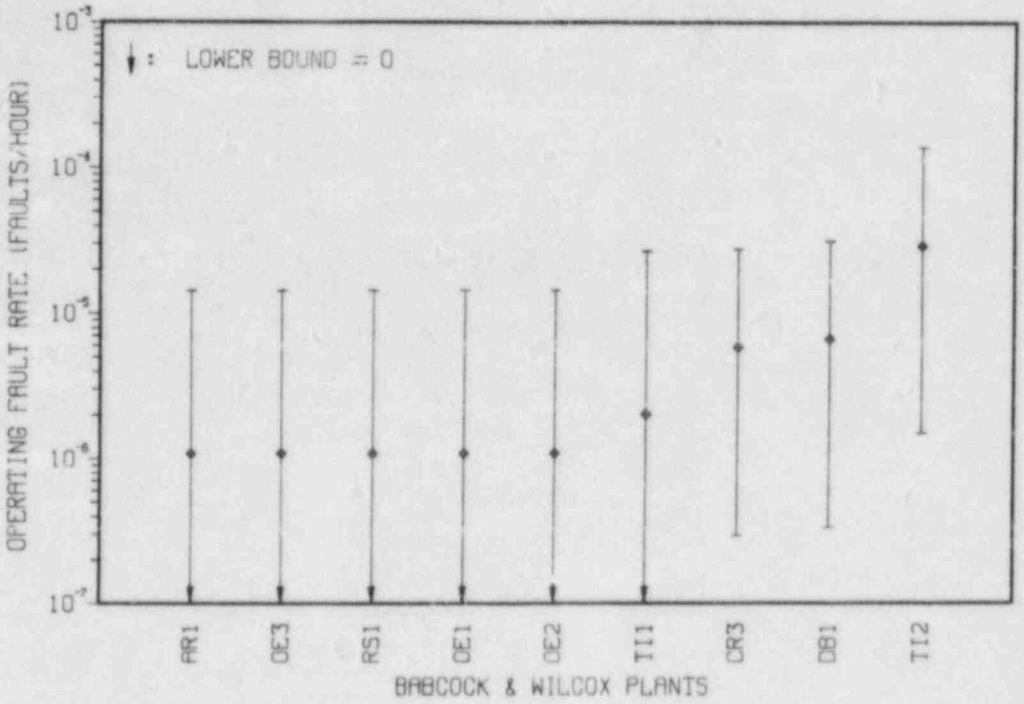

Figure 22a. Scatter plot of operating LER rates for Babcock & Wilcox plant core flux channels, inoperable, with command faults.

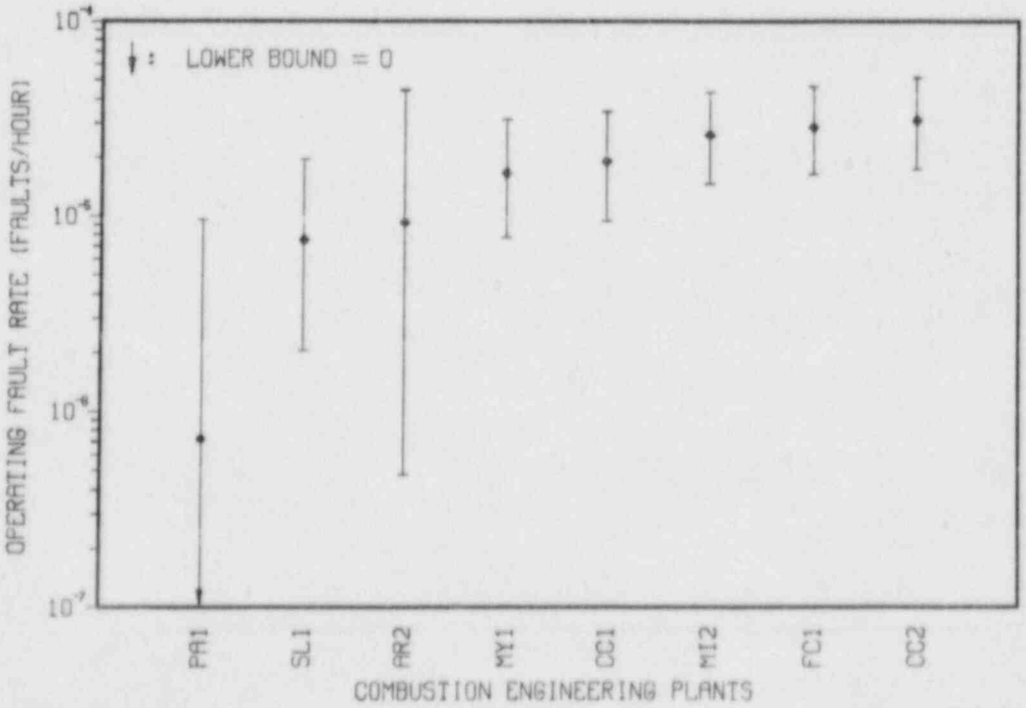

Figure 22b. Scatter plot of operating LER rates for Combustion Engineering plant core flux channels, inoperable, with command faults.

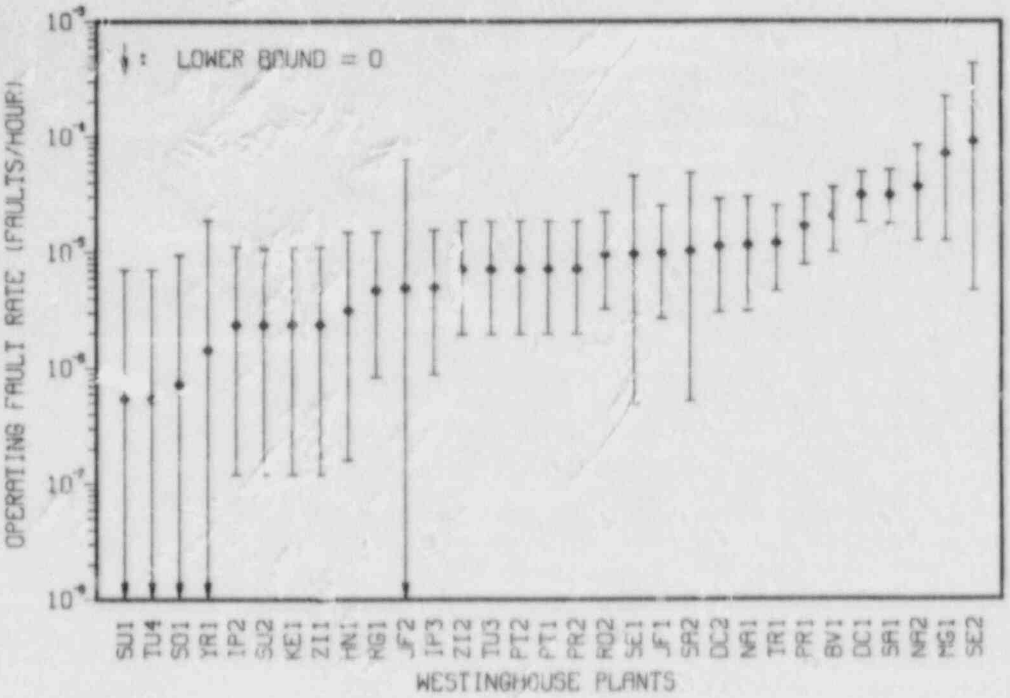

Figure 22c. Scatter plot of operating LER rates for Westinghouse plant core flux channels, inoperable, with command faults.

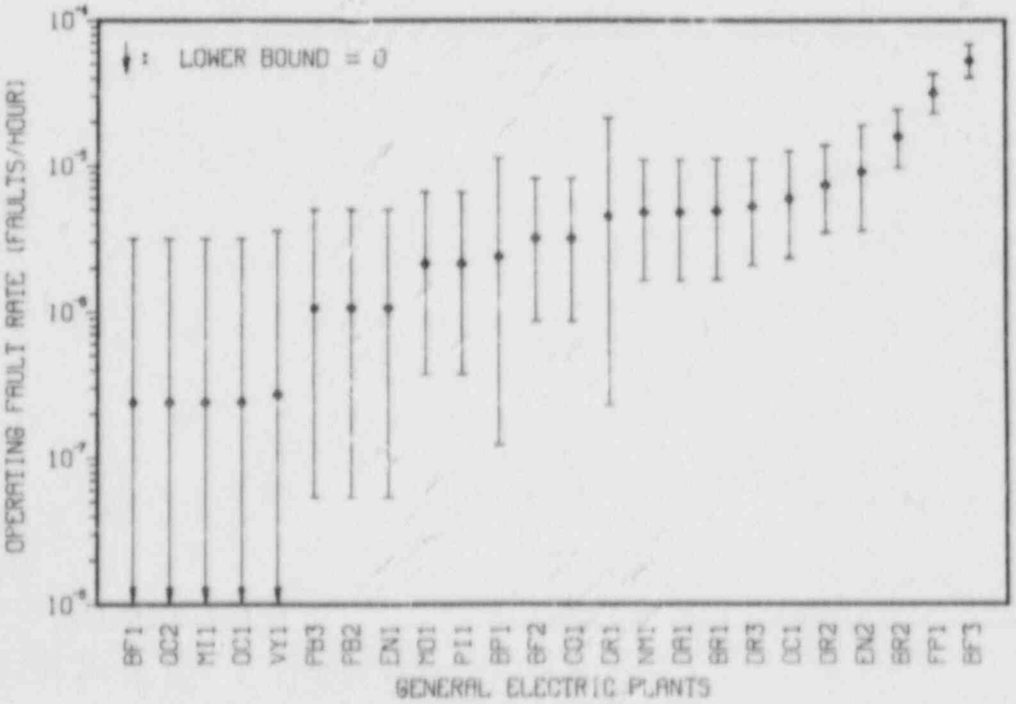

Figure 22d. Scatter plot of operating LER rates for General Electric plant core flux channels, inoperable, with command faults.

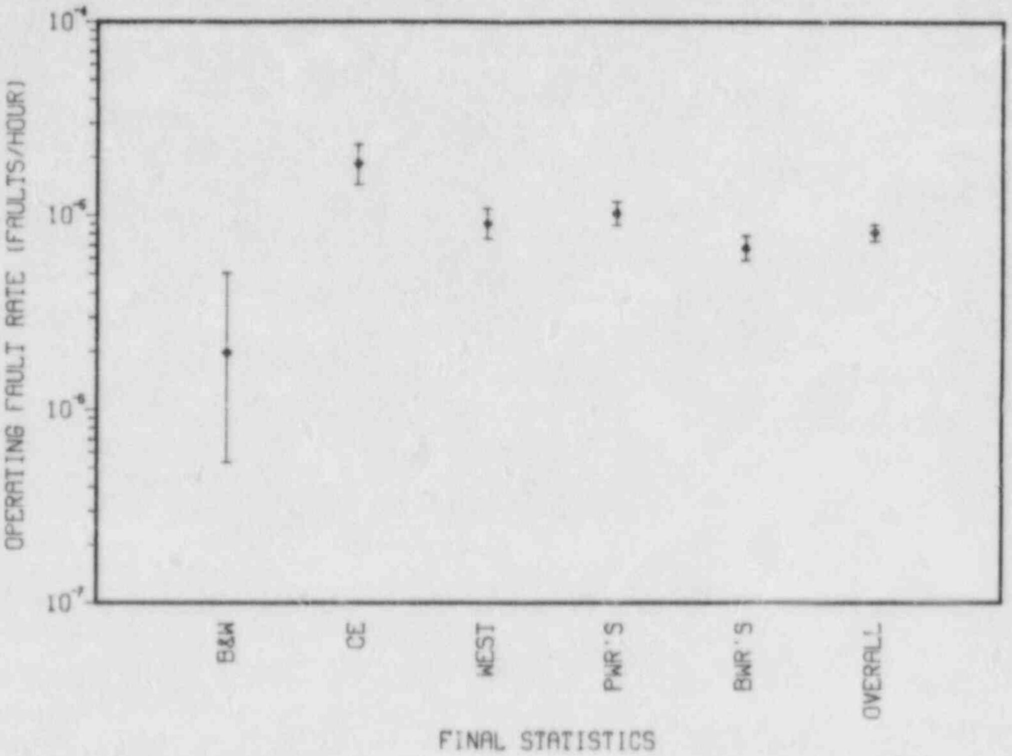

Figure 22e. Scatter plot summarizing operating LER rates of core flux channels, inoperable, with command faults.

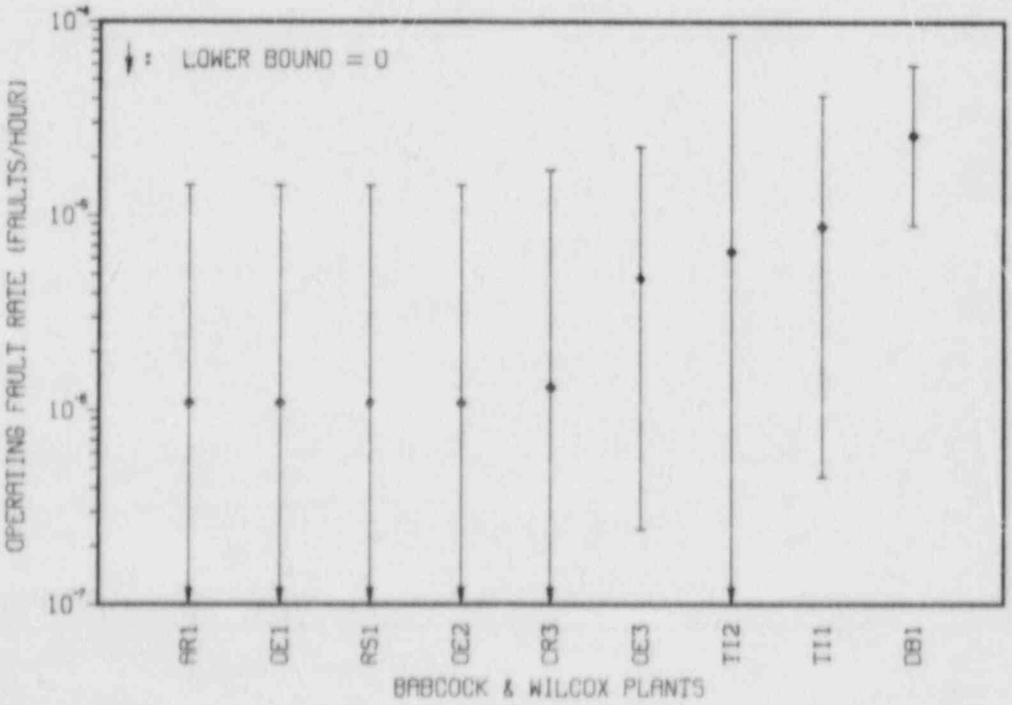

Figure 23a. Scatter plot of operating LER rates for Babcock & Wilcox plant temperature channels, inoperable, with command faults.

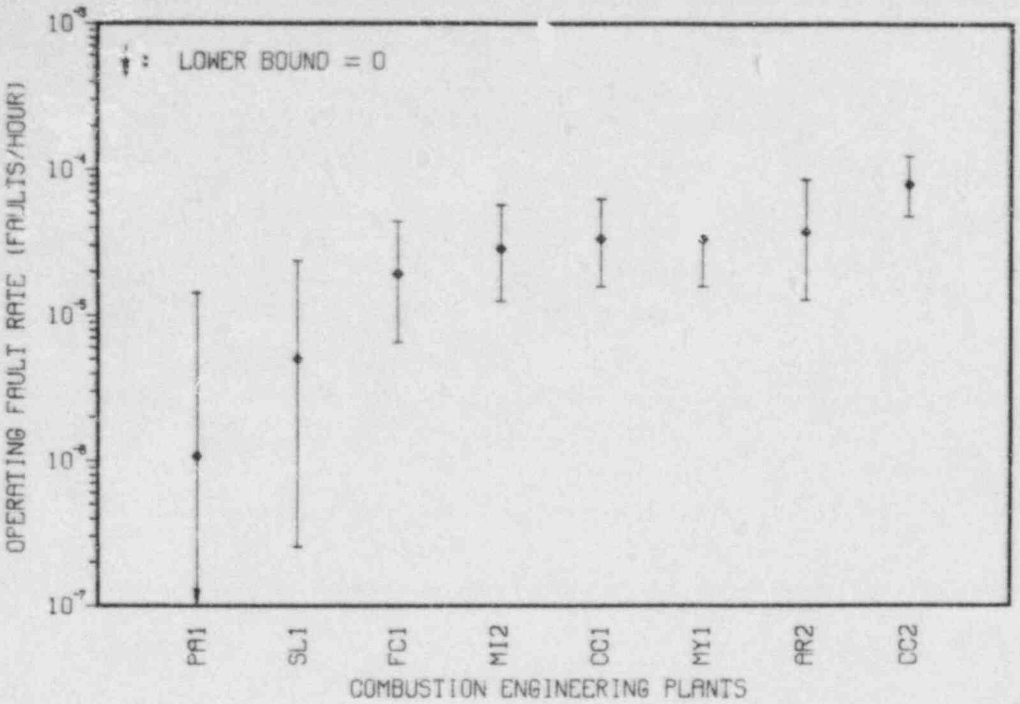

Figure 23b. Scatter plot of operating LER rates for Combustion Engineering plant temperature channels, inoperable, with command faults.

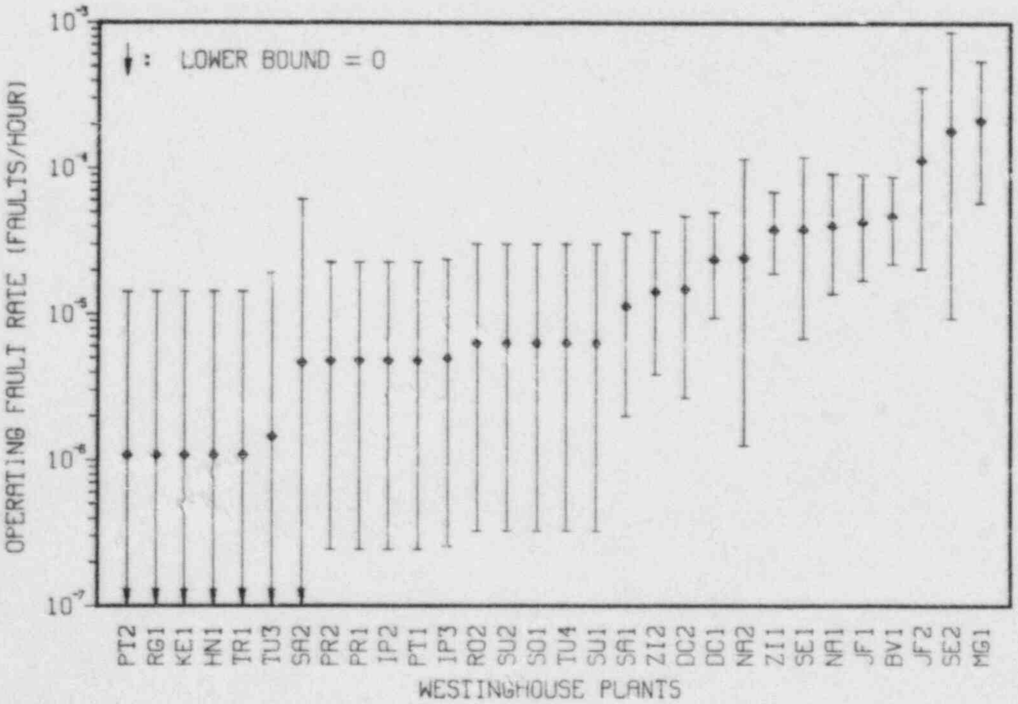

Figure 23c. Scatter plot of operating LER rates for Westinghouse plant temperature channels, inoperable, with command faults.

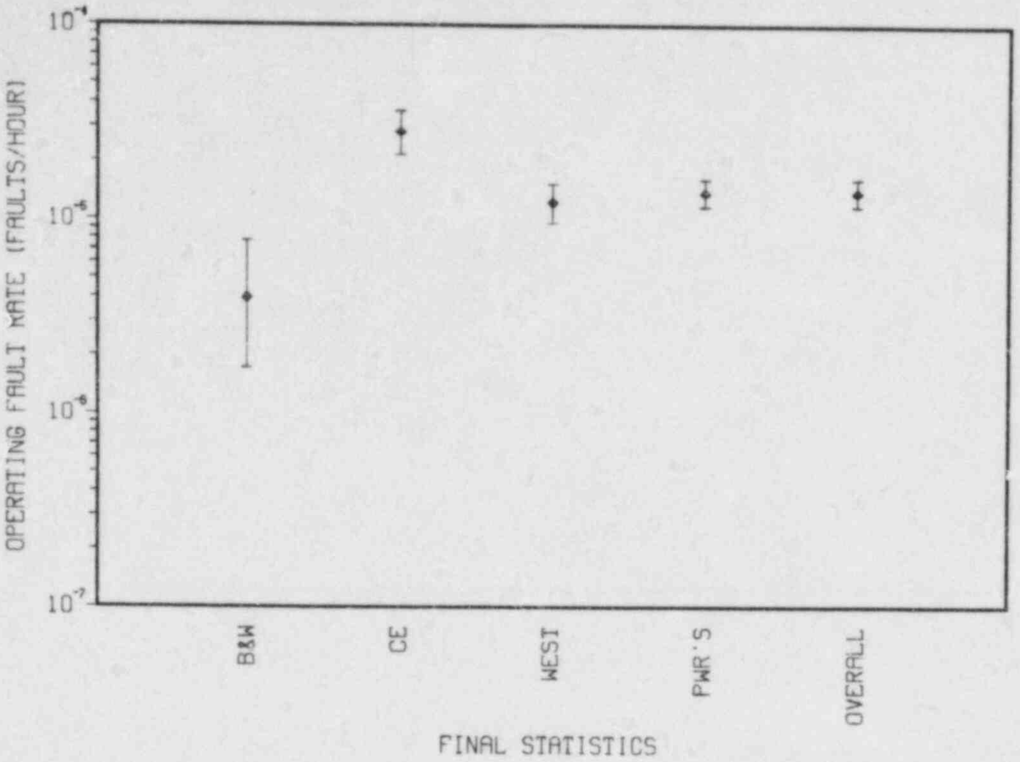

Figure 23d. Scatter plot summarizing operating LER rates of temperature channels, inoperable, with command faults.

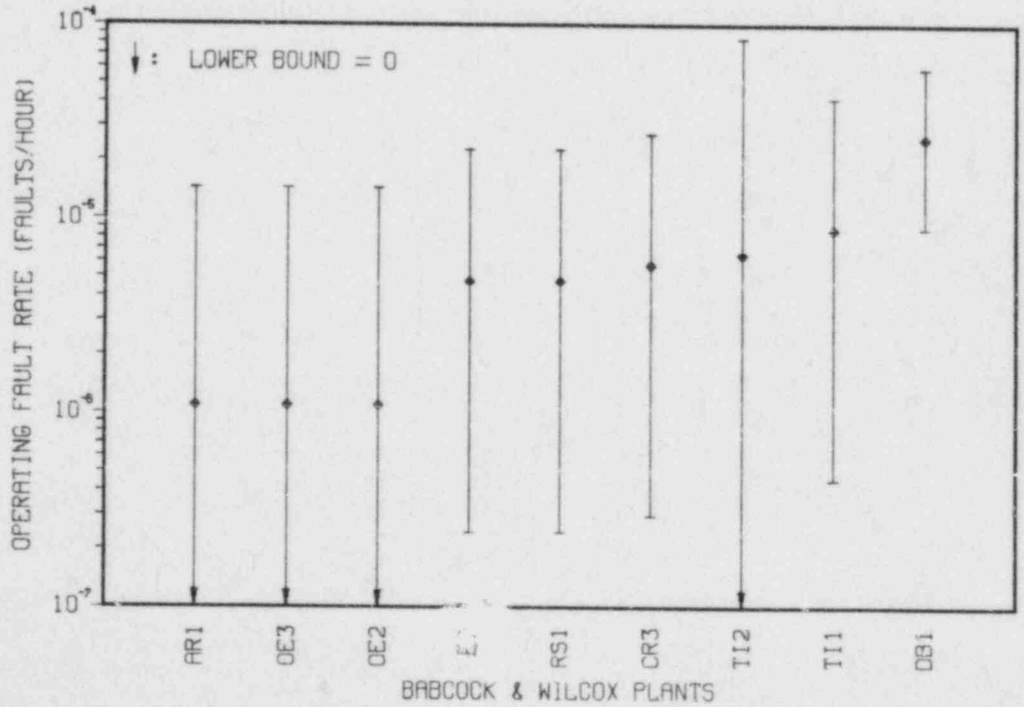

Figure 24a. Scatter plot of operating LER rates for Babcock & Wilcox plant flow channels, inoperable, with command faults.

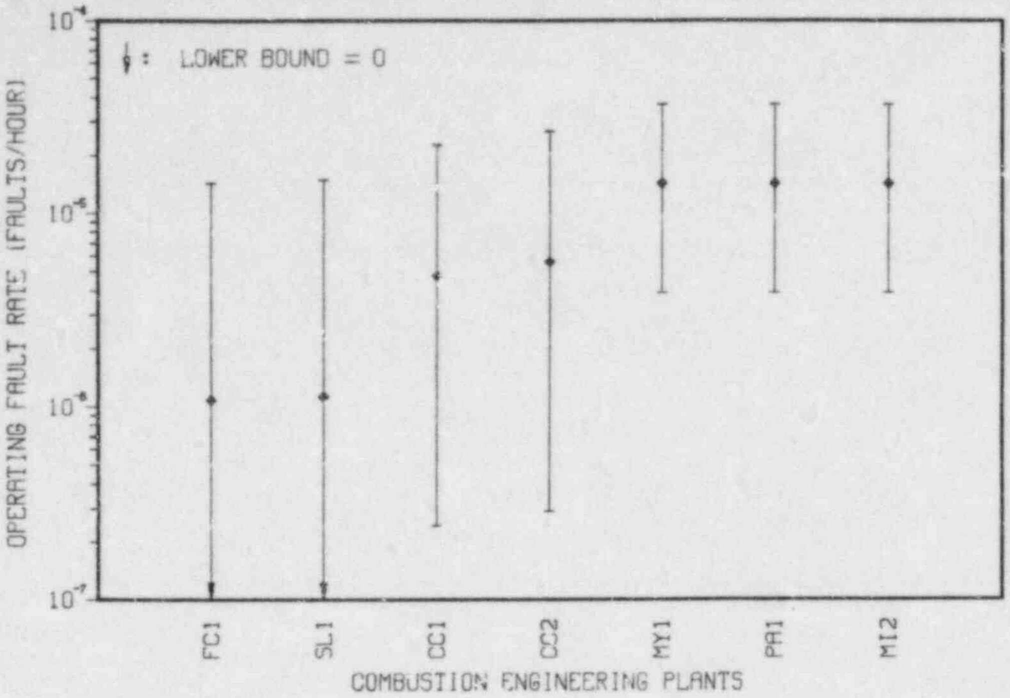

Figure 24b. Scatter plot of operating LER rates for Combustion Engineering plant flow channels, inoperable, with command faults.

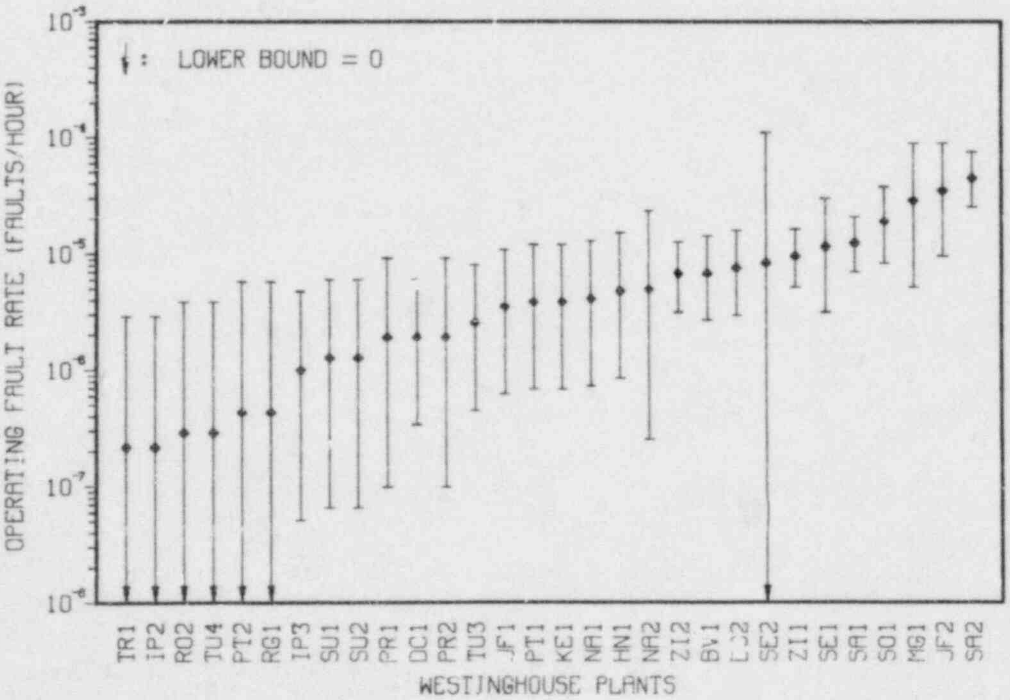

Figure 24c. Scatter plot of operating LEP rates for Westinghouse plant flow channels, inoperable, with command faults.

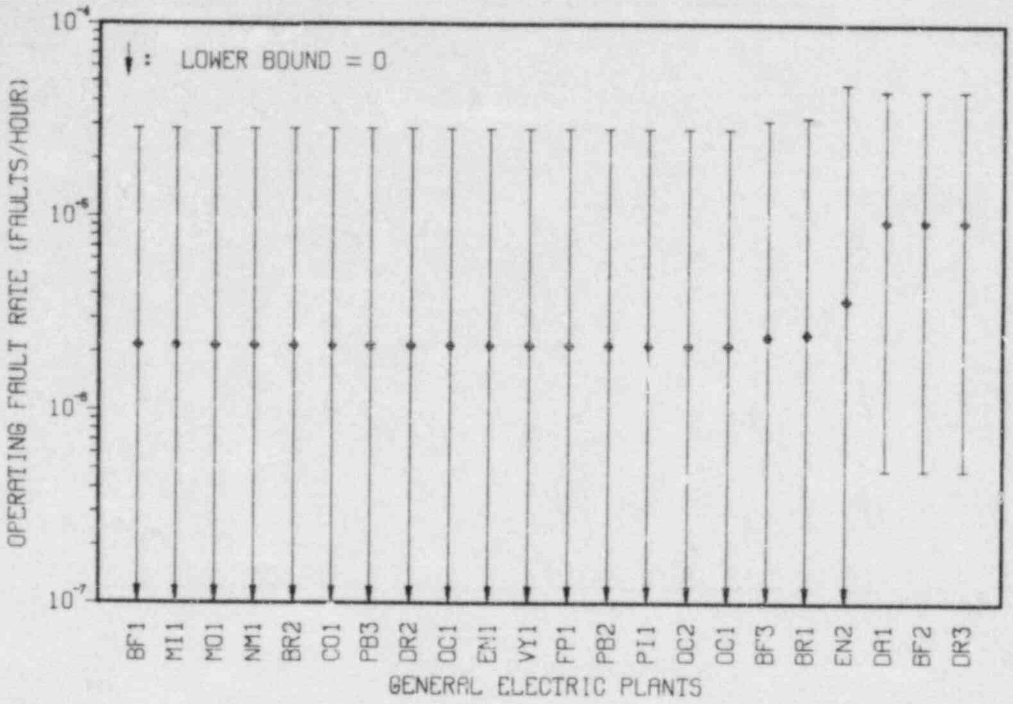

Figure 24d. Scatter plot of operating LER rates for General Electric plant flow channels, inoperable, with command faults.

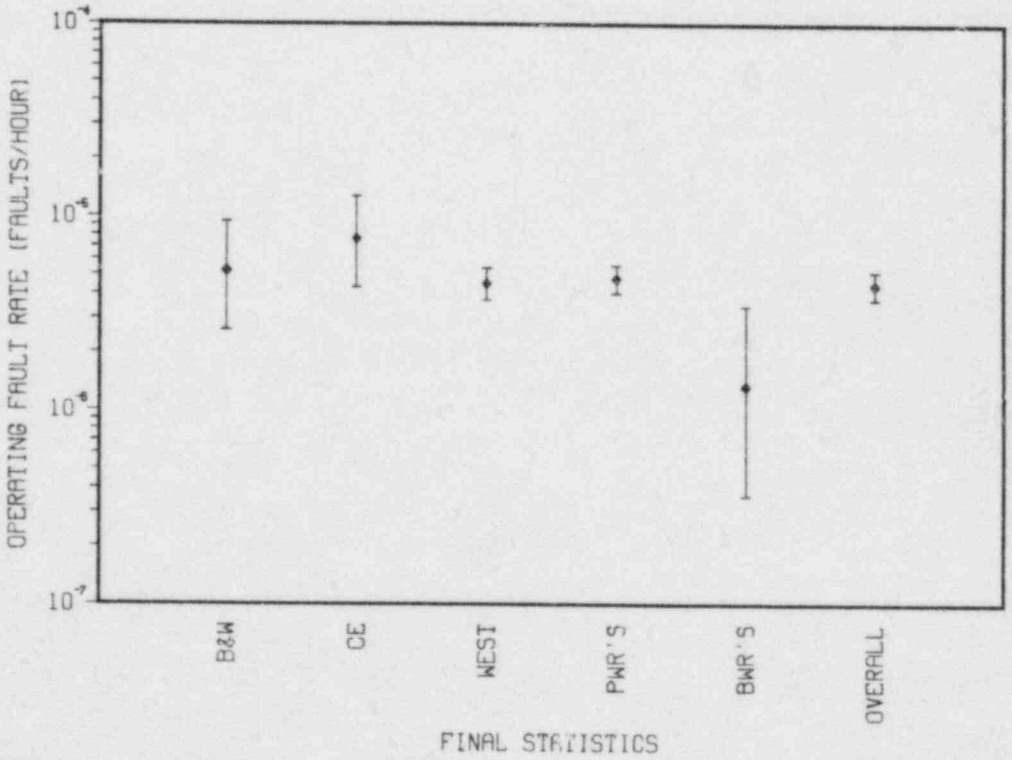

Figure 24e. Scatter plot summarizing operating LER rates of flow channels, inoperable, with command faults.

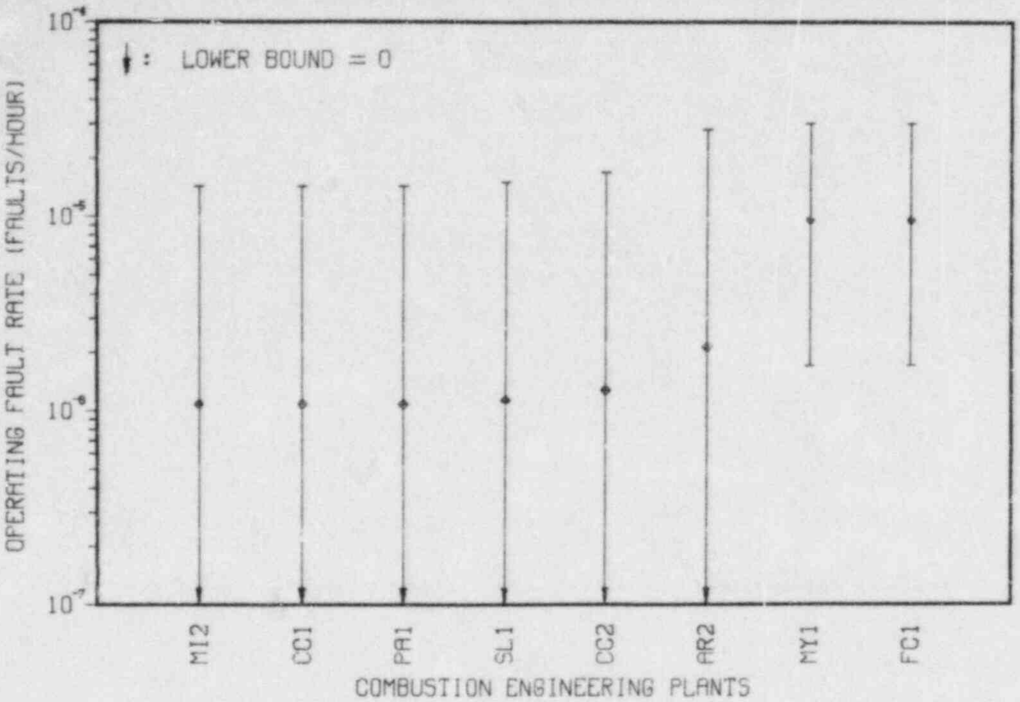

Figure 25a. Scatter plot of operating LER rates for Combustion Engineering plant level channels (analog), inoperable, with command faults.

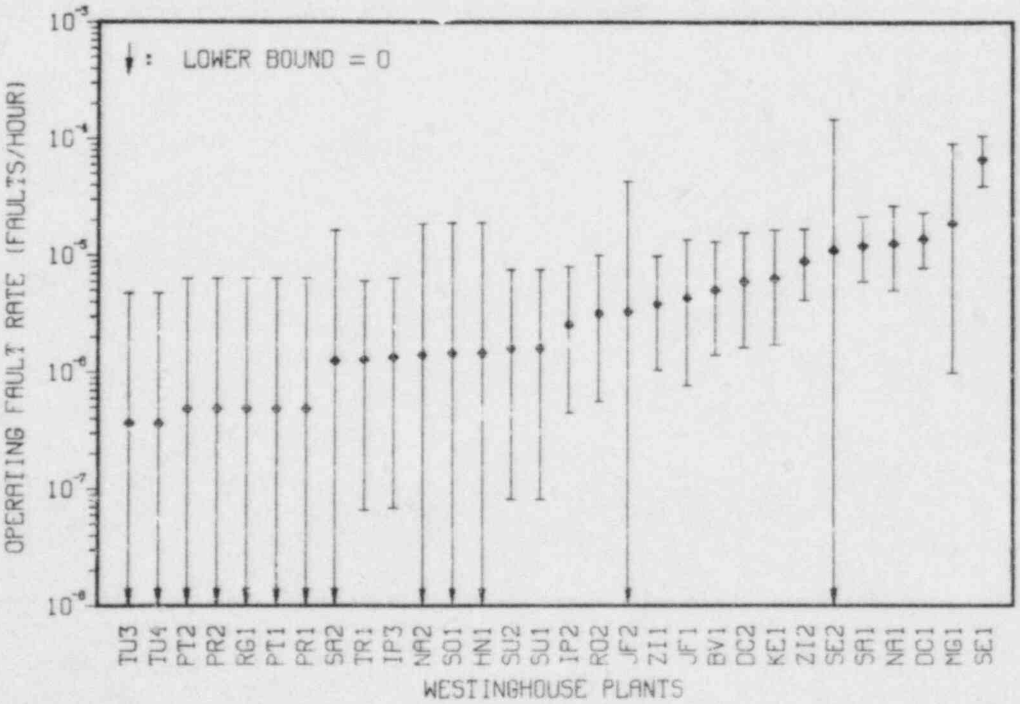

Figure 25b. Scatter plot of operating LER rates for Westinghouse plant level channels (analog), inoperable, with command faults.

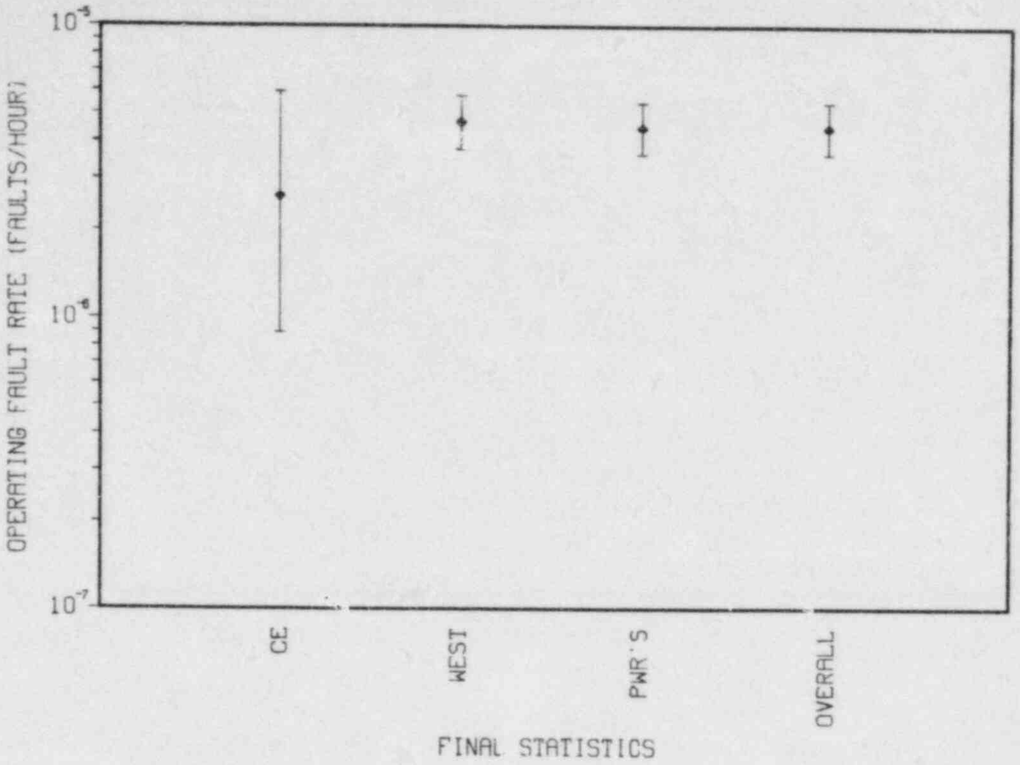

Figure 25c. Scatter plot summarizing operating LER rates of level channels (analog), inoperable, with command faults.

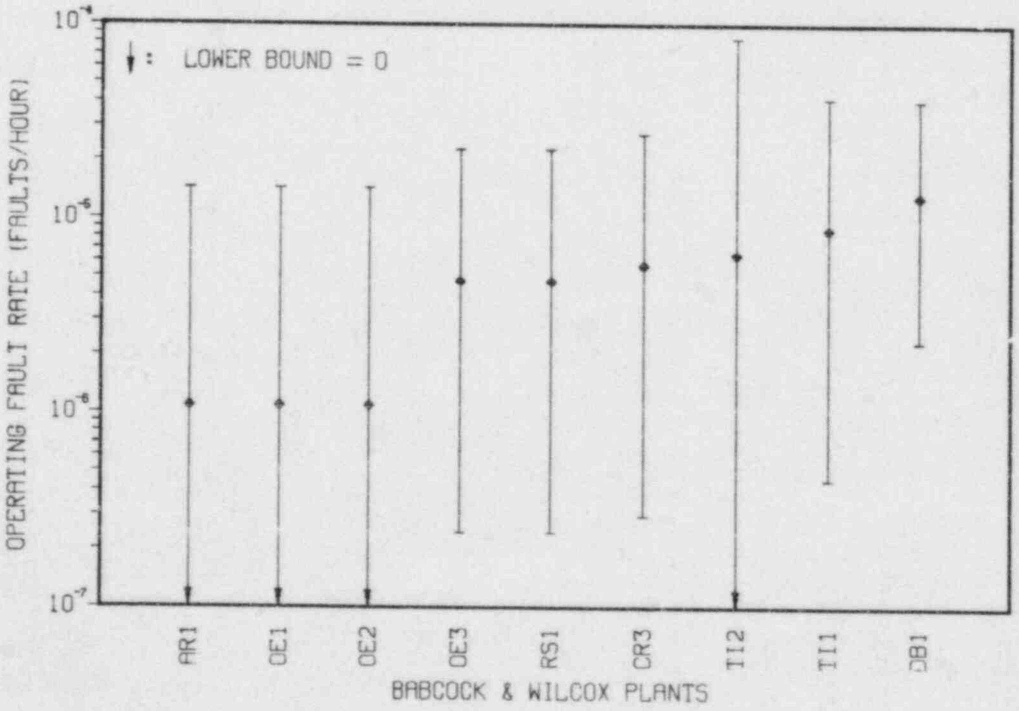

Figure 26a. Scatter plot of operating LER rates for Babcock & Wilcox plant pressure channels (analog), inoperable, with command faults.

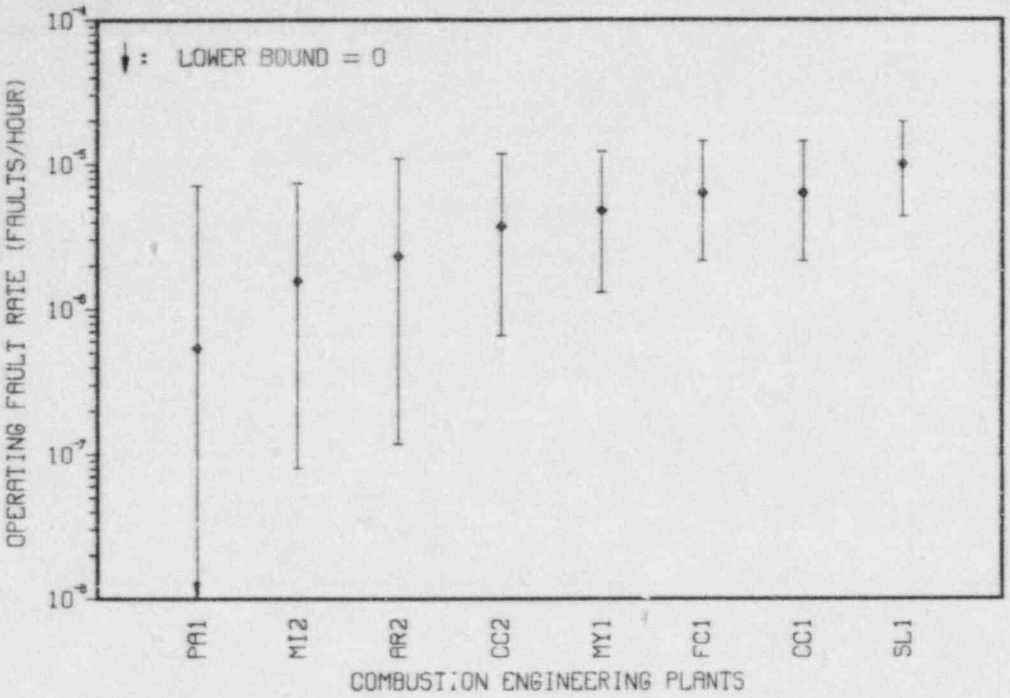

Figure 26b. Scatter plot of operating LER rates for Combustion Engineering plant pressure channels (analog), inoperable, with command faults.

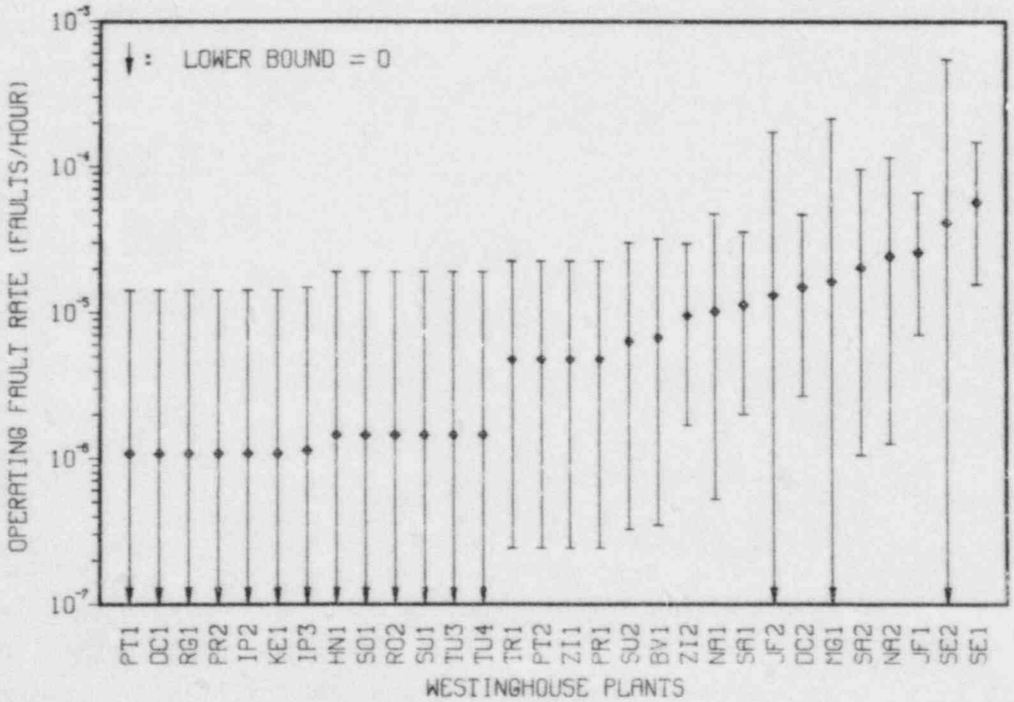

Figure 26c. Scatter plot of operating LER rates for Westinghouse plant pressure channels (analog), inoperable, with command faults.

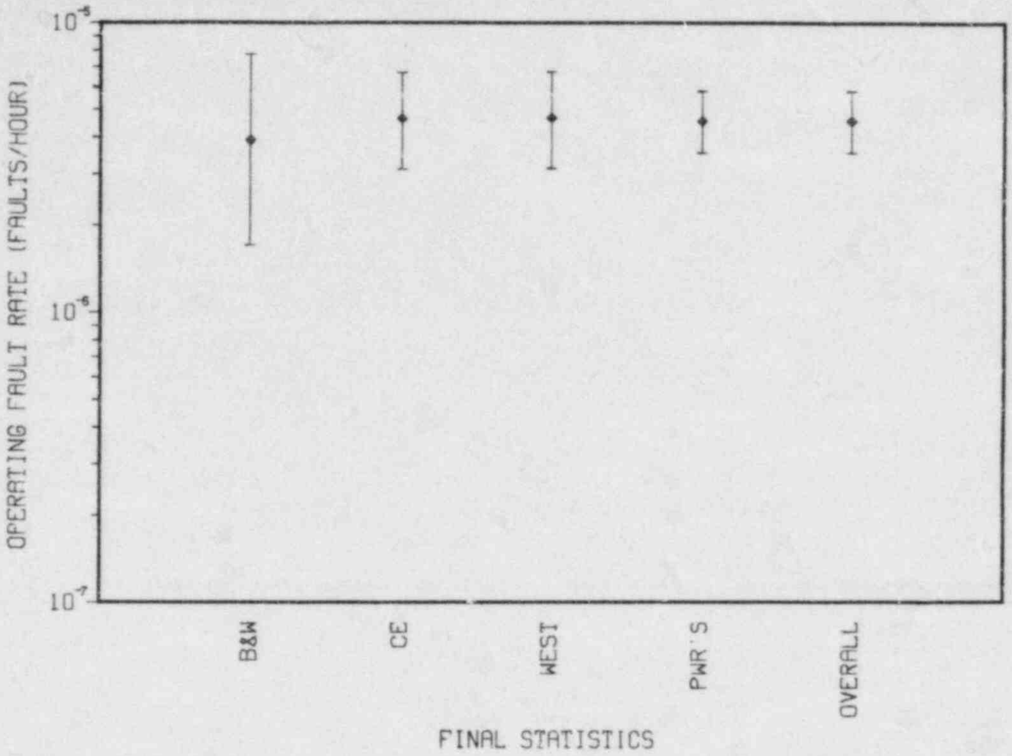

Figure 26d. Scatter plot summarizing operating LER rates of pressure channels (analog), inoperable, with command faults.

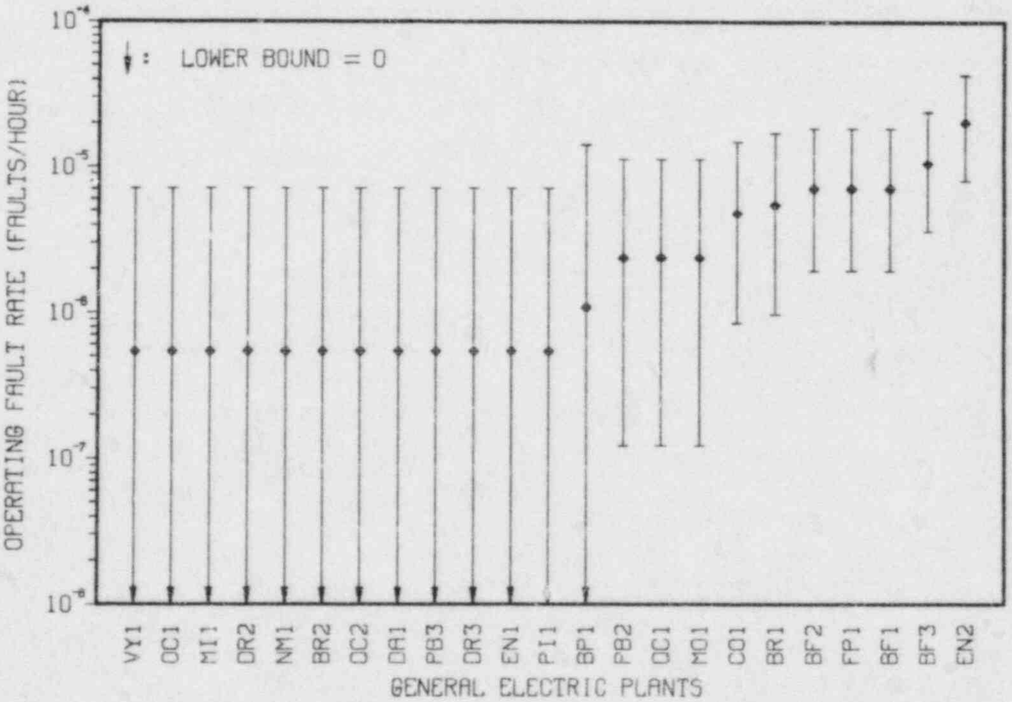

Figure 27a. Scatter plot of operating LER rates for General Electric plant level channels (digital), inoperable, with command faults.

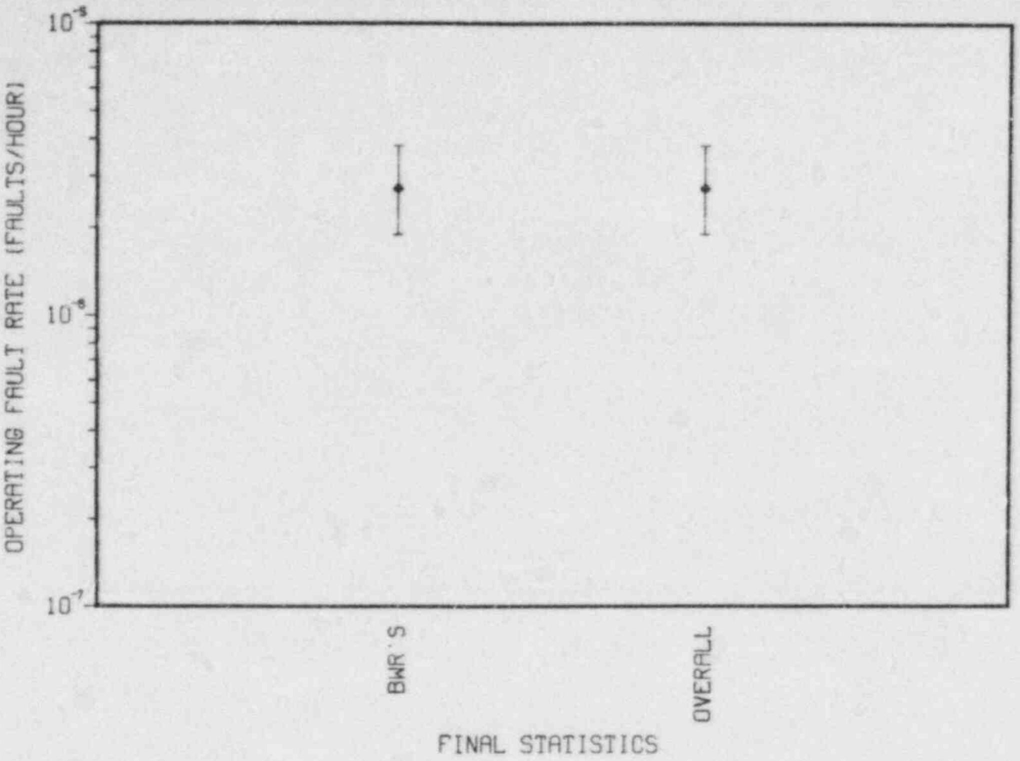

Figure 27b. Scatter plot summarizing operating LER rates of level channels (digital), inoperable, with command faults.

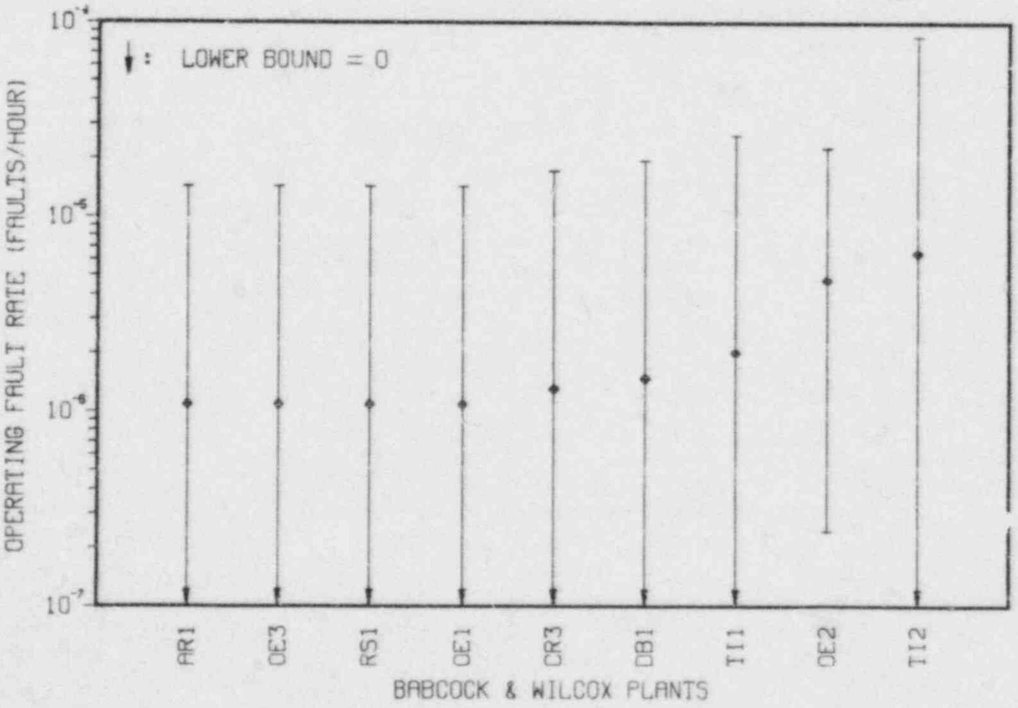

Figure 28a. Scatter plot of operating LER rates for Babcock & Wilcox plant pressure channels (digital), inoperable, with command faults.

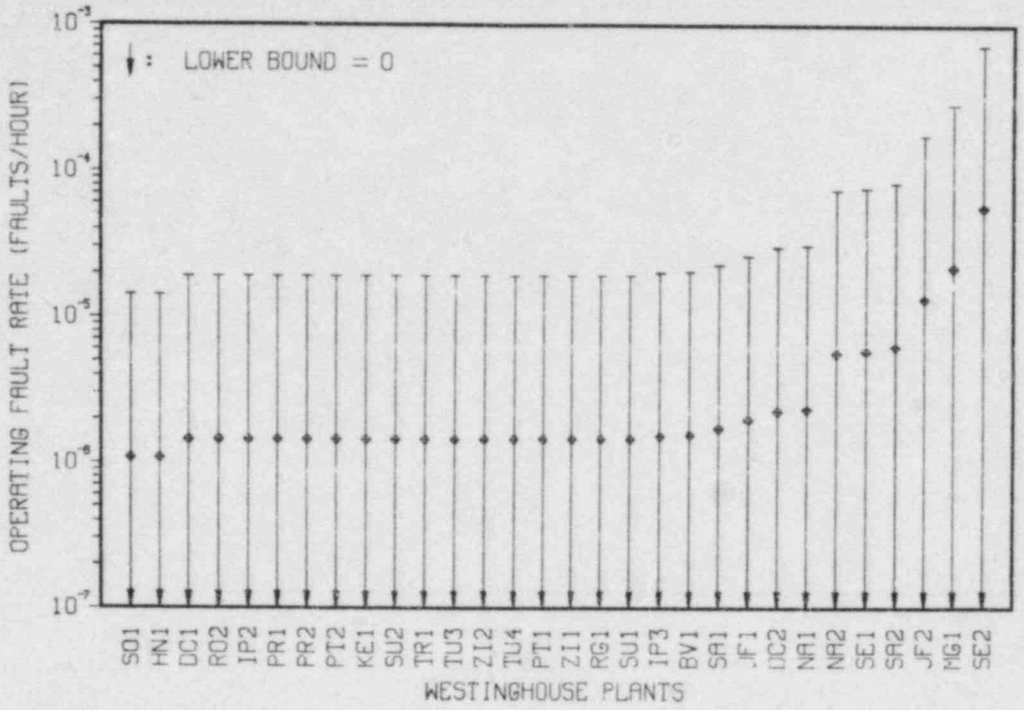

Figure 28b. Scatter plot of operating LER rates for Westinghouse plant pressure channels (digital), inoperable, with command faults.

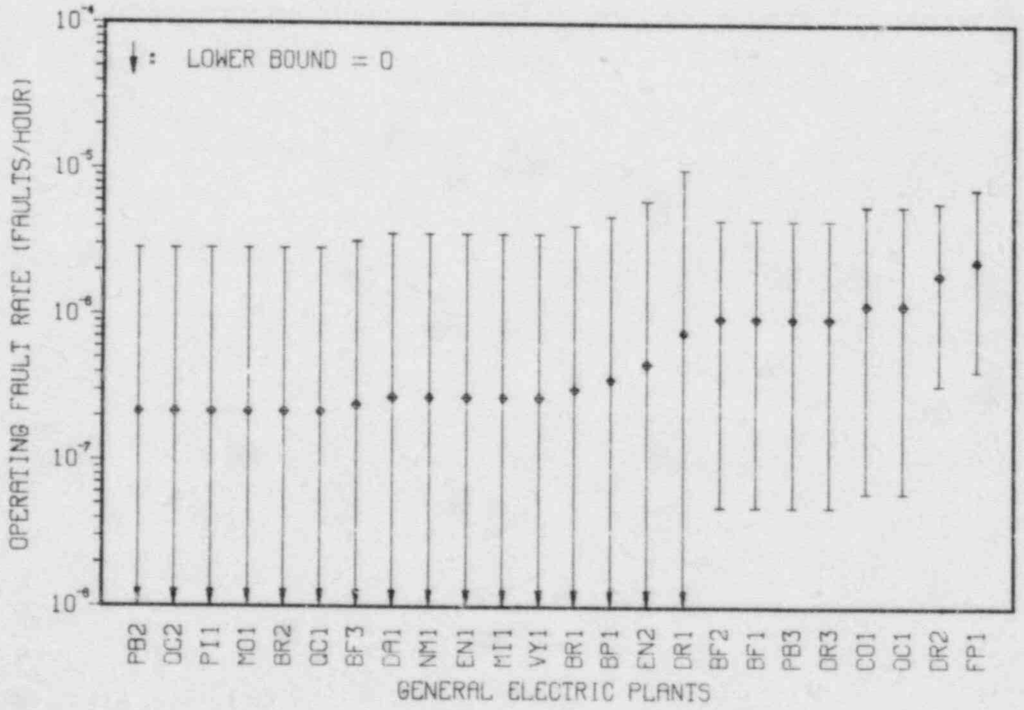

Figure 28c. Scatter plot of operating LER rates for General Electric plant pressure/vacuum channels (digital), inoperable, with command faults.

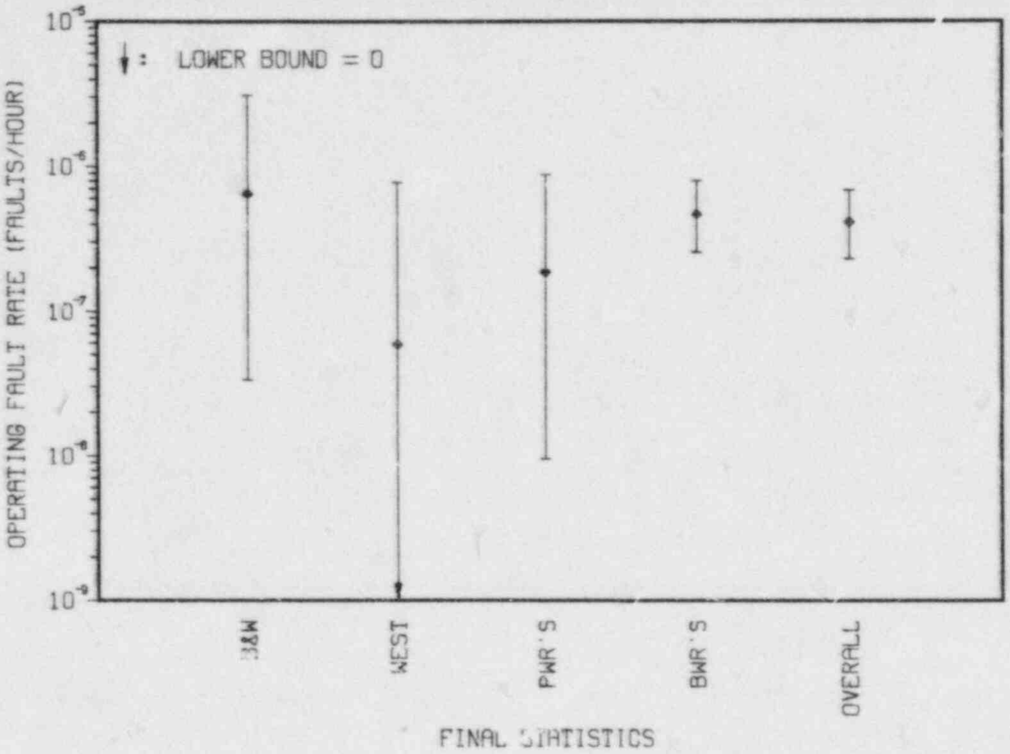

Figure 28d. Scatter plot summarizing operating LER rates of pressure and pressure/vacuum channels (digital), inoperable, with command faults.

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9. C. L. Atwood, *Estimators for the Binomial Failure Rate Common Cause Model*, NUREG/CR-1401, April 1980.

10. Standard Technical Specifications for Babcock & Wilcox Pressurized Water Reactors, Section 3/4.3.1, *Reactor Protection Instrumentation*, NUREG-0103, Revision 3, July 1979.

11. Standard Technical Specifications for Combustion Engineering Pressurized Water Reactors, Section 3/4.3.1, *Reactor Protection Instrumentation*, NUREG-0212, Revision of March 15, 1977.

12. Standard Technical Specifications for General Electric Boiling Water Reactors, Section 3/4.3.1, *Reactor Protection Instrumentation*, NUREG-0123, Revision 1, April 1978.

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14. *Operating Units Status Report, 6, 3*, NUREG-0020, March 1982.

15. *Reactor Safety Study:An Assessment of Accident Risks in U.S. Commercial Nuclear Power Reactor Plants*, Appendixes III and IV, WASH-1400, NUREG-75/014, October 1975, Table III-4-2, p. III-47-48.

APPENDIX A

DISCUSSION OF THE CAUSES OF VARIATIONS IN LER REPORTING

APPENDIX A

DISCUSSION OF THE CAUSES OF VARIATIONS IN LER REPORTING

There are generally two criteria used by the utilities to determine reporting requirements for faults; these are: (a) technical specifications for each individual plant and (b) the LER reporting guide, Regulatory Guide 1.16.[A-1] The technical specifications for plants licensed prior to January 1, 1976, were independently written by individual plants without any planned uniformity among plants. All plants licensed after this date use standardized technical specifications that helped to create more uniform reporting. Three plants (Calvert Cliffs 1, Yankee-Rowe 1, and Brunswick 2) that received operating licenses prior to 1976 converted to standard technical specifications in 1977. In addition to technical specification standardization there have been changes in the rules that govern LER reporting since 1976. These updated rules and the standardized technical specifications are expected to result in more uniform LER reporting after January 1, 1976. But pre-1976 LER data, as well as LER data reported by plants which are not subject to standard technical specifications, will show considerable variation.

The above *mechanical* causes for LER reporting variations are explicable and expected. However, there are additional reporting variations. Differences in interpretation of the rules for submitting LER reports cause some variation. Also, variation is caused by the difficulty in determining the extent of safety and nonsafety systems and therefore, by the questions of what faults are or are not required to be reported. Finally, variation can be caused by the degree of importance assigned to the LER reports by management of the individual utilities. Such variation in both the quantity and quality of LERs submitted by similar plants may appear where one would expect a more uniform reporting.

The one thing that seems to have most hindered the development of uniform reporting is the lack of agreement about the purpose of a LER. Many persons feel that LERs are intended to highlight problem areas within the safety systems. Some feel that the LERs ought to be used to highlight generic problem areas. Many of these same people do not feel that these uses are compatible with the need to determine fault rate information. These differing viewpoints may be an additional reason for the variations in the quality and quantity of LERs received by the United States Nuclear Regulatory Commission. For further discussion of the causes of variations in LER reporting, see Reference A-2.

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A-2. Gerald L. Boner and Harvey W. Hanners, *Enhancement of Onsite Emergency Diesel Generator Reliability*, University of Dayton Research Institute, NUREG/CR-0660, 1979, pp. I-4,5, IV-5,6, V-10, and V-13.

APPENDIX B

ONE-LINE LER CODING SCHEME

CONTENTS

TABLES

APPENDIX B

ONE-LINE LER CODING SCHEME

In order to extract as much pertinent information as possible from the information provided in the original LER, and, at the same time, try to restrict the information to one line of computer output per LER, the following coding scheme was developed.

In general, the order of the discussion that follows is the order in which the various fields appear in the one-line descriptions of the I&C events. The headings used for the corresponding fields in the one-line descriptions are contained in parentheses following the topic headings used below.

NSSS Vendor (NSSS)

The NSSS field indicates the vendor associated with the plant submitting the LER report. A 1-character field is used to store and display the vendor code. This field can be used as a sort key. The following list gives the code and corresponding NSSS vendor.

Code	NSSS Vendor
B	Babcock & Wilcox
C	Combustion Engineering
W	Westinghouse
G	General Electric

Plant (PLANT)

A 3-character field was used to identify the commercial power plant responsible for submitting each LER. Table B-1 provides a list of the plants and codes and also supplies other plant information.[B-1] The PLANT field can be used as a sort key.

Control Number (CONTROL NUMBER)

To identify each one-line LER within the data file, and to provide a cross-reference with the actual LER submitted to the USNRC, the unique six-digit control number assigned to the report by the USNRC was entered into the CONTROL NUMBER field. LERs describing 1981 events but received after December 31, 1981 were assigned a number by the Nuclear Safety Information Center (NSIC). There were some instances of several different events being listed in the narrative summary of a single LER. To accommodate this situation, an alphabetic character was added to the six-digit number in order to separately identify each report. Thus, traceability back to the original LER number was maintained, yet each report remained unique. When a single LER reported more than one instance of the same event (e.g., two bistables failed to trip) in the summary description, an asterisk (*) was placed after the control number to flag the coded one-line description as containing multiple events. The corresponding number of events was then entered into the FAIL # field so that each event could be accounted for. The CONTROL NUMBER field can be used as a sort field, but it is primarily intended for data record identification within the data file.

Event Date (EVENT DATE)

A six-digit field was used to record the date of the event: two digits each, for the month, day, and year. The EVENT DATE corresponds to the event date listed in the LER for each event. The month, day, or year can be used as sort keys.

Component (COMP)

This field lists the types of I&C components identified in the LERs. Some related types are combined under one code, as shown in the following list. This field can be used as a sort key.

Code	Component
AM	Amplifier/buffer/isolation amplifier
CA	Cable/receptacle/junction box/terminal
CL	Controller
CM	Comparator (bistable)
CN	Converter/conditioner
GS	General switch
HS	Hand switch

Table B-1. General plant information

Plant Code	Plant Name (Docket Number)	Design Electrical Rating (MWe)	Date of Initial Criticality	Date of Commercial Operation	Location (State)	Architect/Engineer	Constructor
BABCOCK & WILCOX							
AR1	Arkansas Nuclear One 1 (50-313)	850	08/06/74	12/19/74	AR	Bechtel	Bechtel
CR3	Crystal River 3 (50-302)	825	01/14/77	03/13/77	FL	Gilbert Associates	J. A. Jones Construction
DB1	Davis-Besse 1 (50-346)	906	08/12/77	07/31/78	OH	Bechtel	Bechtel
OE1	Oconee 1 (50-269)	887	04/19/73	07/15/73	SC	Duke & Bechtel	Duke Power
OE2	Oconee 2 (50-270)	887	11/11/73	09/09/74	SC	Duke & Bechtel	Duke Power
OE3	Oconee 3 (50-287)	887	09/05/74	12/16/74	SC	Duke & Bechtel	Duke Power
RS1	Rancho Seco 1 (50-312)	918	09/16/74	04/17/75	CA	Bechtel	Bechtel
TI1	Three Mile Island 1[a] (50-289)	819	06/05/74	09/02/74	PA	Gilbert Associates	United Engineers & Constructors
TI2	Three Mile Island 2[a] (50-320)	906	03/28/78	12/30/78	PA	Burns & Roe	United Engineers & Constructors
COMBUSTION ENGINEERING							
AR2	Arkansas Nuclear One 2 (50-368)	912	12/05/78	03/26/80	AR	Bechtel	Bechtel
CC1	Calvert Cliffs 1 (50-317)	845	10/07/74	05/08/75	MD	Bechtel	Bechtel
CC2	Calvert Cliffs 2 (50-318)	845	11/30/76	04/01/77	MD	Bechtel	Bechtel
FC1	Fort Calhoun 1 (50-285)	478	08/06/73	06/20/74	NB	Gibbs, Hill, Durham & Richardson, Inc.	Gibbs, Hill, Durham & Richardson, Inc.
MI2	Millstone 2 (50-336)	870	10/17/75	12/26/75	CT	Bechtel	Bechtel
MY1	Maine Yankee (50-309)	825	10/23/72	12/28/72	ME	Stone & Webster	Stone & Webster
PA1	Palisades (50-255)	805	05/24/71	12/31/71	MI	Bechtel	Bechtel
SL1	St. Lucie 1 (50-335)	830	04/22/76	12/21/76	FL	Ebasco	Ebasco

Table B-1. (continued)

Plant Code	Plant Name (Docket Number)	Design Electrical Rating (MWe)	Date of Initial Criticality	Date of Commercial Operation	Location (State)	Architect/Engineer	Constructor
WESTINGHOUSE							
BV1	Beaver Valley 1 (50-334)	835	05/10/76	10/01/76	PA	Stone & Webster	Stone & Webster
DC1	Cook 1 (50-315)	1030	01/18/75	08/27/75	MI	American Electric Power Service Corporation	American Electric Power Service Corporation
DC2	Cook 2 (50-316)	1100	03/10/78	07/01/78	MI	American Electric Power Service Corporation	J. A. Jones Construction
HN1	Haddam Neck (50-213)	582	07/24/67	01/01/68	CT	Stone & Webster	Stone & Webster
IP2	Indian Point 2 (50-247)	873	05/22/73	08/01/74	NY	United Engineers & Constructors, Inc.	Westinghouse Development Corporation
IP3	Indian Point 3 (50-286)	965	04/06/76	08/30/76	NY	United Engineers & Constructors, Inc.	Westinghouse Development Corporation
JF1	Farley 1 (50-348)	829	08/09/77	12/01/77	AL	Southern Services, Inc.	Bechtel
JF2	Farley 2 (50-364)	829	05/05/81	07/30/81	AL	Southern Services, Inc.	Bechtel
KE1	Kewaunee (50-305)	535	03/07/74	06/16/74	WI	Pioneer Services & Engineering	Pioneer Services & Engineering
MG1	McGuire 1 (50-369)	1180	08/08/81	12/01/81	NC	Duke Power	Duke Power
NA1	North Anna 1 (50-338)	907	04/05/78	06/06/78	VA	Stone & Webster	Stone & Webster
NA2	North Anna 2 (50-339)	907	06/12/80	12/14/80	VA	Stone & Webster	Stone & Webster
PR1	Prairie Island 1 (50-282)	530	12/01/73	12/16/73	MN	Fluor Pioneer, Inc.	Northern States Power Company
PR2	Prairie Island 2 (50-306)	530	12/17/74	12/21/74	MN	Fluor Pioneer, Inc.	Northern States Power Company
PT1	Point Beach 1 (50-266)	497	11/02/70	12/21/70	WI	Bechtel	Bechtel
PT2	Point Beach 2 (50-301)	497	05/30/72	10/01/72	WI	Bechtel	Bechtel
RG1	Ginna (50-244)	470	11/08/69	07/01/70	NY	Gilbert Associates	Bechtel

Table B-1. (contined)

Plant Code	Plant Name (Docket Number)	Design Electrical Rating (MWe)	Date of Initial Criticality	Date of Commercial Operation	Location (State)	Architect/Engineer	Constructor
WESTINGHOUSE (continued)							
RO2	Robinson 2 (50-261)	700	09/20/70	03/07/71	SC	Ebasco	Ebasco
SA1	Salem 1 (50-272)	1090	12/11/76	06/30/77	NJ	Public Services & Gas Co.	United Engineers & Constructors, Inc.
SA2	Salem 2 (50-311)	1115	08/08/80	10/13/81	NJ	Public Services & Gas Co.	United Engineers & Constructors, Inc.
SE1	Sequoyah 1 (50-327)	1148	07/05/80	07/01/81	TN	Tennessee Valley Authority	Tennessee Valley Authority
SE2	Sequoyah 2 (50-328)	1148	11/05/81	06/01/82	TN	Tennessee Valley Authority	Tennessee Valley Authority
SO1	San Onofre 1 (50-206)	436	06/14/67	01/01/68	CA	Bechtel	Bechtel
SU1	Surry 1 (50-280)	788	07/01/72	12/22/72	VA	Stone & Webster	Stone & Webster
SU2	Surry 2 (50-281)	788	03/07/73	05/01/73	VA	Stone & Webster	Stone & Webster
TR1	Trojan (50-344)	1130	12/15/75	05/20/76	OR	Bechtel	Bechtel
TU3	Turkey Point 3 (50-250)	693	10/20/72	12/14/72	FL	Bechtel	Bechtel
TU4	Turkey Point 4 (50-251)	693	06/11/73	09/07/73	FL	Bechtel	Bechtel
YR1	Yankee-Rowe 1 (50-029)	175	08/19/60	07/01/61	MA	Stone & Webster	Stone & Webster
ZI1	Zion 1 (50-295)	1040	06/19/73	12/31/73	IL	Sargent & Lundy	Commonwealth Edison
ZI2	Zion 2 (50-304)	1040	12/24/73	09/17/74	IL	Sargent & Lundy	Commonwealth Edison
GENERAL ELECTRIC							
BF1	Browns Ferry 1 (50-259)	1065	08/17/73	08/01/74	AL	Tennessee Valley Authority	Tennessee Valley Authority
BF2	Browns Ferry 2 (50-260)	1065	07/20/74	03/01/75	AL	Tennessee Valley Authority	Tennessee Valley Authority
BF3	Browns Ferry 3 (50-296)	1065	08/08/76	03/01/77	AL	Tennessee Valley Authority	Tennessee Valley Authority

Table B-1. (continued)

Plant Code	Plant Name (Docket Number)	Design Electrical Rating (MWe)	Date of Initial Criticality	Date of Commercial Operation	Location (State)	Architect/Engineer	Constructor
GENERAL ELECTRIC (continued)							
BP1	Big Rock Point 1 (50-155)	72	09/27/62	03/29/63	MI	Bechtel	Bechtel
BR1	Brunswick 1 (50-325)	821	10/08/76	03/18/77	NC	United Engineers & Constructors	Brown & Root
BR2	Brunswick 2 (50-324)	821	03/20/75	11/03/75	NC	United Engineers & Constructors	Brown & Root
CO1	Cooper Station (50-298)	778	02/21/74	07/01/74	NB	Burns & Roe	Burns & Roe
DA1	Duane Arnold (50-331)	538	03/23/74	02/01/75	IA	Bechtel	Bechtel
DR1	Dresden 1[b] (50-010)	200	10/15/59	07/04/60	IL	Bechtel	Bechtel
DR2	Dresden 2 (50-237)	794	01/07/70	06/09/70	IL	Sargent & Lundy	United Engineers & Constructors
DR3	Dresden 3 (50-249)	794	01/31/71	11/16/71	IL	Sargent & Lundy	United Engineers & Constructors
EN1	Hatch 1 (50-321)	777	09/12/74	12/31/75	GA	Bechtel	Georgia Power Co.
EN2	Hatch 2 (50-356)	784	07/04/78	09/05/79	GA	Bechtel	Georgia Power Co.
FP1	Fitzpatrick (50-333)	821	11/17/74	07/28/75	NY	Stone & Webster	Stone & Webster
MI1	Millstone 1 (50-245)	660	10/26/70	03/01/71	CT	Ebasco	Ebasco
MO1	Monticello (50-263)	545	12/10/70	06/30/71	MN	Bechtel	Bechtel
NM1	Nine Mile Point 1 (50-220)	620	09/05/69	12/01/69	NY	Niagara Mohawk Power Corporation	Stone & Webster
OC1	Oyster Creek 1 (50-219)	650	05/03/69	12/01/69	NJ	Burns & Roe	Burns & Roe
PB2	Peach Bottom 2 (50-277)	1065	09/16/73	07/05/74	PA	Bechtel	Bechtel
PB3	Peach Bottom 3 (50-278)	1065	08/07/74	12/23/74	PA	Bechtel	Bechtel
PI1	Pilgrim 1 (50-293)	655	06/16/72	12/01/72	MA	Bechtel	Bechtel

Table B-1. (continued)

Plant Code	Plant Name (Docket Number)	Design Electrical Rating (MWe)	Date of Initial Criticality	Date of Commercial Operation	Location (State)	Architect/Engineer	Constructor
GENERAL ELECTRIC (continued)							
QC1	Quad-Cities 1 (50-254)	789	10/18/71	02/18/73	IL	Sargent & Lundy	United Engineers & Constructors, Inc.
QC2	Quad-Cities 2 (50-265)	789	04/26/72	03/10/73	IL	Sargent & Lundy	United Engineers & Constructors, Inc.
VY1	Vermont Yankee 1 (50-271)	514	03/24/72	11/30/72	VT	Ebasco	Ebasco

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a. Plant shutdown since 03/28/79.

b. Plant shutdown since 10/31/78.

Code	Component
IM	Computation module
IN	Indicator/meter/annunciator
LM	Computer
LS	Limit switch
MO	Monitor
PS	Power supply
RC	Recorder
RE	Relay/solenoid
SE	Sensor
TI	Timer
TR	Transformer
TX	Transmitter
ZZ	Other/unspecified

Parameter and Function (PROCESS)

The PROCESS field is a 2-character field. The first character indicates which plant parameter is being measured or monitored, while the second character indicates what type of function the faulted component was providing the plant. Each character can be used as a sort key. The following lists the parameter and function codes and descriptions.

Code	Parameter
L	Liquid level
N	Nuclear (core flux)
F	Flow
T	Temperature
R	Radiation
P	Pressure/vacuum
D	Position
X	Other/unknown

Code	Function
T	Reactor trip
S	Engineered safety features actuation
C	Reactor control
G	General control/indication/alarm
R	Radiation detection

System (SYSTEM)

A 2-character field is used to indicate the system that was being monitored or controlled by the faulted I&C component. This field can be used as a sort key. The following is a list of system codes and descriptions.

Code	System
SA	Automatic depressurization (BWRs only)
IC	Containment (includes penetration and isolation control)
SD	Low pressure core spray (LPCS) (BWRs only)
SF	Containment spray injection (CSI)
AG	Chemical volume control (CVCS) (PWRs only)
SH	High pressure coolant injection (HPCI)
SL	Low pressure coolant injection (LPCI)
SQ	Reactor core isolation cooling (RCIC) (BWRs only)
AS	Service water
CT	Condensate and feed
PX	Reactor trip
NN	All others
SN	Other ESF (parent system not identified)

Fault Mode and Cause (MODE & CAUSE)

A 3-character field indicates the fault code. A 1-character subordinate field indicates the fault mode and a 2-character subordinate field indicates the fault cause. The following scheme was used to encode the various fault modes and causes identified in the LERs. Either field can be used as sort keys.

Code	Fault Mode
A	Reduced capability
B	Inoperable

Code	Fault Cause
00	Unknown
01	Personnel operation
02	Personnel maintenance
03	Personnel testing
04	Design error
05	Fabrication/construction/quality control
06	Defective procedures
07	Extreme environment
08	Mechanical malfunction
09	Electrical malfunction
11	Leaking or blocked instrument sensing lines
12	Dirty, binding, or sticking
13	Piece part fault
14	Drift

Activity Resulting in Discovery (ACTIVITY)

A 1-character code was used to indicate the activity taking place that caused or led to the discovery of the event. Any activity not specifically identified was considered to be *during normal operation*. This field can be used as a sort key. The coding scheme for this field is as follows.

Code	Activity
N	During normal plant operation (other than listed below)
M	During maintenance
R	During records review
T	During testing

Type of Event (TYPE)

A 1-character field indicates the type of event identified in the LER. A blank in this field implies a random event. This field can be used as a sort key. The following scheme was used to identify the event types.

Code	Type of Event
B	Recurring common cause failure
C	Common cause failure
R	Recurring failure
S	Command fault
T	Recurring command fault
U	Common cause command fault
V	Recurring common cause command fault
Blank	Random failure

Event Classification (CLASS)

A 1-character field was used to classify the events as age-related or frequency-of-use-related. A ***D*** in this field was used for frequency-of-use-related events, and a ***T*** was used for age-related events. If no determination could be made, a ***U*** was inserted in this field. This field can be used as a sort key.

Number of Faults (FAIL #)

The FAIL # field, mentioned in the "Control Number" paragraph, was used to store a count of the number of events per one-line LER description. A blank in this field implies that the value of this field is one. Should there be more than one event per LER, the corresponding number of events is entered in this field.

Fault Mode Description (FAULT MODE DESCRIPTION)

The LER narrative summary of the fault mode was condensed into a 50-character alphanumeric field. This field provides a short, concise description of the fault mode. It is not a sort field.

Fault Cause Description (FAULT CAUSE DESCRIPTION)

A 41-character alphanumeric field was used for a narrative description of the fault cause. If no cause was reported, this field provided additional space for a description of the LER. It is not a sort field.

In order to provide as much information as possible in both the MODE and CAUSE DESCRIPTIONS, many words are abbreviated and many acronyms are used. Most of these acronyms can be found in the "Nomenclature" section at the beginning of this report.

Table B-2 provides most of the codes used in the one-line descriptions and is presented as a summary of the preceding discussion. One of these coding sheets will precede each sort of one-line descriptions in this report so that the reader need not continually refer to this appendix.

Additional Information

Although not presented in the one-line descriptions, because of space limitations, additional information pertaining to manufacturer and various other items of interest is available. A discussion of the additional information fields follows.

Manufacturer. A 4-character alphanumeric field was used to identify the manufacturer given in the LER. If no manufacturer was given in the LER, ZZZZ was used in the Manufacturer field. The codes used for the various manufacturers were taken from Exhibit J of the *Instructions for Preparation of Data Entry Sheets for Licensee Event Report (LER) File.*[B-2] Table B-3 lists the manufacturer codes that were found in the LERs used for this report. The Manufacturer field can be used as a sort key.

One should be cautious in using this manufacturer information because the manufacturer code is sometimes missing and sometimes not appropriate for the component coded in the data base.

Flagging. The Flagging field was used to distinguish whether the faulted component caused an accident or failed to mitigate an accident. The letter ***A*** was used to identify those I&C components that caused an accident (e.g., loss-of-coolant flow) upon failure, and ***B*** was used to identify those I&C components that failed to mitigate an accident upon failure. The letter ***C*** was used when the faulted I&C component neither caused nor failed to mitigate an accident, but could have caused or failed to mitigate an accident. The letter ***C*** was also used to identify an LER that requires some additional attention in future reports. The Flagging Field is a sort field.

Report Type. The Report Type was taken directly from the LER. The letter ***A*** was used to indicate two-week reports, ***B*** was used to indicate 30-day reports, and ***C*** was used to indicate other types of reports. Report Type is a sort field.

Plant Report Number. In addition to a plant docket number, each plant assigns a number to each LER that it submits. This number is assigned sequentially within each calendar year to every LER submitted by the plant. At the end of the calendar year the plant LER number will start again with 001 for the next year. A 3-character field was used to indicate the plant LER number associated with a particular plant. Plant Report Number can be used as a sort key, although it is primarily intended for data record identification within the data file.

Manufacturer, Flagging, Report Type, and Plant Report Number are not found in the one-line description sorts. Also, the Flagging, Report Type, and Plant Report Number fields are only found, where applicable, as additional information in the data base for LERs that have an event date later than December 31, 1978.

Table B-2. Codes used in one-line descriptions

CODES USED IN LER ONE-LINE DESCRIPTIONS

FAULT MODE

CODE	DESCRIPTION
A	REDUCED CAPABILITY
B	INOPERABLE

FUNCTION

CODE	DESCRIPTION
I	REACTOR TRIP
S	ENGINEERED SAFETY FEATURES ACTUATION
C	REACTOR CONTROL
G	GENERAL CONTROL/INDICATION/ALARM
R	RADIATION DETECTION

PARAMETER

CODE	DESCRIPTION
L	LIQUID LEVEL
N	NUCLEAR (CORE FLUX)
F	FLOW
T	TEMPERATURE
R	RADIATION
P	PRESSURE/VACUUM
D	POSITION
X	OTHER/UNKNOWN

TYPE OF EVENT

CODE	DESCRIPTION
B	RECURRING COMMON CAUSE FAILURE
C	COMMON CAUSE FAILURE
R	RECURRING FAILURE
S	COMMAND FAULT
T	RECURRING COMMAND FAULT
U	COMMON CAUSE COMMAND FAULT
V	RECURRING COMMON CAUSE COMMAND FAULT
BLANK	RANDOM FAILURE

FAULT CAUSE

CODE	DESCRIPTION
00	UNKNOWN
01	PERSONNEL OPERATION
02	PERSONNEL MAINTENANCE
03	PERSONNEL TESTING
04	DESIGN ERROR
05	FABRICATION/CONSTRUCTION/QUALITY CONTROL
06	DEFECTIVE PROCEDURES
07	EXTREME ENVIRONMENT
08	MECHANICAL MALFUNCTION
09	ELECTRICAL MALFUNCTION
11	LEAKING OR BLOCKED INSTRUMENT SENSING LINES
12	DIRTY,BINDING, OR STICKING
13	PIECE PART FAULT
14	DRIFT

COMPONENT

CODE	DESCRIPTION
AM	AMPLIFIER/BUFFER/ISOLATION AMPLIFIER
CA	CABLE/RECEPTACLE/JUNCTION BOX/TERMINAL
CL	CONTROLLER
CM	COMPARATOR (BISTABLE)
CN	CONVERTER/CONDITIONER
GS	GENERAL SWITCH
HS	HAND SWITCH
IM	COMPUTATION MODULE
IN	INDICATOR/METER/ANNUNCIATOR
LM	COMPUTER
LS	LIMIT SWITCH
MO	MONITOR
PS	POWER SUPPLY
RC	RECORDER
RE	RELAY/SOLENOID
SE	SENSOR
TI	TIMER
TR	TRANSFORMER
TX	TRANSMITTER
ZZ	OTHER/UNSPECIFIED

ACTIVITY RESULTING IN DISCOVERY

CODE	DESCRIPTION
N	DURING NORMAL PLANT OPERATION (I.E. OTHER THAN LISTED BELOW)
M	DURING MAINTENANCE
R	DURING RECORDS REVIEW
T	DURING TESTING

NSSS VENDOR

CODE	DESCRIPTION
B	BABCOCK & WILCOX
C	COMBUSTION ENGINEERING
W	WESTINGHOUSE
G	GENERAL ELECTRIC

EVENT CLASSIFICATION

CODE	DESCRIPTION
D	FREQUENCY
I	AGE
U	UNKNOWN

Table B-2. (continued)

SYSTEM IDENTIFICATION CODES

CODE	DESCRIPTION
SA	AUTOMATIC DEPRESSURIZATION (BWR'S ONLY)
IC	CONTAINMENT (INCLUDES PENETRATION & ISOLATION CONTROL)
SD	LOW PRESSURE CORE SPRAY (LPCS) (BWR'S ONLY)
SF	CONTAINMENT SPRAY INJECTION (CSI)
AG	CHEMICAL VOLUME CONTROL (CVCS) (PWR'S ONLY)
SH	HIGH PRESSURE COOLANT INJECTION (HPCI)
SL	LOW PRESSURE COOLANT INJECTION (LPCI)
SQ	REACTOR CORE ISOLATION COOLING (RCIC) (BWR'S ONLY)
AS	SERVICE WATER
CT	CONDENSATE AND FEED
PX	REACTOR TRIP
NN	ALL OTHERS
SN	OTHER ESF(PARENT SYSTEM NOT IDENTIFIED)

Table B-3. Manufacturers referenced in I&C LERs

Code	Manufacturer
A015	A.P.V. Company, Inc.
A055	Adams & Westlake
A109	AGASTAT Relay Co.
A123	Airpac Electronics
A160	Allen-Bradley Co.
A200	Aloyco, Inc.
A370	Amperex Electronic Corp.
A380	AMPHENOL
A382	Amp Special Industries
A415	Anderson, Greenwood & Co.
A435	API Instr Co.
A485	Armstrong Mach
A499	ASCO
A501	Ashcroft Gauge
A533	Athena Control
A535	Atkomatic Valve Co., Inc.
A552	Atlas Valve
A580	Atomics International
A587	AUL Instruments
A610	Automatic Switch Company (ASCO)
A611	Automatic Timing and Control Inc.
A640	Automation Industries Inc.
A645	Automation Products, Inc.
B005	B-W Controller
B015	Babcock & Wilcox Company
B030	Babcock-Persta
B040	Bailey Instrument Co., Inc.
B045	Bailey Meter Company
B066	Barber-Colman Co.
B067	Barber Mfg. Company
B069	Barksdale Company
B070	Barksdale Valve Company
B080	Barton Instrument Co., Division of ITT
B093	Basler Electric Company
B130	Bechtel Corp.
B135	Beckman Instruments, Inc.
B165	Bell and Howell
B185	Belmont Smelting & Refining Works, Inc.
B222	Bertan Association Inc
B250	BIF
B350	Borg-Warner Corp.
B369	Bostrom-Bergen Metal Products
B371	Bourns Co.
B415	Bristol
B440	Brooks Instrument Company
B445	Brooks Rotameter
B450	Brown & Root Inc.
B481	Browning Co.

Table B-3. (continued)

Code	Manufacturer
B485	Bruce GM Diesel, Inc.
B515	Buffalo Forge Company
B572	Burns Engineering
C028	Cajon Co.
C075	Cannon Electric-ITT
C138	Carolina Power & Light Company
C268	Chemelex Corp.
C305	Chemtree Corp.
C345	Clare, C. P.
C360	Clark Controller
C415	Climet Instruments Co.
C470	Colt Industries, Inc.
C490	Combustion Engineering, Inc.
C515	CONAX Corp.
C518	Conde' Milking Machine Company
C520	Condec Corp.
C521	Conde Pump Company
C560	Consolidated Controls Corp.
C568	Consolidated Valve Corp.
C626	Controlotron
C635	Copes-Vulcan, Inc.
C649	Couch
C650	Cosmodyne
C680	Crane-Flowatics Div.
C685	Crawford Fitting Co.
C720	Crouse-Hinds
C753	Custom Component Switches, Inc.
C770	Cutler-Hammer
D012	Daniel Industries, Inc.
D055	De Laval Turbine, Inc.
D093	Deleval Condenser, Inc.
D142	Devar Connecticut
D149	Dialco
D150	Diamond Power Specialty Corp.
D232	Dragon Valve, Inc.
D243	Dresser Industrial Valve & Inst. Div.
D282	DWYER
E020	Eagle Signal
E095	Edwards Valves Div.
E146	Electro-Mechanics
E158	Electro-Mechano
E259	Engdahl Enterprises
E328	ESSEX Wire Corp.
F010	Fairbanks Morse
F013	Fairchild Products Hiller, Fairchild Hiller Products

Table B-3. (continued)

Code	Manufacturer
F020	Fansteel, Inc.
F030	Farr Co.
F080	Fenwall Electronics Co.
F081	Fenwall, Inc.
F120	Fischer & Porter Co.
F127	Fisher Flow Control Div (Rockwell Inter)
F128	Flow Technology Inc.
F130	Fisher Controls Co.
F166	Flowmatics
F180	Foxboro Co., The
G030	Gamma Process Co., Inc.
G039	Gates Rubber Co.
G046	Gast Manufacturing Corporation
G048	Gelman Instrument Co.
G050	Gems, Inc.
G051	Gedney Electric
G063	General Atomic Co.
G080	General Electric Co.
G100	General Motors
G112	General Precision Inc.
G166	Glen Controls Inc.
G175	Gordon, Claud S. Co.
G190	Goulds Manufacturing
G200	Goulds Pumps Inc.
G202	GPE Controls
G223	Grayhill
G272	GTE Sylvania Inc.
G290	GA Electronic Systems Div.
G305	Gulf General Atomic, Inc. (see G063)
H015	Hagan Controls
H020	Hagan/Computer Systems
H021	Hagan Corporation
H025	Hamilton Manufacturing Co
H041	Hankison Corp.
H065	Harshaw Chemical Co.
H120	Hayden Mfg. Co.
H138	Heise Bourdon Tube Co.
H165	Hewlett Packard Co.
H260	Honeywell Corporation
I010	IBM Corp.
I075	Ingersoll-Rand Co.
I130	International Instruments, Inc.
I149	International Telephone & Telegraph Corp.
I202	ITE Imperial Corporation
I204	ITT-Barton
I207	ITT Grinnell

Table B-3. (continued)

Code	Manufacturer
J073	Johnson Controls Inc.
J090	Johnson Service Co.
K085	Kerotest Manufacturing Corp.
K130	Kinemetrics, Inc.
L010	L N D, Inc.
L045	Lambda Electronics
L130	Leeds & Northrup Co.
L180	Leybold-Heraeus Inc.
L185	LFE Corp.
L200	Limitorque Corp.
L206	Licon Division (Illinois Tool Works Inc.)
M035	Magnetics, Inc.
M040	Magnetrol, Inc.
M095	Marotta Value Corp.
M120	Masoneilan International, Inc.
M170	McDonnell & Miller ITT
M175	McGraw Edison
M225	Meltron Corp.
M235	Mercoid Corp.
M270	Metal Bellows
M282	Meter Devices Co.
M285	Metra Instruments
M302	Micro Switch
M314	Mid-West Instrument
M325	Milton-Roy Co.
M371	Moduflash Corp.
M422	Moore Industries
M455	Motorola
N007	NAMCO Controls
N010	Nash Engineering Co., The
N015	National ACME Co.
N049	National Semi Conductor
N080	Nelson Electric
N114	Newport Laboratories
N120	NGK Insulator
N150	Nooter Corp.
N191	Nortec
N235	Nuclear Containment Systems, Inc.
N305	Nuclear Measurements Corp. (NMC)
N310	Nuclear Pacific, Inc.
N330	Nuclear Research Corp.
O080	Oster Manufacturing Co.

Table B-3. (continued)

Code	Manufacturer
P015	Pacific Electric Mfg.
P070	Parker Hannifin Corp.
P129	Penn Controls Inc.
P175	Permutit Co., The
P200	Philco Ford Corp.
P235	Pioneer Aluminum Inc.
P297	Potter & Brumfield
P314	Power-Mate
P323	Power Designs Inc.
P387	Pressure Switch Co.
R070	Radiological Systems
R078	Ramapo Instrument Co.
R120	RCA Electronic Components
R139	Rees Instruments LTD.
R140	Reactor Controls Inc.
R165	Reliance Electric Company
R278	Riley Co., The
R290	Robertshaw Controls Co.
R335	Rochester Instrument Systems, Inc.
R340	Rockwell Manufacturing Co.
R344	Rockwell-International
R362	Roots-Connersville Blower
R369	Rosemount, Inc.
R370	Rosemount Engineering Company
R378	Rofork Inc.
R389	Rowan Controller
R390	Rowe Industries Div.
S054	Scam Instrument Corp.
S075	Schutte and Koerting Co.
S093	Schwitzer
S185	Sigma Instruments, Inc.
S190	Signal Engineering Mfg.
S202	Simplex Wire and Cable Co.
S204	Simmonds Precision
S205	Singer Co., The
S245	Sola Electric Co.
S257	Sorensen
S258	Sorgel Electric Co.
S260	Sostman, H. E. Company
S345	Square D Co.
S371	Stallings & Lanley
S379	Static Products
S382	Static-O-Ring
S392	Stearns-Roger Fabricators Inc.
S395	Steel Fabricating Co.
S420	Stone & Webster Engineering Corp.
S525	Systems Engineering Laboratories, Inc.

Table B-3. (continued)

Code	Manufacturer
T020	Target Rock Corporation
T039	Taylor Instrument Companies
T040	Taylor Instrument Process Control Div.
T078	Technipower Inc.
T083	Teledyne Corporation
T100	Teledyne-Geotech
T115	Teleflex, Inc.
T120	Tempo Instrument, Inc.
T147	Terry Steam Turbine Company
T155	Texas Instruments Inc.
T161	TGM Detectors, Inc.
T185	Thermon Mfg.
T215	Times Wire and Cable
T248	Topay Electronics
T250	Torngren Co.
T260	Tracer Lab
T287	Transmation, Inc.
T300	TRAPELO
U010	U.S. Gage Company
U075	United Electric Controls Company
V033	Valmont Industries
V065	Varian Data Machines
V085	Velan Valve Corp.
V110	Vickery Simms, Inc.
V115	Victoreen Instrument Div.
V125	Viking Pump Co.
V132	Vitro Engineering Division
V135	Vogt, Henry Machine Co.
W030	Walworth Co.
W120	Westinghouse Electric Corporation
W121	Westinghouse Electric Company (Elev Div)
W128	West Steel
W130	Westronics, Inc.
W165	Whitey Co.
W209	Wilmar Electronics Inc.
W290	Woodward Governor Co.
W305	Worcester Controls Corp.
X001	Xerox Data System
Y005	Yarnall-Waring Co.
Y010	Yarway Corp.
ZZZZ	Unknown

References

B-1. *Operating Units Status Report, 6, 3*, NUREG-0020, March 1982.

B-2. *Instructions for Preparation of Data Entry Sheets for Licensee Event Report (LER) File*, NUREG-0161, July 1977.

APPENDIX C

LER RATE ESTIMATION METHODS

APPENDIX C

LER RATE ESTIMATION METHODS

To estimate the LER fault rates for components, the following well-known statistical methods were used for Type-I censored data with replacement.[C-1]

The general methods for estimating rates on an hourly basis and on a demand basis are

$$\hat{\lambda}(\text{hourly}) = \frac{N}{T} \qquad \text{(C-1)}$$

$$\hat{\lambda}(\text{demand}) = \frac{N}{D} \qquad \text{(C-2)}$$

where

$\hat{\lambda}$ = estimated fault rate

N = number of reported component faults

T = total time accrued by all components

D = total number of demands on all components.

The general computational formulas, Equations (C-1) and (C-2), may be applied to particular situations. The fault rate for a component in a particular plant is estimated by setting

$N = N_i$

$T = T_i$

$D = D_i$

where

N_i = number of component faults in plant i

T_i = total accrued hours of all like components in plant i

D_i = total accrued number of demands on all like components in plant i.

In a similar manner, fault rates may be estimated for components manufactured by a particular vendor, for components in a particular plant type (PWR or BWR), or for components present in all plants.

Confidence limits for hourly fault rates were based on the assumption that the underlying component fault distributions are exponential; therefore, the resulting LER data are representable by a Poisson process. In demand evaluations, N is binomially distributed. However, since the probability of fault is small and the number of demands is large, the Poisson distribution may be used to approximate this variable. The generalized formulas for estimating 100 (1 - α)% confidence limits on the fault rates are

$$\frac{\chi^2_{\alpha/2}(2N)}{2T} \le \lambda(\text{hourly}) \le \frac{\chi^2_{1-\alpha/2}(2N+2)}{2T} \qquad \text{(C-3)}$$

and

$$\frac{\chi^2_{\alpha/2}(2N)}{2D} \le \lambda(\text{demand}) \le \frac{\chi^2_{1-\alpha/2}(2N+2)}{2D} \qquad \text{(C-4)}$$

where

χ^2_a (b) = chi-square variate at cumulative probability, ***a***, with, ***b***, degrees of freedom.

In these equations, α is the fraction left out in the intervals. For example, for 90% confidence limits α is 0.10, $\alpha/2$ is 0.05, and the upper limit uses the 95th percentile.

If D is small, then the Poisson approximation of the binomial distribution is not adequate, and 100 (1-α)% confidence limits for the demand fault rate are

$$\frac{NF_L}{D - N + 1 + NF_L} \le \lambda(\text{demand})$$

$$\le \frac{(N + 1)\,F_U}{D - N + (N + 1)\,F_U} \qquad \text{(C-5)}$$

where

$F_L = F_{\alpha/2}$ (2N, 2D - 2N + 2),

$F_U = F_{1-\alpha/2}$ (2N + 2, 2D - 2N), and

$F_a(b,c)$ = F variate at cumulative probability, ***a***, with, ***b***, and, ***c***, degrees of freedom.

As before, for 90% confidence limits the 0.05 and 0.95 quantities are used ($\alpha = 0.10$).

In this work, hourly rate confidence limits were always based on Equation (C-3). Demand rate confidence limits were based on Equation (C-4) if $D - N \geq 100$, and on Equation (C-5) otherwise.

The lower limits in Equations (C-3), (C-4), and (C-5) are not defined in cases where no faults are observed ($N = 0$). Zero is the appropriate lower limit in these cases. However, Equations (C-1) and (C-2) also give zero as the point estimates when $N = 0$. More realistic point estimates for such cases are

$$\hat{\lambda} = \frac{\chi^2_{0.50}(2N+1)}{2T} \qquad \text{(C-6)}$$

$$\hat{\lambda} = \frac{\chi^2_{0.50}(2N+1)}{2D} \qquad \text{(C-7)}$$

and

$$\hat{\lambda} = \frac{(2N+1)\,F_M}{2D-2N+1+(2N+1)F_M} \qquad \text{(C-8)}$$

where

$$F_M = F_{0.50}(2N+1,\ 2D-2N+1)$$

and the F and χ^2 distribution percentile and degree of freedom notations are as defined above.

Equation (C-6) applies for hourly rates while Equation (C-7) is used with the upper bound from Equation (C-4), and Equation (C-8) is used with Equation (C-5). Equations (C-6) and (C-7) are applicable to faults occurring according to a Poisson distribution regardless of the number of faults observed. A similar comment applies to Equation (C-8) and the binomial distribution. Typical estimates from Equation (C-6) are in the following table for comparison with Equation (C-1). Equation (C-6) has been used in other fault data studies, such as Reference C-2.

N	$\hat{\lambda}$
30	30.15/T
20	20.15/T
10	10.15/T
5	5.15/T
2	2.18/T
1	1.19/T
0	0.23/T

The estimates of Equations (C-6) through (C-8) can be obtained in two ways. The first is to consider shrinking the confidence intervals of Equations (C-3), (C-4), and (C-5) to the case where α = 1.00 and both $\alpha/2$ and $1-\alpha/2$ are 0.5. Because of the differing degrees of freedom, the intervals do not shrink to a single point. The equations use an average for the differing degrees of freedom. Because the estimates use 50th percentiles, they are related to medians.

The second way of considering Equations (C-6) through (C-8) uses the medians directly. In a Bayesian context, λ is regarded as a random variable. With Poisson sampling and a noninformative conjugate prior distribution, the posterior distribution for the occurrence rate has a gamma distribution with parameters[C-3]

$$(\alpha,\beta) = (N + 1/2,\ 1/T)\ . \qquad \text{(C-9)}$$

Because the gamma distribution with parameters (N,2) is identical to the chi-square distribution with 2N degrees of freedom,[C-4] Equation (C-6) can be shown to be the median of the distribution described by Equation (C-9). Using a similar relation between beta and F distributions, Equation (C-8) can be derived as the median of the posterior fault rate distribution obtained in sampling from a binomial distribution with a noninformative conjugate prior.

In summary, Equations (C-6), (C-7), and (C-8) describe median point estimates for the fault rate. They can be used when N = 0, and are more conservative in that case than the point estimates given in Equations (C-1) and (C-2). In this work, they are used with, respectively, the upper confidence limits in Equations (C-3), (C-4), and (C-5) whenever no faults are observed.

In estimating the above confidence limits, all components in the sample were assumed to have exactly the same true fault rate. No effort was made to account for possible variations arising from the mixture of populations having different true fault rates. For further discussion of the assumptions and limitations of these confidence limits, see References C-1 and C-5.

References

C-1. L. J. Bain, *Statistical Analysis of Reliability and Life-Testing Models*, New York: Marcel Dekker, Inc., 1978, p. 157.

C-2. *NPRDS 1978 Annual Reports of Cumulative System and Component Reliability*, NUREG/CR-0942, Southwest Research Institute, September, 1979.

C-3. G. E. P. Box and G. C. Tiao, *Bayesian Inference in Statistical Analysis*, Addison-Wesley, Reading, MA, 1973.

C-4. N. R. Mann, R. E. Shafer, and N. D. Singpurwalla, *Methods for Statistical Analysis of Reliability and Life Data*, New York: John Wiley and Sons, Inc., 1974.

C-5. N. L. Johnson and S. Kotz, *Discrete Distributions*, New York: John Wiley and Sons, Inc., 1969, pp. 58-59 and 96.

APPENDIX D

INSTRUMENTATION AND CONTROL ONE-LINERS SORTED BY NSSS VENDOR

CODES USED IN LER ONE-LINE DESCRIPTIONS

FAULT MODE

CODE	DESCRIPTION
A	REDUCED CAPABILITY
B	INOPERABLE

FUNCTION

CODE	DESCRIPTION
I	REACTOR TRIP
S	ENGINEERED SAFETY FEATURES ACTUATION
C	REACTOR CONTROL
G	GENERAL CONTROL/INDICATION/ALARM
R	RADIATION DETECTION

PARAMETER

CODE	DESCRIPTION
L	LIQUID LEVEL
N	NUCLEAR (CORE FLUX)
F	FLOW
T	TEMPERATURE
R	RADIATION
P	PRESSURE/VACUUM
D	POSITION
X	OTHER/UNKNOWN

TYPE OF EVENT

CODE	DESCRIPTION
B	RECURRING COMMON CAUSE FAILURE
C	COMMON CAUSE FAILURE
R	RECURRING FAILURE
S	COMMAND FAULT
T	RECURRING COMMAND FAULT
U	COMMON CAUSE COMMAND FAULT
V	RECURRING COMMON CAUSE COMMAND FAULT
BLANK	RANDOM FAILURE

FAULT CAUSE

CODE	DESCRIPTION
00	UNKNOWN
01	PERSONNEL OPERATION
02	PERSONNEL MAINTENANCE
03	PERSONNEL TESTING
04	DESIGN ERROR
05	FABRICATION/CONSTRUCTION/QUALITY CONTROL
06	DEFECTIVE PROCEDURES
07	EXTREME ENVIRONMENT
08	MECHANICAL MALFUNCTION
09	ELECTRICAL MALFUNCTION
11	LEAKING OR BLOCKED INSTRUMENT SENSING LINES
12	DIRTY, BINDING, OR STICKING
13	PIECE PART FAULT
14	DRIFT

COMPONENT

CODE	DESCRIPTION
AM	AMPLIFIER/BUFFER/ISOLATION AMPLIFIER
CA	CABLE/RECEPTACLE/JUNCTION BOX/TERMINAL
CL	CONTROLLER
CM	COMPARATOR (BISTABLE)
CN	CONVERTER/CONDITIONER
GS	GENERAL SWITCH
HS	HAND SWITCH
IM	COMPUTATION MODULE
IN	INDICATOR/METER/ANNUNCIATOR
LM	COMPUTER
LS	LIMIT SWITCH
MO	MONITOR
PS	POWER SUPPLY
RC	RECORDER
RE	RELAY/SOLENOID
SE	SENSOR
TI	TIMER
TR	TRANSFORMER
TX	TRANSMITTER
ZZ	OTHER/UNSPECIFIED

ACTIVITY RESULTING IN DISCOVERY

CODE	DESCRIPTION
N	DURING NORMAL PLANT OPERATION (I.E. OTHER THAN LISTED BELOW)
M	DURING MAINTENANCE
R	DURING RECORDS REVIEW
T	DURING TESTING

NSSS VENDOR

CODE	DESCRIPTION
B	BABCOCK & WILCOX
C	COMBUSTION ENGINEERING
W	WESTINGHOUSE
G	GENERAL ELECTRIC

EVENT CLASSIFICATION

CODE	DESCRIPTION
D	FREQUENCY
T	AGE
U	UNKNOWN

SYSTEM IDENTIFICATION CODES

CODE	DESCRIPTION
SA	AUTOMATIC DEPRESSURIZATION (BWR'S ONLY)
IC	CONTAINMENT (INCLUDES PENETRATION & ISOLATION CONTROL)
SD	LOW PRESSURE CORE SPRAY (LPCS) (BWR'S ONLY)
SF	CONTAINMENT SPRAY INJECTION (CSI)
AG	CHEMICAL VOLUME CONTROL (CVCS) (PWR'S ONLY)
SH	HIGH PRESSURE COOLANT INJECTION (HPCI)
SL	LOW PRESSURE COOLANT INJECTION (LPCI)
SQ	REACTOR CORE ISOLATION COOLING (RCIC) (BWR'S ONLY)
AS	SERVICE WATER
CT	CONDENSATE AND FEED
PX	REACTOR TRIP
NN	ALL OTHERS
SN	OTHER ESF(PARENT SYSTEM NOT IDENTIFIED)

INSTRUMENTATION AND CONTROL ONE-LINERS SORTED BY NSSS VENDOR

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	AR1	013962	010576	PS	DC	NN	B13	N	R	T		DURING NORMAL OP.,CONTROL ROD GROUP 6 TRIPPED	APP. CAUSE IS FAILURE OF GROUP 6 PS
B	AR1	014496	032376	GS	PT	PX	A14	T		F		RX BUILDING PRESSURE SWITCH FAILED TO TPIP	INSTRUMENT DRIFT
B	AR1	016955*	011077	GS	PG	SN	B07	N	C	U	4	SLBIC ALARM ACTUATION IN CONTROL ROOM	ALL 4 SENSING LINES FROZE ACTUATING PS
B	AR1	017234A	021977	TX	FG	AG	B13	T	R	D		FLOW TRANSMITTER ON HPI SYSTEM (LOOP A) FAILED	BELLOWS FAILED DUE TO OVERPRESSURIZATION
B	AR1	017234B	021977	TX	FG	AG	B13	T	R	D		FLOW TRANSMITTER ON HPI SYSTEM (LOOP A) FAILED	BELLOWS FAILED DUE TO FATIGUE
B	AR1	017234C	021977	TX	FG	AG	A14	T		T	2	FLOW TRANSMITTERS ON HPI SYS (LOOP B) OUT OF CAL.	NORMAL DRIFT
B	AR1	021416	042678	RE	XG	NN	B09	T		D		EMERGENCY SUPPLY FANS FAILED TO START AUTOMATICAL.	GROUND AT ACTUATING SOLENOID
B	AR1	026910	081379	RE	XT	PX	B13	N		D		TURBINE LOCKOUT FAILED	LOOSE TERMINALS AND BROKEN LUG ON RELAY
B	AR1	038482	080481	ZZ	NT	PX	A02	M	U	D		B RPS SCALD DIFF IN AMP GAIN SETTING ERRONEOUS	WRNG POTENTIOMETER ADJSTD IN PREVIOUS CAL
B	CR3	017175	020177	IN	TG	NN	B13	T	R	U		RC REMOTE TEMPERATURE INDICATOR FOUND TO BE IN ERR	METER MOVEMENT FAILED-REPLACED & CALIBRAT
B	CR3	017169	020477	ZZ	PG	NN	B01	N		D		LOW RANGE OVERPRESSURE PROTECTION CIRCUIT NOT ARME	PERSONNEL ERROR-FAILED TO FOLLOW PROCEDU
B	CR3	018406	040677	CA	DC	NN	B13	N		U		INOPERABLE POSITION INDICATOR FOR ROD 5 GROUP 8	AMPHENOL CONNECTOR FAULTY PIN CONNECTION
B	CR3	018232	060777	MO	RR	NN	B07	N	R	D		RMA-6 VAC PUMP INOPERABLE ON THREE DIFFERENT OCASN	THRML COND CAUSED TRIP, USING TEMP FAN
B	CR3	018384	062977	IN	DG	NN	B13	N	R	T		ABSOLUTE POSITION INDICATOR DECLARED INOPERABLE	FAILURE OF ABSOLUTE POSITION INDICATOR TO
B	CR3	018399	070277	PS	DC	NN	B09	T		U		ROD 3 GROUP 6 API FOR ALL REG RODS WAS LOST	15 VOLT POWER SUPPLY SPIKE-CAUSE UNKNOWN
B	CR3	018555	071277	TX	LG	SN	A14	N		T		A AND B LEVEL CHANNELS OF BWST DISAGREED	CALIBRATION SHIFT OF LEVEL IND TRANSMITTE
B	CR3	019011	082977	IN	DG	NN	B00	N		U		API FOR ROD 6 GROUP 7 FAILED AND DECLARED INOPERAB	CAUSE UNKNOWN-SELF CORRECTED
B	CR3	019009*	090277	TX	FT	PX	A14	R		T	4	4 RCS FLOW INSTRUMENTS OUT OF CALIBRATION	CALIBRATION DRIFT OF D/P TRANSMITTERS
B	CR3	019002	091877	MO	RR	NN	B13	N	R	T		RB PURGE MONITOR RM-AI DECLARED INOPERABLE	VACUUM PUMP FAILED
B	CR3	019304*	092077	IN	DG	NN	B13	N	R	T	4	API FOR ROD 1 GROUP 8 FAILED	MIS-ALIGNMENT OF API TUBE
B	CR3	019639	110777	MO	RR	NN	B13	N	R	D		RM-A6 VAC PUMP INOPERABLE, CSD LOSS OF LK DET SYS	WORN & DISTORTED CARBON VANES,2ND OCCURNC
B	CR3	019886	120777	GS	FG	SL	A14	T		T		DHV FOR ECCS PUMP WOULD NOT CONTROL FLOW AT 3000 G	CALIBRATION SHIFT OF FLOW SWITCH
B	CR3	019885	120877	MO	RR	NN	B00	T		U		CONTROL COMPLEX RETURN DUCT RAD MONITOR OP UNSATIS	CAUSE UNKNOWN-COULD NOT DUPLICATE
B	CR3	020753*	020378	GS	PS	SN	A14	N		T	2	B STEAMLINE RUPTURE MATRIX ACTUATED	DEAD BAND SHIFT OF PRESSURE SWITCHES
B	CR3	021164	040878	MO	RR	NN	A00	N		U		FUEL POOL AREA RAD MONITOR SPIKING HIGH INTERMITTE	CAUSE UNKNOWN-STILL UNDER INVESTIGATION
B	CR3	021209	042878	MO	RR	NN	B13	N	R	T		MOTOR OL RELAYS FOR RAD MON RM-2 FOUND DEFECTIVE	MOTOR OVERLOAD RELAYS WERE RENEWED
B	CR3	021777	060378	MO	RR	NN	B13	T	R	T		AUX BLDG MONITOR FAILED TO RESPOND	FAILED SURGE CAPACITOR IN CONTROL RELAY
B	CR3	022041	080178	SE	NS	SN	B13	N		T		STARTUP RATE AND COUNT RATE FOR NI2 OSCILLATING	FAILED SOURCE RANGE DETECTOR (NI-2)
B	CR3	022710	091578	IN	DG	NN	B06	T		D		RELATIVE POSITION INDICATOR INOPERABLE(GP-7 ROD-8)	PROCEDURE-REACTIMETER TERMINATION TO RPI
B	CR3	022708	092078	MO	RR	NN	A14	N	R	T		RX BUILDING AIR SAMPLE MONITOR INOPERABLE (RMA 6)	FLOW CONTROLLER OUT OF ADJUSTMENT
B	CR3	023422	100578	RE	XS	IC	B08	T		D		M RELAY IN ACTUATION CH CABINET 2A WAS STICKING	IMPROPER RELAY ALIGNMENT,CABLE STRESS
B	CR3	023168	111378	MO	RR	NN	B13	N	R	T		VACUMN PUMP FOR RAD MON RMA-1 SEIZED	CAUSE NOT MENTIONED,REPAIRED BY NORM MAIN
B	CR3	023167	111578	MO	RR	NN	B01	T		D		CONTAINMENT ATMOS RAD MONITOR IN PURGE MODE(RMA-1)	PERSONNEL ERROR-WRONG MODE OF OPERATION
B	CR3	023165	112178	GS	DC	NN	A12	T	R	T		API FOR ROD 4 GROUP 3 NOT OBSERVED AS ROD MOVED	STICKING REED SWITCH
B	CR3	023420	121378	RE	XC	IC	B12	T	R	T		RB3-GP-2 LIGHT DID NOT LIGHT WHEN CIRCUIT TESTED	RELAY L IN ES CABINET STUCK,CLEANED
B	CR3	023421*	121378	GS	DC	NN	A12	T	R	T	2	API FOR ROD 5 GROUP 6 FLUCTUATING(OCCURRED TWICE)	STICKING REED SWITCHES
B	CR3	023418	122478	MO	RR	NN	B13	N	R	T		SAMPLE PUMP FOR RAD MON RMA-6 FAILED	WORN AND DISTORTED CARBON VANES
B	CR3	025353	011979	RE	XS	SN	B12	T	R	T		RELAY AR IN CABINET 5C FAILED	DIRTY CONTACTS
B	CR3	025357	021479	RE	XS	IC	B12	T	R	D		RELAY FAILED	BURR ON RELAY SHAFT
B	CR3	025351	022079	SE	TS	SL	B00	N		U		RTD DH-2-TE FOR DH-39-TI,DH COOLER OUTLET TEMP.//	FAILED. NO CAUSE GIVEN
B	CR3	025350	022379	RC	XG	AG	B13	N		T		TRACE RECORDER HTRT-5 FOR CON BORIC ACID FLOW-PATH	//FOUND INOPERABLE. FAILED DRIVE WHEEL
B	CR3	025545	022379	IN	PG	CT	A07	N		D		MOTOR DRIVEN AUX FEED PUMP DISCH PRESS GAUGE FOUND	// OOC. INOPERABLE DAMPING SNUBBER
B	CR3	025628	031879	MO	RR	NN	B13	N	R	U		RX BLDG IODINE RAD MON RMA-6 FOUND INOP	FAILED PRINTED CIRCUIT BOARD
B	CR3	025629	032179	SE	DG	NN	A12	N		T		POSITION INDICATION FOR ROD 8 GROUP 6 WAS LOST	REED SWITCH FOUND STICKING
B	CR3	025630	032179	IN	PG	CT	B00	T		U		MOTOR DRIVEN AUX FEED PUMP DISCH PRESS GAUGE FAIL	NO CAUSE GIVEN
B	CR3	025632	032779	RC	XG	AG	B13	N		T		TRACE RECORDER HTRT-5 FOR CON BORIC ACID FLOW-PATH	//FOUND INOPERABLE. FAILED DRIVE CORD
B	CR3	025634	033079	RC	XG	AG	B00	N		U		HEAT TRACE RECORDER HTRT-1 PERFORMED ERRATICALLY	CAUSE UNKNOWN
B	CR3	025934	040479	MO	RR	NN	A02	M	V	D		DISCOVERED SENSOR FOR RX BLDG RAD MON MIS-POSITION	NOT POSITIONED CORRECTLY AFTER MAINTENAN.
B	CR3	025935	040479	MO	RR	NN	A00	N	S	D		BKR FOR RX BLDG RAD MON FOUND OPEN	NO CAUSE FOUND
B	CR3	025991A	050979	AM	NT	PX	A14	T		T		NUCLEAR SOURCE RANGE INS NI-1 FOUND OOC	COUNT-RATE AMP HAD DRIFTED

The remainder of Appendix D is provided on microfiche.

APPENDIX E

INSTRUMENTATION AND CONTROL ONE-LINERS SORTED BY HUMAN FACTORS

CONTENTS

CODES USED IN LER ONE-LINE DESCRIPTIONS

FAULT MODE

CODE	DESCRIPTION
A	REDUCED CAPABILITY
B	INOPERABLE

FUNCTION

CODE	DESCRIPTION
T	REACTOR TRIP
S	ENGINEERED SAFETY FEATURES ACTUATION
C	REACTOR CONTROL
G	GENERAL CONTROL/INDICATION/ALARM
R	RADIATION DETECTION

PARAMETER

CODE	DESCRIPTION
L	LIQUID LEVEL
N	NUCLEAR (CORE FLUX)
F	FLOW
T	TEMPERATURE
R	RADIATION
P	PRESSURE/VACUUM
D	POSITION
X	OTHER/UNKNOWN

TYPE OF EVENT

CODE	DESCRIPTION
B	RECURRING COMMON CAUSE FAILURE
C	COMMON CAUSE FAILURE
R	RECURRING FAILURE
S	COMMAND FAULT
T	RECURRING COMMAND FAULT
U	COMMON CAUSE COMMAND FAULT
V	RECURRING COMMON CAUSE COMMAND FAULT
BLANK	RANDOM FAILURE

FAULT CAUSE

CODE	DESCRIPTION
00	UNKNOWN
01	PERSONNEL OPERATION
02	PERSONNEL MAINTENANCE
03	PERSONNEL TESTING
04	DESIGN ERROR
05	FABRICATION/CONSTRUCTION/QUALITY CONTROL
06	DEFECTIVE PROCEDURES
07	EXTREME ENVIRONMENT
08	MECHANICAL MALFUNCTION
09	ELECTRICAL MALFUNCTION
11	LEAKING OR BLOCKED INSTRUMENT SENSING LINES
12	DIRTY, BINDING, OR STICKING
13	PIECE PART FAULT
14	DRIFT

COMPONENT

CODE	DESCRIPTION
AM	AMPLIFIER/BUFFER/ISOLATION AMPLIFIER
CA	CABLE/RECEPTACLE/JUNCTION BOX/TERMINAL
CL	CONTROLLER
CM	COMPARATOR (BISTABLE)
CN	CONVERTER/CONDITIONER
GS	GENERAL SWITCH
HS	HAND SWITCH
IM	COMPUTATION MODULE
IN	INDICATOR/METER/ANNUNCIATOR
LM	COMPUTER
LS	LIMIT SWITCH
MO	MONITOR
PS	POWER SUPPLY
RC	RECORDER
RE	RELAY/SOLENOID
SE	SENSOR
TI	TIMER
TR	TRANSFORMER
TX	TRANSMITTER
ZZ	OTHER/UNSPECIFIED

ACTIVITY RESULTING IN DISCOVERY

CODE	DESCRIPTION
N	DURING NORMAL PLANT OPERATION (I.E. OTHER THAN LISTED BELOW)
M	DURING MAINTENANCE
R	DURING RECORDS REVIEW
T	DURING TESTING

NSSS VENDOR

CODE	DESCRIPTION
B	BABCOCK & WILCOX
C	COMBUSTION ENGINEERING
W	WESTINGHOUSE
G	GENERAL ELECTRIC

EVENT CLASSIFICATION

CODE	DESCRIPTION
D	FREQUENCY
T	AGE
U	UNKNOWN

SYSTEM IDENTIFICATION CODES

CODE	DESCRIPTION
SA	AUTOMATIC DEPRESSURIZATION (BWR'S ONLY)
IC	CONTAINMENT (INCLUDES PENETRATION & ISOLATION CONTROL)
SD	LOW PRESSURE CORE SPRAY (LPCS) (BWR'S ONLY)
SF	CONTAINMENT SPRAY INJECTION (CSI)
AG	CHEMICAL VOLUME CONTROL (CVCS) (PWR'S ONLY)
SH	HIGH PRESSURE COOLANT INJECTION (HPCI)
SL	LOW PRESSURE COOLANT INJECTION (LPCI)
SQ	REACTOR CORE ISOLATION COOLING (RCIC) (BWR'S ONLY)
AS	SERVICE WATER
CT	CONDENSATE AND FEED
PX	REACTOR TRIP
NN	ALL OTHERS
SN	OTHER ESF(PARENT SYSTEM NOT IDENTIFIED)

PERSONNEL OPERATION

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	CR3	017169	020477	ZZ	PG	NN	B01	N		D		LOW RANGE OVERPRESSURE PROTECTION CIRCUIT NOT ARME	PERSONNEL ERROR-FAILED TO FOLLOW PROCEDU
B	CR3	023167	111578	MO	RR	NN	B01	T		D		CONTAINMENT ATMOS RAD MONITOR IN PURGE MODE(RMA-1)	PERSONNEL ERROR-WRONG MODE OF OPERATION
B	OE1	022174A	080678	CM	NT	PX	A01	N	V	D	4	POWER TO FLOW TRIPS NOT RESET	OPERATOR FAILED TO RESET TRIP
B	OE1	022174B	080678	CM	NT	PX	A01	N	V	D	4	OVERPOWER TRIPS NOT RESET	OPERATOR FAILED TO RESET TRIP
B	OE1	027537*	101079	AM	NT	PX	A01	N	B	D	4	NI POWER INDICATIONS DISCOVERED OUT OF CALIBRATION	PERSONNEL ERROR
B	OE3	025840A	071878	AM	NT	PX	A01	R	B	D	4	NI POWER INDICATIONS DISCOVERED OUT OF CALIBRATION	PERSONNEL DID NOT FOLLOW PROCEDURES
B	RS1	032315	081380	CM	NT	PX	A01	N	U	D		RPS IN S/D BYPASS MODE & NUC OVERPWR TRP SETPT IN/	/CORRECT. OPERATOR ERROR
B	TI1	014066	020476	MO	RR	NN	A01	N	T	D		TECHNICIAN LEFT COVER PLATE AJAR FOR 22 HOURS	INAD. PROCDRS PERTAIN TO REMOVAL/REPLCMNT
C	AR2	027033	090479	PS	LG	NN	B01	N	U	D		CNTNMNT BLDG SUMP LEVEL IND 2LI-5645-1 INOPERABLE	POWER TURNED OFF FROM POWER SUPPLY
C	CC1	037997	071681	TX	PG	NN	A01	N	V	D		PORV OPENED ON AN ERRONEOUS HI PRESSURE SIGNAL	XMTR PT-103-[illegible] WAS BUMPED & SENT SIGNAL
C	FC1	016447	080176	MO	RR	NN	B01	T		D		WASTE LIQ PROCESS RAD MONITOR INOPERABLE	OPERATOR LEFT MONITOR IN CALIBRATE MODE
C	MI2	172388*	122981	MO	RR	NN	B01	M	U	D	3	REQ # OF CNTNMNT RAD MON NOT OPERABLE	OPERATOR ERROR
C	MY1	036856	041779	MO	RR	NN	B01	N	V	D		VLV IN TEMP LINE OFF CNTNMNT APD FOUND OPEN 9 DAYS	VLV NOT RETURNED TO NORMAL STATIS
C	MY1	037567A	071281	MO	RR	NN	B01	N	V	D		PRIMARY VENT STACK PARTICULATE SAMPLE FILTER FOU//	NO NOT INSTALLED. PERSONNEL ERROR
C	MY1	037567B	071681	MO	RR	NN	B01	N	V	D		PRIMARY VENT STACK PARTICULATE SAMPLE FILTER FOU//	NO NOT INSTALLED. PERSONNEL ERROR
C	SI1	021523	042378	TX	LG	NN	B01	N		D		OPERATOR BLEW DOWN SENS. LINES TO 18 BAMT LEVEL IN	IMPROPER OPERATION OF INST. DURN BLOWDOWN
C	SL1	022302	081678	IM	NG	NN	A01	N	T	D		NONCONSERV. INCORE ALARM SETPOINTS USED FOR 61/4HR	USED INCORRECT FLUX INPUTS FOR SETPOINTS
C	SL1	031397	041980	MO	RR	NN	B01	N	U	D		LIQ WASTE DISCHARGE MONITOR ISOLATED	OPER PERS UNAWARE MONITOR WAS DISABLED
W	BV1	014606A	051276	CM	NT	PX	B01	N	U	D		OVERPOWER BISTABLE NOT TRIPPED WHEN REQUIRED	OPERATOR FAILED TO TRIP BISTABLES
W	BV1	014606B	051276	CM	TT	PX	B01	N	U	D		OVERTEMP BISTABLE NOT TRIPPED WHEN REQUIRED	OPERATOR FAILED TO TRIP BISTABLES
W	BV1	017694	042777	SE	NC	NN	B01	N	S	D		DECTOR #2 ALIGNED TO WRONG THIMBLE OF APDM SYSTEM	OPERATOR SELECTED WRONG THIMBLE
W	BV1	020794	022878	HS	NT	PX	B01	N	S	D		POWER RANGE CHANNEL N43 INDICATED ZERO	POWER SUPPLY NOT RESET AFTER LOSS OF PWR
W	BV1	030137*	012380	MO	RR	NN	A01	R	C	D	4	CONT AREA RM-215A,B & PURGE EXHT PROC RM-VS-10RA,B	// SETPOINTS HI. PERSONNEL ERROR
W	BV1	033308	112280	TX	FT	PX	B01	N	U	D		MAIN STM FLO IND FI-MS-484 FAILED LOW	TRANSM BYPS VLV NOT CLOSED PERSNL ERROR
W	DC1	027932	122179	ZZ	NG	SN	A01	N	U	D		APDMS F(Z) SETPOINTS SET WRONG DUE TO PERSONNEL //	NOT USING APPROPRIATE THIMBLES
W	DC1	039122	102181	SE	XG	NN	B01	N	U	D		CD D/G RM FLOOR PEAK ACCELERATION RECORDER REMOVED	OCCURRED DURING CONSTRUCTN IN AREA
W	DC2	036727	033181	GS	LS	SN	A01	N	U	D		REC'D LO LVL ALRM ON SPRAY ADDITIVE TANK	ALARM WIRED BACKWARDS/CNSTRCTN IN AREA
W	IP2	031690	062180	GS	XG	CT	A01	N	U	D		#23 AUX FW PUMP CNTRL SW IN LOCAL POSITION	UNAUTHRZD ACTUATN OF SW BY SECURITY PERS
W	IP2	172037	122381	MO	NT	PX	A01	T	T	D		IN-CORE FLUX TILT INSTR CHNL N44 CAL VALUE WRONG	TRANSCRIPTION ERROR IN CALIBRATION VALUES
W	JF1	021874	060478	MO	RR	NN	A01	N	T	D		PUMP FOR RAD MON R11 AND R12 TRIPPED ON LOW FLOW	LOW FLOW CUTOUT SWITCH SET TOO LOW
W	JF1	031302	051980	GS	XG	NN	A01	N	U	D		D/G 2C INOP SJWCP SW IN RUN VICE AUTO POSITION	NONLIC. OPERATIONS PERSONNEL ERROR
W	KE1	031476	061980	MO	RR	SN	B01	N	U	D		SG BLOWDWN RAD MON R19 OOS	PERS ERR ISOLATED MONITOR
W	NA1	033650	123080	CM	LT	PX	A01	N	U	D		SG WTR LVL LO-LO RX TRP SET OOT (LOW)	ADMIN PERS OVRSGHT LOLO LVL COMPRTR RECAL
W	NA1	037393B	051881	SE	NG	NN	B01	N	U	D		INCORE DETECTORS NOT USED WHEN REQUIRED	PERSONNEL OVERSIGHT
W	NA2	171657	120981	HS	XT	PX	A01	T	U	D		SSPS B TRN INPUT ERR SWTCH IN INHIB POSITION	LICENSED OPERATOR ERROR
W	PR1	031703*	063080	SE	NT	PX	A01	N	U	D	2	2 NIS PWR RNG HI PWR TRP SETPTS SET OOT (HIGH)	PERS ERR PRESCRIBG T.S. SETPT
W	PT1	025586	033079	LM	NG	NN	B01	N	S	D		PLANT COMPUTER INITIALIZED INCORRECTLY RESULTING//	IN AXIAL FLUX NOT MONITORED. PERSONNEL
W	PT2	021626	060278	LM	NG	NN	B01	N		D		CORE AXIAL FLUX DIFFL MON PRGRM OOS FOR 7 DAYS	PRGRM NOT RESTARTED BY OPER AFTR CMPR FLR
W	PT2	033448	111880	CM	NT	PX	A01	N	C	D		HI NEUTRON FLUX SETPOINT NOT REDUCED AS REQUIRED	IMPROPER INTERPRETATION OF TECH SPEC
W	RO2	021202	041478	HS	TT	PX	B01	T		D		LOOP 3 DELTA T WOULD NOT TRIP	GAIN SWITCH IN WRONG POSITION
W	RO2	026054	050579	SE	NT	PX	B01	N	U	D		POWER WAS LOST TO N-32 SOURCE RANGE DETECTOR	PERSONNEL ERROR
W	RO2	031215	051780	SE	NT	PX	A01	N	U	D		PWR RNG HI FLUX SETPT NOT RESET AS REQUIRED	PERSONNEL MISINTERPRETED TECH SPEC REQ
W	SA1	023576	122878	TX	FG	NN	B01	N	C	D		ZERO FLOW INDICATION ON THE PLANT VENT RECORDER	DE-ENGZD HT TRACING CSD FRZN XMTR SNSG LN
W	SA1	030699	011780	IN	PG	IC	A01	N	U	D		CNTNMNT PRESS ALLOWD TO INCRS ABOVE TECH SPEC LMT	A DESIGN CHANGE HAD NOT BEEN INCORPORATED
W	SA1	030376	020580	GS	XG	NN	B01	N	U	D		FILTER FAILURE ALARM REC'D FOR APD	MICRO-SW FAILD BUMPED BY PERSONNEL
W	SE1	037554	052281	MO	RR	NN	B01	N	V	D		CONTROL ROOM INTAKE TO TURBINE BLDG RAD MON ALARM-	-ED,FOUND DEENERGIZED. PERSONNEL
W	SE1	037608*	053181	TX	PT	PX	B01	N	U	D	3	INADVERTENT SI OCCURRED WHEN TWO-WAY RADIO USED A-	-ROUND PZR PRESSURE TRANSMITTERS
W	SE1	033685	122581	TX	LS	SN	B01	N	C	D		RWST 1-LI-63-50 FAILD HI INSTRUMNT LINES FOR LVL//	XMITR FROZEN. CABINET DOOR LEFT AJAR
W	SU1	030009	010680	RC	RG	NN	B01	N	C	D		LW EFF FLOW RECORDER PAPER MALFUNCTIONED	INADQ MESH BTWN REC DRV GEARS & PAPER ROL
W	SU1	033034*	101980	MO	RR	NN	A01	N	V	U	2	RM-CC-105/106 ALRM SETPTS GREATER THAN TWICE BACK/	/GROUND. SETPTS RESET NO CAUSE GIVEN

PERSONNEL OPERATION

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	SU1	033606*	122380	MO	RR	NN	A01	N	V	U	2	RM-CC-105/106 ALRM SETPTS GREATER THAN TWICE BACK/	/GROUND. SETPTS RESET NO CAUSE GIVEN
W	SU1	036221	012281	MO	RR	NN	A01	T	V	D		RAD MON RM-CC-105 FOR CCW ALARM SETPOINT FOUND OOC	ALARM SETPOINT NOT REDUCED W/BACKGROUND
W	SU1	036222*	012981	MO	RR	NN	B01	T	V	D	2	RAD MON'S RM-CC-105 & 106 SETPOINT FOUND TOO HIGH	SETPOINTS NOT REDUCED WITH BACKGROUND
W	SU1	037067*	041581	MO	RR	NN	B01	T	V	D	2	ALARM SETPOINTS FOR RM-CC-105 & 106 FOUND OOC	SETPOINTS NOT REDUCED WITH BACKGROUND
W	SU1	037547	060381	IN	LG	NN	B01	N	U	D		HIGH LEVEL ALARM FOR SPENT FUEL PIT DEFEATED AND -	-AN UNPLANNED RELEASE OCCURED
W	SU1	038771*	091581	MO	RR	NN	B01	N	V	D	8	ALARM SETPOINTS FOR CCW RAD MON RM-CC-105,106 OOC	SETPOINTS NOT CHANGED WITH BACKGROUND
W	SU1	170035A	100281	MO	RR	NN	A01	T	V	D		CCW RAD MON RM-CC-105 AND 106 SET PTS EXCEED BCKGR	FLUCUATIONS IN CCW ACTIVITY
W	SU1	170035B	100981	MO	RR	NN	A01	T	V	D		CCW RAD MON RM-CC-105 AND 106 SET PTS EXCEED BCKGR	FLUCUATIONS IN CCW ACTIVITY
W	SU1	171165	112681	MO	RR	NN	A01	T	V	D		CCW RAD MON RM-CC-105 AND 106 SETPTS EXCEED BCKGRD	FLUCUATIONS IN CCW ACTIVITY
W	SU2	036380	021281	MO	RR	NN	B01	N	V	D		ALARM SETPOINT FOR RM-CC-106 FOUND OOC HIGH	SETPOINTS WERE NOT PROPERLY VERIFIED
W	SU2	036648	032081	MO	RR	NN	B01	T	V	D		CCW RAD MONITOR RM-CC-106 ALARM SETPOINT FOUND OOC	SETPOINT NOT REDUCED WITH BACKGROUND
W	SU2	037325	051581	MO	RR	NN	B01	T	V	D		ALARM SETPOINT FOR CCW RAD MON RM-CC-106 FOUND OOC	SETPOINT NOT REDUCED WITH BACKGROUND
W	SU2	172097*	123181	IN	FG	NN	A01	N	V	D	2	STM FLO INSTR FI-474,-485 ON MSL A & B ISOLATED	LEFT ISOLATED AFTER REFUELING OUTAGE
W	TR1	021199A	032578	RC	LG	SL	B01	N		T		RC FLOW LOST WHILE SYSTEM PARTIALY DRAIND(IN RHR)	PRESS GAUGE OUT OF CALIBRATION
W	TR1	021199B	041778	TX	LG	SL	B01	N		D		LEVE INST WRONG READING;RC FLOW LOST WHILE IN RHR	REFERENCE LEG H2O LEVEL LOW
W	TR1	037903	062681	ZZ	LG	NN	B01	N	U	D		PZR LEVEL WAS LOST	IMPROPERLY VENTED PZR
W	YR1	017866	051877	ZZ	RR	NN	B01	N	R	[illegible]		PVS LOW FLOW ALARM ON APD CHANNL;PLUGGD AIR PATH	USE OF OVERSIZED PAPER BOUND UP DRIVE ASM
W	ZI1	033795	112080	MO	RR	NN	B01	N	V	D		CLASS I PIPE TUNNEL PRTCLT/IODINE RAD MON FAILED	PERS CHANGD MAGNAHELIC SET CAUSG HI FLO
W	ZI1	039312	031781	MO	RR	NN	B01	N	V	D		SAMPLE PMP FOR TURBINE BLDG RAD MON FOUND OFF	PERSONNEL ERROR
W	ZI1	037555	052281	MO	RR	NN	B01	N	V	D		ESF CUBICLE VENT RAD MON FOUND INOPERABLE	PERSONNEL
W	ZI2	038055*	071081	RE	XS	SN	B01	T	U	D	2	COMPONENTS DID NOT ACTUATE FROM TRAIN "A" SI	PS BRKR SWITCH FOR RELAYS SX/29-1 WRONG
G	BF1	172489	112381	MO	RR	NN	B01	R	U	D		CAM 1-RM-90-250 WAS INOP/REQ SAMPS NOT TAKEN	PERSONNEL ERROR
G	BF1	172770*	121181	GS	LG	NN	A01	N	B	D	2	HPCI SUPPR CHAM H-LVL SWITCHES SET TOO HIGH	ADMINISTRATIVE ERROR
G	BF2	018632*	081477	GS	LT	PX	A01	T	U	D	2	TWO RX WATER LOW LEVEL SCRAM SWITCHES WERE +20 IN.	REFERENCE LEVEL COLUMN B WAS NOT FULL
G	BF2	172402	110681	MO	RR	NN	A01	N	U	D		D/W AIR SAMPLER SETPOINT INCORRECT	PROCEDURAL ERROR
G	BF2	172774*	121181	GS	LG	NN	A01	N	B	D	2	HPCI SUPPR CHAMBER H-LVL SWITCHES SET TOO HIGH	ADMINISTRATIVE ERROR
G	BF3	016199*	100776	GS	FG	SH	B01	T	C	D	2	HPCI STEAM FLOW IND PDIS-73-1A,B INDICATED LOW	OPEN EQUALIZING VALVE (COMMON TO BOTH)
G	BF3	032458	082580	CA	XS	SQ	B01	T	C	D		LEAD WIRES PULLED FRM RCIC SPD FDBCK MAG PCKUP CON	//NCTR. PERSONNEL ERROR-NONLIC OPER PERS
G	BR1	036088	011581	HS	XG	SQ	A01	T	U	D		SYS OIL COOLER INLET ISOL VLV INOP FROM RTGB	KEY LOCK SW NOT FULLY TURNED TO NRML POS
G	BR2	014197	011676	GS	PG	SL	B01	N	U	D		CS AND RHR VALVE OPENING PERM SW FOUND ISOLATED	PERSONNEL ERROR,B21-PS-N021C LEFT ISOLATE
G	BR2	014633	021176	MO	RR	NN	B01	N	S	D		CONTAINMENT RAD MONITOR RECORDER SHOWED LOW FLOW	TX INLET VALVE CLOSED,2-CAC-AR-1261
G	BR2	027744	120179	IN	XC	NN	B01	N	C	D		RBM "B" TRIPPED WHEN INDICATING LIGHT BEING REPLAC	//ED. PERSONNEL ERROR,BULB GROUNDED SYS
G	BR2	037115	051381	GS	XS	IC	B01	M	U	D		ECCS ACTUATION INSTR ISOLATN NOT RECOGNIZED	LICENSED & SENIOR OPERATORS ERROR
G	CO1	030012	010280	GS	PS	SH	B01	T	U	D		HPCI AUX OIL PUMP SW IN "PULL-TO-LOCK" POSITION	INSTRUMNT/OPERATION PERS IMPROPR PROCEDUR
G	DA1	019965*	112877	CA	NT	PX	A01	T	C	D	4	NONCONSERV ERRORS INDUCED IN APRM CH A,B,C & D	PERSONNEL-REVERSED INPUT/OUTPUT OF RECORD
G	DA1	032033	071880	CA	DS	SN	A01	N	C	D		"B" RBM FAILED "INOP" CAUSING CONTROL ROD BLOCK	PIN CNNCTR LOOSE INADVRT CNTCT W/ PERS
G	DA1	037700A	061581	MO	RR	NN	B01	N	V	D		CAMS B OPERATING W/O SELECTED SAMPLE POINT	RADIATION PROTECTION PERSONNEL ERROR
G	DA1	038024	070181	MO	RR	NN	B01	T	V	D		CAMS "A" OPERATING W/O RESELECTED SAMPLE POINT	CR OPERATOR DIDN'T FOLLOW PROCEDURES
G	DA1	038493	081281	MO	RR	NN	B01	M	V	D		CAMS A,B OPER W/O RESELECTED SAMPLE POINTS	H/P PERS DIDN'T SELECT PTS
G	DR2	022590	092678	GS	FS	SN	B01	T	S	D		MSL(A) FLOW SWITCH 261-20 VALVED OUT	PERSONNEL ERROR-SURVEILLANCE NOT DONE
G	DR3	019987	121677	GS	PS	SH	B01	N	I	D		PS 3-263-53A WAS FOUND VALVED OUT-ISOL COND LOGIC	OPERATOR ERROR-VALVED OUT WRONG SWITCH
G	DR3	039113*	102081	IM	NT	PX	A01	N	B	D	4	4 APRM GAIN ADJUSTMENT FACTORS OOC CHNL 2,4,5,6	APRM'S LAST CALIBRATION PRIOR TO S/D
G	EN1	017096	011777	GS	PS	SA	B01	T	S	D		ADS PERM PRESS SW E11-N016A FOUND VALVED OUT	PERSONNEL ERROR
G	EN1	167605*	070881	GS	PS	SN	B01	M	U	D	2	ROOT VLV FOR LOW CONDENSER VACUUM SW'S B21-N056A&-	-B FOUND OOA. PERSONNEL ERROR
G	EN2	033892	072280	GS	LT	PX	B01	N	U	D		SCRAM DSCHRG VOL HI LVL ROD W/DRWL BLCK LVL SW 2C/	/11-N013E INOP. VALVING ERR BY OPERATOR
G	EN2	172207	121181	LS	DG	SQ	A01	T	U	D		RCIC INOP DUE TO TURB STM INLET VLV TESTING	MIS-POSITIONED LIMIT SW ON STM INLET VLV
G	FP1	031014	041780	SE	NT	PX	B01	M	U	D		LPRM C BYPASSED MAKING APRM F INOPERABLE	LICENSED/SENIOR OPERATORS ERROR
G	FP1	031164	042880	TI	XG	NN	A01	N	U	D		OFF-GAS TIMER OOT (HIGH)	ACCIDENTAL BUMPING/LOOSEN OF ADJST KNOB
G	FP1	033203*	110380	GS	LT	PX	A01	N	V	D	6	RX WTR LVL SW 02-3-LIS-101B/D OOT ON 3 OCCASIONS	PERS ERR AIR IN LVL SENSING LINES
G	MI1	030833	040780	GS	PS	SN	A01	N	U	D		PRESSURE INDICATING SW FOUND ISOLATED	I&C PERS FAILD TO RETURN SW TO SERVICE

PERSONNEL OPERATION

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	MI1	168043	081381	MO	RR	NN	A01	N	U	D		UNMONITORED RELEASE OF LIQUID EFFLUENT	MONITOR LEFT IN CALIBRATION MODE
G	MI1	172758	111781	GS	PT	PX	A01	I	U	D		PRESS SWTCH PS-39 WAS LEFT ISO(TURBINE OIL PRESS)	PERSONNEL ERROR IN PERF OF ROUTINE SURV
G	MO1	017373*	032177	ZZ	RR	NN	B01	N		D	2	AIR-EJECT SAMPLE SYSTEM FOUND ISOLATED, INOPERATIV	WORK CONTROL PROCESS, SU PROC TO BE REVIS
G	NM1	033896	102880	MO	RR	NN	A01	N	V	D		STACK GAS MON SYS IN PURGE MODE TOO LONG	TECH FAILD TO RETURN SYS TO NORMAL OPER
G	OC1	030482	021980	ZZ	FG	IC	B01	T	U	D		ERRONEOUS SYS FLO SIG CAUSED SGTS #1 TO S/D	FLO SENSING LINE CRACKED WAS STEPPED ON
G	OC1	033850A	051680	ZZ	DC	NN	A01	M	U	D		GREEN-GREEN RPI REMAINED LIT WHEN W/DREW ROD 10-23	LICENSED/SENIOR OPERATOR ERROR
G	PB2	019415*	102077	GS	PG	AS	B01	N		D	2	DP SWS DPIS-2-14-43A&B VALVED OUT OF SERV FOR MAIN	REPAIR LEAK ON COMMON SENSING LINE
G	PB2	036424	020281	GS	PS	SA	B01	T	V	D		"C" CORE SPRAY PUMP DISCHR/ADS INTERLOCK PRESS SW-	-PS-2-14-44C FOUND VALVED OUT. PERSONNEL
G	PB2	171564*	120581	GS	TS	SN	B01	N	C	D	2	TRP SETPTS FOR MSL TUNN TEMP SW RAISE FOR OP PRB	PERSONNEL ERROR
G	PI1	031761	071680	SE	PG	NN	A01	R	U	D		RX PRESS BNDRY LEAK DETCTN MON C-19 INOP	PERS CLOSD CNTNMNT SAMP ISOL VLVS
G	QC1	030261	011180	TX	PS	SN	A01	T	U	D		D/P XMITR 1-8741-51 DID NOT INDICATE PROPERLY	PERSONNEL ERROR
G	QC1	032394	081880	CL	FG	SQ	A01	M	U	D		FLOW CONTROLLER INADVERTENTLY LEFT IN MANUAL	LICENSED OPERATOR FAILD TO PLACE IN AUTO
G	VY1	022252*	081478	GS	FS	SN	B01	N	S	D	5	HI STEAM FLO SWITCHS DPIS 116,117,118,119,120A-D	INOPERBLE DUE TO WRONG VALV LINEUP
G	VY1	026959*	081679	TX	LS	IC	A01	T	V	D	2	BOTH TORUS LEVEL TRANSMITTERS HAD ZERO SHIFT	REFERENCE LEG NOT FILLED
G	VY1	031153*	051680	MO	RR	NN	A01	T		D	2	AEOG RAD MON 17-150A/B INOP IN CNTRLD CONDITIONS	PERS VIOLATED T.S. WHILE EVALUATG PROBLEM
G	VY1	033196	102780	GS	LS	SN	A01	N		D		LIS-2-3-72A ISOLATED W/O FIRST FAILG TRIP SYS	LICENSED/SENIOR OPERATOR ERROR

PERSONNEL MAINTENANCE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	AR1	038482	080481	ZZ	NT	PX	A02	M	U	D		6 RPS SCALD DIFF IN AMP GAIN SETTING ERRONEOUS	WRNG POTENTIOMETER ADJSTD IN PREVIOUS CAL
B	CR3	025934	040479	MO	RR	NN	A02	M	V	D		DISCOVERED SENSOR FOR RX BLDG RAD MON MIS-POSITION	NOT POSITIONED CORRECTLY AFTER MAINTENAN.
B	CR3	0328558	102980	MO	RR	IC	A02	M	V	D		RAD MON-A1 NOT CRRCTLY SAMP RX BLDG ATMOS	VALVE MISALIGNMENT PERSONNEL MAINTENANCE
B	CR3	173642	092181	MO	RR	NN	B02	M	U	D		RAD MON RM-A5 RENDERED INOPERABLE	PERSONNEL SHORTED FUSE
B	DB1	026599	062379	MO	RR	NN	B02	T	C	D		CNTNMNT POST-ACCIDENT RAD MON RE5029 DECLARED INOP	SHEAVE SET SCREWS NOT TIGHTENED PROPERLY
B	DB1	031897	070980	MO	RR	NN	B02	T	U	D		SHRT CKT LOST Y3 THUS SFAS CHNL 3 CNTNMNT RAD INOP	PERS ERROR WRONG INSULATED ALLIGATOR CLIP
B	DB1	031906	080380	CM	XS	SH	B02	N	U	D		B/S 8A413 REMOVED & CLOSED DH11 STOPPING FLOW	ERROR BY MAINTENANCE SPECIALIST
B	DB1	033097	102780	SE	PT	PX	B02	N	U	D		RPS-1 TRIPPED ON S/D/BYPASS HP TRIP	CNSTRCTN PERS BUMPED PRESS DET HOUSING
B	DB1	037654	061681	MO	RR	NN	B02	N	U	D		CNTNMNT RAD POST ACCIDENT MON RE5030 NOT RUNNING	BYPS DSCHRG HOSE KNOCKED OFF DURING MAINT
B	DE2	019970	120877	TX	PS	SN	B02	N		D		2PT60, ES CH3 RB PRESS XMTR VALVED OUT	MAINT PERSONNEL CLOSED WRONG VALVE
B	RS1	036690	031681	MO	RR	NN	B02	T	C	D		RX BLDG ATMOSPHERE RAD MON DISCOVERED INOPERABLE	PLASTIC BOTTLE CAP FOUND IN SAMPLE LINE
B	RS1	038793	093081	RE	XG	NN	B02	N		U		RELAY WHICH CONTROLS PZR HEATERS FAILED	TERMINAL SCREW WASHER WAS MISORIENTED
C	AR2	025208	012779	CA	DG	NN	A02	T	U	D		CEAC DEVIATION ALARMS WERE RECEIVED.//WHILE TROUBL	E SHOOTING CPC "B" CABLES IN CEAC1 DSTRBD
C	AR2	027032	082879	ZZ	XT	PX	A02	M		D		INADVERTANT RAS TRIP SIGNAL WHEN LEAD LIFTED	WRONG RESISTOR REMOVED,PERSONNEL ERRCR
C	AR2	033376A	120180	IM	XT	PX	B02	M	U	D		CPC "A" FAILED ON LOW VOLTAGE	MAINT PERS SHORTED SIGMA FLOW INDICATOR
C	AR2	033376B	120180	SE	DT	PX	B02	M	U	D		CEAC ^1 FAILED ON LOSS OF REED SW POSITION IND	MAINT PERS SHORTED SIGMA FLOW INDICATOR
C	CC1	017994	033077	CA	NT	PX	B02	N		D		POWER RANGE UPPER DETECTOR CIRCUIT,CH A, FAILED	DETECTOR DRAWER FIELD CABLE CONN. DISCONN
C	CC1	017908	052577	CA	XI	PX	B02	N		D		RPS CH B LOSS OF LOAD TRIP WAS RECIEVED	WORKER CUT CABLE E1C158A
C	CC1	022950	111378	MO	RR	NP	B02	N		D		CONTAINMENT PARTICULATE RAD MONITOR FAILED LOW	SIGNAL CABLE NOT CONNECTED PROPERLY
C	CC1	033560A	122180	SE	TT	PX	B02	N	C	D		RPS "B" HI PWR, TM/LP, AXL FLX BYPS TO FIX TCOLD//	INPUT. 1TE122CB LEAD BROKEN IN INSTLLTN
C	CC1	037178	042481	CN	PS	SN	B02	M	U	D		ESFAS ZD CNTNMNT PRESS SENSOR OOS LOST +15 PWR SUP	ISOLATOR FAILD. INDUCED IN MODIFICATION
C	CC1	037362	052181	IM	NC	NN	B02	M	C	D		SOME INCORE DET INOP DUE TO A COMPUTER PROBLEM	DFCTV ANALOG BUS SEGMENTATION CARD INSTLD
C	CC1	037290	052781	IN	FG	NN	B02	M	U	D		PZR SAFETY VLV ACOUSTIC FLO INDICATOR INOP	HEAVY OBJECT SEVERED HARDLINE CABLE
C	CC1	037494	061281	GS	LS	SN	A02	N	U	D		RWT LEVEL SWITCH 1-LS-4142C WAS ISOLATED	FAILURE TO RETURN LVL SW TO PROPER LINEUP
C	CC2	027535	102279	TX	PS	SL	A02	N	U	D		TECHNICIAN INSERTED DUMMY SIGNAL TO WRONG PRESS //	XMITTER CAUSING SI-651-MOV TO GO SHUT
C	CC2	028086	122879	MO	RR	NN	B02	N	B	D		CNTNMNT GASEOUS MONITOR DISCOVERED FAILED	DETECTOR CABLE CONNECTOR WAS LOOSE,INAD.
C	CC2	033708	122680	MO	RR	NN	B02	N	B	D		APD INOP APD JUNCTION BOX CNNCTR FAILED HI INDCTN	NORMAL WEAR FRM PREVENT/CORRECT MAINT
C	CC2	036027	011881	TX	PG	NN	B02	N	U	D		PRESS XMTR 2-PT-103-1 FAILD HI CAUSG PORV TO OPEN	LOOSE OSCILLATOR/AMP ASSEMBLY W/ IN XMTR
C	CC2	038272	080481	ZZ	NT	PX	B02	N	U	D		NI POWER SPIKES CAUSG SPURIOUS RPS TRIPS	OVERTIGHT FUSEHOLDER INTERNALS BROKEN
C	MI2	017116	020977	CM	FT	PX	A02	T	C	D		RPS LOW FLOW SETPOINT SET HIGH NONCONSERVATIVE	PERSONNEL MISINTERPRETED FORMULA
C	MI2	022133	071078	MO	RR	NN	A02	T		D		SPENT FUEL STORAGE PARTIC AIR MON TRIP PT HIGH	INCORRECT CALIBRATION BY MAINT PERSONNEL
C	MI2	032773	093080	CA	NT	PX	B02	N	B	D		WIDE RANGE NI CHANNEL INOP	ELECTRICIANS LIFTED NI SIGNAL LEADS
C	MI2	033118	102580	CM	NT	PX	A02	N	U	D		B/S SETPOINT DRIFTED HAD BEEN LEFT AT HI LIMIT	NONLIC. OPERATIONS PERSONNEL ERROR
C	MI2	039000	100881	IM	NT	PX	A02	T	C	D		EXCORE DETECTOR CH "D" POTENTIOMETER FOUND OOC	INCORRECTLY SET
C	MY1	025075C	010379	ZZ	NT	PX	B02	N		D		CH D WIDE RANGE DEENERGIZE WILL TROUBLE SHOOTING /	/TEMP MONITORING PROBLEM,REDUNDANCY INSUF
C	MY1	026021	052479	CM	PT	PX	A02	R	U	D		RPS S/G LOW PRESSURE BISTABLE SETPOINT FOUND LOW	INCORRECTLY SET DURING PAST CALIBRATION
C	MY1	030723	031280	TX	LT	PX	B02	M	C	D		SG LVL IND CH INOP IMPROP ALGNMNT OF OSCILLATOR //	AMP IN LVL XMITTR. IMPROP TECHNIQUE USED
C	MY1	037386	061081	CA	XS	SL	B02	N	C	D		CONNECTOR ON FLOW CONTROLLER PIC-103-1 PULLED	MAINTENANCE ON OTHER EQUIPMENT
C	PA1	036173	012181	GS	PG	AS	B02	N	C	D		COPPER TUBING TO PS-1473,SERVICE WATER LP ALARM F-	-OR DIESEL GEN,BROKE. PERSONNEL
C	SL1	017921	071276	LM	XG	NN	B02	N	S	D		DIGITAL DATA PROCESSOR MOMENTARILY DEENERGIZED	PERSONNEL TURNED OFF POWER SUPPLY
C	SL1	031695	050780	RE	XG	NN	B02	T	U	D		1A D/G DIDN*T SYNCHRONIZE TO EMERGENCY BUS	FREQ PERMISSIVE RELAY K49 SET INCORRECTLY
C	SL1	032590*	090480	PS	DC	NN	B02	N		D	2	CEA 42 PWR SUP CHNGD CEA 44 DROP POSSIBLE SPIKE	MAINT PERS NOT TOLD OF CEA 44 DROP
W	BV1	014691	051376	CM	TT	PX	B02	T	S	D		LOOP 1A OVERTEMP DT BISTABLE TRIPPED CAUSING RX TR	VOLTAGE SPIKE CAUSED BY PERSONNEL(MAIN.)
W	BV1	019617	102777	MO	RR	NN	A02	N		D		LEAK FOUND ON ACCESS COVER ON CONT PART RAD MON.	IMPROPERLY INSTALLED COVER PLATE
W	BV1	022881	101378	CM	NT	PX	A02	T	C	D		EX CORE INST.,CH N41,RATE TRIP SETPOINT TOO HIGH	INADVERTENT READJUSTMENT
W	BV1	026972	082779	SE	TT	PX	A02	N	C	D		CH 3 OVERPOWER DELTA TEMP FOUND MISCALIBRATED	WRONG RTD CALIBRATION DATA USED
W	BV1	027398	111079	MO	RR	NN	B02	R	U	D		PARTICULATE RAD MON DECLARED INOP CNTNMNT ACCESS//	COVER NOT INSTALLED PROPERLY
W	BV1	033253A	112180	CL	FG	CT	A02	N	U	D		CNTRL PROB WITH BYPASS & MAIN FEED REG VLVS	CNTRL MODIF FOR VLVS NOT PROPERLY TUNED
W	BV1	164674*	020781	IN	DC	NN	B02	N	C	D	2	RPI FOR CHANNELS H2 AND 88 FOUND GREATER THAN 12 -	-STEPS FROM DEMAND. NONLINEARITY IN CAL
W	BV1	171812	111681	HS	FT	PX	B02	N	U	D		RCP UNDERVOLTAGE RX TRIP FOUND DISABLED BY SWITCH	PERSONNEL ERROR

PERSONNEL MAINTENANCE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	DC1	016114	100776	TX	FT	PX	B02	T	C	D		FEED FLOW TRANSMITTER EXCESSIVE ERROR (FFC-211)	PERSONNEL ERROR VALVING OUT TRANSMITTER
W	DC1	016386	111976	MO	FG	NN	B02	N	S	D		TOTAL CHLORINE RESIDUAL INDICATED ABOVE LIMITS	PERSONNEL ERROR-RATE CONTROLLER SET HIGH
W	DC1	021974	071478	SE	DG	NN	B02	T		D		HEAT TRACE CKT READING BELOW MINIMUM SPECIFICATION	WORKMEN MOVED INDICATOR BULB(CKT#249)
W	DC1	026820	012279	GS	NS	SN	A02	N	U	D		APDMS ALARM SETPOINT SWITCH SET AT WRONG SETPOINT	PERSONNEL ERROR
W	DC1	026506A	072079	SE	FG	AG	A02	N	U	D		BORIC ACID FLOWMETER NOT INDICATING PROPERLY	METER WAS NOT PROPERLY CALIBRATED
W	DC1	027607	111179	CM	FT	PX	A02	N	U	D		WRONG STEAM FLOW CHANNEL PLACED IN TRIPPED CONDIT/	/ION. LABELS WRONG OR PERSONNEL ERROR
W	DC1	171681	112381	MO	RR	IC	A02	M	U	D		CONT RAD BYPASS VLVS WERE FOUND OPEN	MAINTENANCE PERSONNEL ERROR
W	DC2	026819	071379	GS	NS	SN	A02	R	C	D		APDMS DETECTOR F(Z) LIMIT SETPOINT SET WRONG	PERSONNEL ERROR
W	DC2	027929	121879	CA	NT	PX	A02	N	C	D		SOURCE RANGE INDICATION LOST FOR 13 MINUTES(N-31)	PERSONNEL ERROR DURING MAINTENANCE
W	DC2	033495	120680	CA	DG	NN	A02	N	U	D		ROD POS IND FOR N-9 INCORRECT	CONNECTOR DAMAGED BY BEING STEPPED ON
W	HN1	015217	072076	TX	FT	PX	B02	N	C	D		LOOP 2 STM LINE FLOW INDICATOR FAILED LOW	LEAKING SENSING LINE FITTING CROSSTHREAD
W	HN1	019897	120177	GS	DT	PX	B02	N		D		REACTOR AND TURBINE TRIP AT 10% POWER	WIRING ERRORS IN MN STM ISO VALVE CKT
W	HN1	030460	022680	MO	RR	NN	B02	N	C	D		MAIN STCK RAD MON SYS FAILD LO BENT EDGE CONNCTN//	ON PLUG-IN MODULE. OCCURD IN MAINT/INSTL
W	IP2	021907	060978	CA	DC	NN	B02	N		D		ROD POSITION IND FOR H-10 FAILED DOWNSCALE	LOOSE CONNECTOR
W	JF1	022236	081578	RE	XT	PX	B02	T		D		UNDERVOLT RELAY 27-3 TRIPPED/DAMAGED DURING MAINT	ACCIDENTAL SHORT WITH TEST LEADS
W	JF1	031334	050180	MO	RR	NN	B02	M	U	D		RAD MON R25A INOP DUE TO PWR LOSS	CNNCT/DISCNNCT TEST EQUIP BLEW FUSE
W	JF1	031326	051680	RC	XG	NN	B02	N	U	D		1-2A D/G INOP DUE TO SPEED CNTRL FAILURE	WRONG RECORDER INSTALLED BLEW FUSE
W	JF1	038367	081281	MO	RR	NN	B02	M	U	D		VAC PMP PWR SUP BRKR TO R11-R12 INADV RACKED OUT	MAINT/REPAIR PERSONNEL ERROR
W	JF2	038185	071881	RC	PG	NN	B02	T	U	D		TEST PERS CNNCTD 14 INSTR ISOL OUTPUT SIG TO TAPE/	/RECORDING EQUIP. ALL SIG SHORTED TO GRD
W	MG1	038911	082281	PS	NT	PX	B02	T	U	D		NUCLEAR INST PWR RANGE CH N-44 POWER SUPPLY TRIP	N-44 CIRCUITRY ACCIDENTLY GROUNDED
W	MG1	171921	111881	CA	TS	SL	B02	M	C	D		PZR VAPOR SPACE TEMP SENSOR CONNECTOR DISCONNECTED	PERSONNEL,CAUSED VARIOUS RHR VLV CLOSURES
W	MG1	172342	122481	ZZ	PS	SN	B02	M	V	D		TECHNICIANS INADV INITIATED LO STM LIN PRESS SI	PROCEDURAL DEFICIENCY
W	NA1	025765	030879	CN	NT	PX	A02	T	U	D		NONCONSERVATIVE GAIN FOUND ON DELTA-FLUX SIGNAL	PERSONNEL ERROR
W	NA1	030111	011180	TX	LS	IC	A02	M	B	D		CASING COOLG TNK LT-RS103A REMOVD MOV-RS100A INOP	CNSTRCTN PERS REMOVD LT FOR DESIGN CHANGE
W	NA1	030333	012980	TX	LS	IC	B02	N	B	D		"B" CASING COOLING SUBSYS INOP LT-RS103B DISCNNCTD	//FOR DESIGN CHANGE. CNSTRCTN PERS ERROR
W	NA1	032861	101180	TX	LS	SN	A02	N	B	D		PZR LVL IND FROM LI-1461 OSCILLATING DECLRD INOP	INSTR TECH SECURG REF LEG ASSOC W/ XMITR
W	NA1	036116	011781	MO	RR	NN	B02	N	U	D		POWER WAS LOST TO RAD MON COMMON ALARMS PANEL	PERSONNEL TRIPPED SUPPLY BREAKER
W	NA1	036859	040681	CA	TI	PX	A02	N	U	D		THE IND FOR CH III OT/TAVG FOUND READING HIGH	PERSONNEL FAILED TO TIGHTEN LUGS
W	NA2	031913B	071380	TX	PT	PX	A02	M	C	D		PZR PRESS PRTCTN CH 3 P-2457 RDG HIGH	CAL AT ATMOS INSTEAD OF CNTNMNT OP PRESS
W	NA2	032386B	082280	TX	FG	NN	A02	N	U	D		LOOP C STM FLO CH XMITTR ERRONEOUS INDICATION	IMPROP XMITR VLV LINEUP RESULT OF PERS ER
W	NA2	033019	102580	IN	TG	PX	B02	M	C	D		TI-2412B ASSOC W/ OVERPWR DELTA-T SETPT A FAILD LO	RECORDR LEADS CNNCTD UPSTRM OF ISOL AMP
W	NA2	033622A	122080	TX	LS	IC	B02	N	B	D	3	RWST LVL XMITTERS LT-OS-200B,C,D FROZEN	IMPROP ADJST HEAT TRACING CKT SETPT POTS
W	NA2	038407A	081481	CM	NT	PX	A02	N	B	D	2	LOW AND HI RANGE OVERPOWER RX TRIP SETPOINTS FOR-	-CH N-41 FOUND OOC. APPARENTLY PERSONNEL
W	NA2	038407B	081481	CM	NG	PX	A02	N	B	D	2	P-8 & P10 PERMISSIVES FOUND OUT OF CALIBRATION	APPARENTLY PERSONNEL MAINTENANCE
W	NA2	038407C	081481	SE	NT	PX	A02	N	C	D		POWER RANGE CHANNEL N41 DISCOVERED OOC HI BY 6%	APPARENTLY PERSONNEL MAINTENANCE
W	PT1	171975*	121081	TX	FT	PX	B02	N	C	D	2	STEAM FLOW CH'S FC-464 & 465 LOOP "A" FOUND READI-	-NG ZERO. IMPROPER ZERO SETTINGS
W	PT2	023123*	120978	SE	TT	PX	B02	N	U	D	4	LOOP "A" RTD MANIF ISOLATED WHILE RX WAS CRITICAL	PERSONNEL OVERSIGHT
W	RG1	171940*	111481	ZZ	DC	NN	B02	N	C	D	2	TWO FULL LENTH ROD POSITION INDICATIONS FAILED	FIRE SUPPRESSION SYS INADVERTENLY ACTCUAT
W	RO2	172767	121181	SE	PS	SN	B02	N		D		LOOP 2 STEAMLINE PRESSURE CHANNEL II INOPERABLE	FROZEN XMTR OR LEAKING OR BLCK SENS LINES
W	SA1	021648*	061078	CA	NT	PX	B02	N	C	D	2	TWO INOPERABLE POWER RANGE CH WERE IDNTFD(N41&N42)	MAINT PERS DISCONN WRONG LEADS FOR RX COM
W	SA1	030621	031980	MO	RR	NN	A02	M	U	D		POWER SUPPLY GROUNDED BY INSTRUMENT PROBE	PERSONNEL ERROR
W	SA1	033185	102880	ZZ	XG	NN	B02	N	C	D		LOST AUDIO COUNT RATE DUE TO BROKEN CARD HOLDER	CABLES CAUGHT EDGE OF CKT BRD PERS ERROR
W	SA2	037945	070281	CL	FG	AS	A02	N	C	D		SETTING FOR SW FLOW GENERATOR FOR CFCU 21 FOUND I-	-NCORRECTLY SET. PERSONNEL ERROR
W	SA2	039010	100681	PS	XS	SN	B02	M		D		15 VOLT POWER SUPPLY TO 2A SAFEGUARDS EQUIP CONTR-	-OLS.FAILED. SOLDER FELL INTO IT
W	SE1	032167	072880	MO	RR	NN	B02	N	V	D		WST GAS EFF 0-RM-90-118 INOP	MAINT PERS REMVD MON FROM LINE IMPROPERLY
W	SE1	036296	020781	MO	RR	NN	B02	N	V	D		RAD MON 2-R-90-100 DISCOVERED INOP WHILE DISCHR	POWER SUPPLY BKR WAS DEENERGIZED
W	SE1	036842	040881	MO	RR	NN	B02	N	V	D		CONDENSATE DEMIN DISCHR RAD MON 0-RM-90-225 FAILED	FUSE IN POWER SUPPLY NOT INSTALLED
W	SE1	037219*	050481	TX	LT	PX	B02	N	V	D	3	PZR LEVEL CH 1-L-68-339,325C & 326C DECLARED INOP	ERROR IN SENSING LINE TUBING
W	SE1	172068	121981	CA	LG	NN	B02	M	B	D		RWST LVL XMTR 1-LT-63-50 INOPERABLE	CABLES DAMAGED DUE TO MAINTENANCE ERROR
W	SE2	171253	110681	ZZ	XT	PX	B02	N		U		OVERPWR DELTA-T RX TRIP INSTRM WAS INOPERATIVE	DEFECTIVE LOGIC IN SSPS TRAIN A

PERSONNEL MAINTENANCE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	SO1	030015	011680	RE	FT	CT	A02	M		D		FW FLD REDUCD,STM FLO/FW MISMATCH RX & TURBINE TRP	CNSTRCTN WORKER HIT AUX RELAY
W	SO1	037803*	061881	CL	PG	NN	A02	N	U	D	2	PORV OPENED TWICE DUE TO CONTROLLER MALFUNCTION	TIME CONSTANT TURNED OFF
W	SO1	037804	063081	ZZ	FT	PX	B02	N	C	D		ERRONEOUS FEEDWATER FLOW PRODUCED IND LOW POWER	ORIFICE INSTALLED BACKWARDS
W	SO1	171818*	111581	MO	RR	NN	B02	N	C	D	2	ON TWO SEPARATE OCCASIONS RAD MON'S HAD IMPROPER -	-AIR SAMPLES. FILTERS WERE MISPOSITIONED
W	SU1	036670*	031680	MO	RR	NN	B02	N	V	D	6	POWER LOST TO SIX RADIATION MONITORS	TEST LEAD SHRTD TO GRND BLEW SUPPLY FUSE
W	SU1	037751*	070881	SE	TT	PX	B02	N	C	D	2	RTD'S,TH & TC,DISCOVERED INOPERABLE	BOTH RTD'S WIRED WRONG
W	SU2	032437	082080	TX	FG	NN	A02	N		D		MAIN STM FT-2495 ZERO READING	EQUALIZING VLV HAD NOT BEEN FULLY CLOSED
W	YR1	017438	031877	MO	RR	NN	B02	N	R	D		SNOW SHORT CIRCUITED MAIN COOLNT LEAK DETECT MON.	TECHNICIAN DIDNT CLOSE DOOR TIGHT
W	YR1	020973*	032378	MO	RR	NN	A02	T	S	D	4	ALL 4 STEAM GEN RAD.MONIR.SET AT 100 CPS VS 80 CPS	SETPTS NOT RETURND TO TS LIMIT AFTER TEST
W	YR1	032890	101280	TX	LT	PX	B02	M		D		LO LVL SCRAM SETPTS OPERATE BELOW TECH SPEC	HARD TO VENT XMITR DUE SENSG LINE DESIGN
W	ZI1	019166	092277	MO	RR	NN	B02	N	R	D		RAD MONITR ORIDROS INOPERBLE DURIN RELEASE OF #2ST	TO DISCHARG CANAL; DETECTR JARRD DURN MNT
W	ZI1	019515	102877	IN	FG	NN	B02	N		D		FLOW INICATR FOR DISCHARGE PATH INOPERBLE	MECHANIC WORKING ON ALARM
W	ZI1	020717	021578	MO	RR	NN	B02	N	R	D		CLASS I PIPE TUNNL RAD. MON. 1RTPR07A ALARMD HIGH	DAMAGD MYLAR WINDOW DUE TO PERSON OPERATN
W	ZI1	030940	040380	MO	RR	NN	B02	N	R	D		AIR EJECTR MON 1RT-PR26 FAILED	DET TUBE CRUSHED DURING FILTER CHANGE
W	ZI1	037632	052981	MO	RR	NN	B02	N	R	D		ESF CUBICLES RAD MON ORT-PR12AB DISCOVERED INOP	FILTER NOT INSTALLED
W	ZI1	037633*	052981	MO	RR	NN	B02	N	R	D	2	VENT RAD MONITORS ORT-PR18A&B FOUND INOPERABLE	FILTER NOT INSTALLED
W	ZI2	016708*	121876	CM	PG	SF	B02	T	C	D	2	CONTMNT PRESS HI CHANL I BISTABLES DEENERGIZD	2BS-CS1981 & 82 IN TEST FOR BOTH TRAINS
W	ZI2	019145	072577	SE	RR	NN	A02	M	R	D		S/G BLOWDOWN MONITR 2RE0019 SPIKING HIGH	INCORRECT GAIN ADJUSTMENTS
W	ZI2	025677	041279	CL	TG	NN	B02	T	C	D		TEMPERATURE CONTROL MODULE(TY-45) ON H2 RECOMBINER	//FOUND MISSING. NOT REPLCD AFTER MAINT
G	BF1	016053	092376	GS	FS	SD	B02	T	S	D		CORE SPRAY SPARGER/VESSEL DP INST FOUND ALARMING	DP SWITCH FOUND VALVED OUT (LOOP 2)
G	BF1	019324A	100477	GS	LS	SN	B02	T	T	D	2	A NUMBER OF CRD ACC LEVEL SWITCHES FAILED TO ALARM	LUBRICANT ON SW FLOAT & FLOAT GUIDE SPOOL
G	BF1	030549	031280	RE	LS	SH	B02	T	U	D		RELAY 23A-K42 WIRED WRONG NO HPCI RX HI WATER LVL/	/ TRIP. MAINTENANCE PERSONNEL ERROR
G	BF1	030909	040680	GS	TS	SH	B02	N	U	D		HPCI STM LINE SPACE HT SW TS732A WRNG TYP SW INSTA	MAINT PERS ERROR
G	BF1	031758	062480	GS	PI	PX	B02	N	U	D		CNTRL VLV FAST CLSR PS-47-144 WAS MISWIRED	MAINTENANCE PERSONNEL ERROR
G	BF1	032408	081480	ZZ	TG	SL	A02	N	U	D		IA RHR AREA COOLER FAN THERMAL OVERLOAD IMPROP SET	CONSTRUCTION PERSONNEL ERROR
G	BF1	032457	082080	MO	RR	NN	B02	N	B	D		CAM-1-RM-90-249 OF TURB BLDG ROOF VENT OOS TOO LON	//G. MAINT & REPAIR PERS ERROR
G	BF1	037474	060981	PS	XS	IC	A02	N	U	D		PWR SUP STOPD TO SECONDRY CONT DOOR INTERLOCKS	WIRES LIFTED FROM PWR SUP CNSTRCTN PERS
G	BF1	038668*	090381	CA	NS	SN	A02	M		D	4	SRM'S B,D;IRM'S B,F HAD OPEN CABLES IN DRYWELL	OUTAGE WORK IN ROD GALLERY DAMAGED CABLES
G	BF1	039358	110381	GS	PG	NN	A02	N	U	D		RECIRC PUMP "A" TRIPPED	PERS SHRTD PS-3-204A AT TERMINAL STRIP
G	BF2	016211	101376	MO	RR	NN	B02	T	S	D		OFF-GAS POST-TREATMENT MON#(2-RM-90-265) IND WRONG	SENSING LINES REVERSED
G	BF2	016395	111576	GS	PI	PX	B02	I	C	D		EMC LOF PRESS. SWITCH (PS-47-142) FAILED	SWITCH PLUGGED WITH TEFLON TAPE
G	BF2	019324C	100477	GS	LS	SN	B02	T	T	D		CRD ACCUMULATOR LEVEL SWITCH FAILED TO ALARM	FOREIGN MATERIAL IN LEVEL SWITCH
G	BF2	027233A	100179	ZZ	XC	SH	B02	M	C	D		RBM "A" WAS MADE INOP DUE TO A SHORTED LAMP BASE	PERSONNEL ERROR
G	BF2	027233B	100179	ZZ	XC	SN	B02	M	C	D		RBM "B" WAS DAMAGED WHEN REPAIRING RBM "A"	PERSONNEL ERROR
G	BF2	036021*	011981	GS	LT	PX	A02	T	U	D	5	RX WTR LIS-3-203A #1;-3-A-D #2 FOUND OOT	DRIFTED DUE TO AIR IMPACT DRILLING
G	BF2	039009	101081	IN	PG	SQ	A02	I	U	D		2-PI-75-48 INDICATED OOT (LOW)	ISOL VLV TO XMTR LEFT CLOSED
G	BF3	016058	091476	CA	TG	NN	B02	I	S	D		THRMO. WIRING FOR TI-64-52 FOUND OPEN	PENETRATION CONNECTOR NOT TIGHTENED
G	BF3	016060A	092076	IN	FG	SN	B02	T	C	D		STEAM LINE D FLOW IND FI-46-4 FOUND INOPERABLE	PRESSURE SENSING LINES SWITCHED
G	BF3	016060B	092076	GS	PS	SN	B02	T	C	D	4	DP IND SWITCHES PDIS-1-50 (A-D) FOUND NOT RESPONDG	PRESSURE SENSING LINES SWITCHED
G	BF3	016808	121276	MO	TG	NN	B02	N	R	T		DRYWELL TEMPERATURE RECORDER BECAME ERRATIC	THERMOCOUPLE LEAD BROKEN
G	BF3	022824*	102978	CA	NT	PX	B02	N	C	D	2	IRM F,H CHANNELS DECLARED INOPERABLE	IRM F,H SIGNAL CABLES SHEARED AND DISCONN
G	BF3	033768	122380	MO	RR	NN	B02	N	C	D		CAM 3-RM-90-251 INOP DET HI VOLT SET IMPROPERLY	PERSONNEL ERROR--MAINTENANCE & REPAIR
G	BP1	015117	052876	GS	PG	SN	A02	T	C	D		ACCUMULATOR PRESSURE SWITCH OPERATING TOO LOW	PREVIOUSLY ADJUSTED WITH DEFECTIVE GAGE
G	BP1	015443	081376	CA	NT	PX	B02	N	C	D		PR NEUTRON MONITOR DID NOT RESPOND PROPERLY (#2)	POLARIZING VOLT. ON COMP ION CHAM SWAPPED
G	BP1	020574	020378	SE	FG	NN	A02	N	C	D		FLOW INSTRUMENT WOULD NOT GIVE PROPER FLOW (LOW)	INADEQUATE CLEANING OF INDICATING BALL
G	BP1	020936*	040678	IN	LG	PX	B02	N	C	D	2	SWITCH/POINTER MECH. BINDING TO SCALE PLATE	NEW COVER AND PLATE INSTALLED IMPROPERLY
G	BR1	017161*	021377	GS	TG	SH	A02	M	C	D	3	TEMP SW E41-TS-3315,3317,3354 CAUSED HPCI ISOLATIO	PREVIOUS CALIBRATION DONE INCORRECTLY
G	BR1	020506	020578	MO	RR	NN	A02	T	B	D		RX BLDG VENT RAD MON SETPOINT FOUND SET TO HIGH	ADJUST FOUND ON MECH STOP,ID D12-RM-N010B
G	BR1	020770	030178	MO	RI	PX	B02	M	C	D		MAIN STEAM LINE RAD MONITOR "D" PS FAILED	IRM CABLES DAMAGED D12-RM-K603D PS
G	BR1	027619	102479	SE	LG	NN	A02	N	C	D		TORUS LEVEL INSTRUMENT 1-CAC-LT-3342 READING LOW	CALIBRATED INCORRECTLY

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NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	BR1	028035	121879	GS	LS	SN	A02	T	B	D		RX VESSEL LEVEL CH SW #1 ON 1-B21-LITS-N037 OOC	MAY HAVE BEEN BUMPED BY SCAFFOLDING
G	BR1	031202	050880	GS	LS	SN	B02	M	C	D		CAL ADJST SCRW CAP GSKT ON RX 1-B21-LIS-N031B RE//	PLCD SW 2 FAILED. MAINT/REPAIR PERS ERR
G	BR1	031746*	070180	CA	NI	PX	B02	M	B	D	2	APRM'S B & F INOP LPRM CONNCTRS PULLED LOOSE	PERSONNEL ERROR DURING CRD REPLACEMENT
G	BR1	033316	112280	IN	FG	SL	B02	M	B	D		RHR FLO IND 1-E11-FI-3338 LOADS SIG CNVRTR INCRR//	CTLY FLO IND MOVMNT REPLCD. PERS ERROR
G	BR1	036583	022081	TX	LG	NN	A02	N	U	D		SUPPRESSION POOL 1-CAC-LT-2602 ERRONEOUS READING	INSUF VENTG OF HI SIDE SENSING LINE
G	BR1	168051	070681	CA	DG	NN	B02	N	U	D		RPI CABLE CONECTOR CAUSED ERRATIC RPI FOR ROD22-07	NOT TIGHTENED AFTER MAINTENANCE
G	BR2	015401B	062376	GS	PG	SH	A02	T	R	D		HPCI STEAM LINE DP SW FOUND OOC E41-DPIS-N005	HAD BEEN PREVIOUSLY MISCALIBRATED
G	BR2	015412	062676	RC	XG	NN	A02	T	R	D		CONTAINMENT O2-H2 RECORDER ERRATIC,2-CAC-AR-1259	DRIVE CORD HAD BEEN INSTALLED TOO TIGHT
G	BR2	016821	121776	GS	LG	SQ	B02	T		D		RCIC STEAM LINE DRAIN FOUND FULL W/O SW ACTUATING	E51-LSH-N010 FOUND LOOSE IN MOUNT BRACKET
G	BR2	020508	040477	GS	PS	SQ	A02	N	R	D		RCIC TURB STEAM LINE LOW PRESS SW FOUND OOC IGH	ACCIDENTAL JARRING OF E51-PS-N019B
G	BR2	018679*	070677	GS	PS	SQ	A02	T	R	D	2	RCIC TURB STEAM LINE LOW PRESSURE SW FOUND OOC	ACCIDENTAL JARRING OF E51-PS-N019A AND C
G	BR2	020204B	122577	TX	LS	IC	A02	T	B	D		TORUS LEVEL FOUND OUT OF T/S LIMITS FOLLOWING CAL.	REF LEG FOR CAC-LT-2602 PARTIALLY DRAINED
G	BR2	020168	010278	MO	RT	PX	A02	T	B	D		MAIN STEAM LINE RAD MON D12-RM-K603 READ DOWNSCALE	PREVIOUS CALIBRATION PERFORM WRONG
G	BR2	027714	101979	IM	DG	NN	B02	N		D		TORUS LEVEL HIGH/LOW ALARM DID NOT ALARM	ANNUNCIATOR CARD LOGIC INCORRECT
G	BR2	027679	112979	IM	XS	SL	B02	M	C	D		RHR LOGIC "A" POWER FAILURE OCCURED WHEN A LEAD //	TAKEN OFF A SWITCH GROUNDED. PERSONNEL
G	BR2	030314	020180	TX	LG	NN	A02	N	B	D		SUPPRSSN POOL LVL IND CAC-LT-2601 RDG HI OFFSCALE	LVL XMITTR DISLOCATED CNSTRCTN PERS ERR
G	BR2	031091B	042480	CA	NI	PX	B02	M	B	D		IRM E FAILED DOWNSCALE	CONNECTOR DAMAGE CONTRCT/CONSULT PERSONL
G	BR2	031091C	042880	CA	NI	PX	B02	M	B	D		IRM C FAILED	CABLE DAMAGE CONTRCT/CONSULT PERSONNEL
G	BR2	031174A	050280	CA	NI	PX	B02	M	B	D		IRM "B" CABLE SEPERATED FROM ITS CONNECTOR	CONTRACT/CONSULT PERSONNEL ERROR
G	BR2	032661	090780	CN	FS	SQ	B02	T	C	D		NO FLO IND ON RCIC 2-E51-FIC-R600 A NEW SQ ROOT //	CONVRTR MODULE NOT INSTAL PERS ERROR
G	BR2	033088	102480	LS	DG	IC	A02	N	C	D		RIP ISOL VLV X510 HAD NO POS IND	LMT SW OOC MISSNG HOUSNG COVER. PERS ERR
G	BR2	036713	032081	GS	XG	NN	B02	M	C	D		WIRING DEFICIENCY IN ACTUATION SW 2-CAC-PDS-4223	IMPROPER WRITING OF A FIELD REVISION
G	BR2	038398	082781	GS	TS	SH	B02	M	B	D		HPCI STM LINE AREA D/T SW WOULD NOT CALIBRATE	FAILURE TO PROPERLY FOLLOW CAL PROCEDURE
G	BR2	038489	082881	GS	TS	SH	B02	M	B	D		HPCI ISOLATED HAD REC'D HPCI ISOL TRP SIG "A"	TECH REMOVED TEMP SW THERMOCOUPLE LEADS
G	BR2	038922	100481	RC	LG	NN	B02	M	C	D		SUPPRESSION CHAMBER WTR LVL REC RDG DOWNSCALE	INPUT SIG CABLE PULLED FROM TERMINAL
G	BR2	039165	102981	SE	XS	SL	B02	M		D		LOGIC "A" PWR SUP FUSE F1A BLEW LPCI FUNC INOP	SHORT TO GRND OF N020C INSTR PWR SUP LEAD
G	BR2	039174	102981	GS	PS	SN	A02	M	R	D		"CORE SPRAY/RHR PMP RUNNING" ANNUNCIATOR RECEIVED	INADQ MAINT ON C PRMSSV PRES SW CORROSION
G	CO1	016713	111676	GS	PT	PX	B02	N	B	U		DURING STARTUP PRESSURE SWITCH TRIP CAUSED RPS TRI	PRESSURE SWITCH LEFT ISOLATED AFTER SURVE
G	CO1	019119	081677	GS	LS	SN	B02	N	V	D		CRD LEVEL SWITCH ISOLATION VALVE FOUND CLOSED	PERSONNEL-VALVE CLOSED DURING SURVEILLANC
G	CO1	019286	092377	CA	NI	PX	A02	M	B	D		SRM WAS READING HIGH AND ERRATIC DURING REFUELING	BREAK IN OUTER SHIELD OF TRIAXIAL CABLE
G	CO1	021197	040878	CA	NI	PX	A02	M	B	D		SRM WOULD NOT RESPOND PROPERLY DURING REFUELING	BREAK IN SHIELD OF TRIAXIAL CABLE
G	CO1	027966	120679	GS	FS	SH	A02	M	U	D		HPCI-DPIS-76 CAUSED HPCI ISOLATION AFTER MAINT.	INST IMPROPERLY PLACED BACK IN SERVICE
G	CO1	032209	071380	MO	RR	NN	B02	N		T		RX VENT MON RMP-RM-452A FAILED DWNSCL	2 PS CAPACITORS FAILED DEGRADE WITH TIME
G	CO1	039254	102681	GS	TG	NN	B02	M	C	D		UNCAL TEMP SW INSTALLD IN MS-TS-140D	INSTRUMENT TECHNICIAN ERROR
G	DA1	033411*	121780	TX	LG	NN	A02	N	U	D	2	SUPPRESSION CHAMBER LT-4363B,2325 MISCALIBRATED	PERS NOT FOLLOWING ESTAB CAL PROCEDURE
G	DA1	171889	120881	PS	LS	IC	B02	N	U	D		TORUS LEVEL INDICATION ASSOCIATED WITH LT-2325 WA-	-S LOST. SUPPLY FUSES INADVERTANTLY PULL
G	DR1	014078	010276	TX	LG	NN	A02	N	V	D		LEVEL INDICATOR DID NOT INDICATE PROPER LEVEL	LEVEL TRANSMITTER ZERO SETSCREW LOOSE
G	DR1	016323	010276	TX	LG	NN	A02	N	V	D		LEVEL INDICATOR DID NOT INDICATE PROPER LEVEL	PERSONNEL ERROR-SETSCREW NOT TIGHTENED
G	DR2	018181*	060377	GS	PG	SL	A02	T	S	D	2	LPCI VALVES E11-F017B & 2-1501-3A OP IMPROPERLY	PERSONNEL FEEDBACK POT MISADJUSTED
G	DR2	022777	101278	GS	PS	IC	B02	T	T	D		DPIS2-1622A ISOLATION VALVE FOUND CLOSED	MAINT PERS DID NOT OPEN VALVE AFTER SURVE
G	DR2	025904A	051979	CA	NT	PX	B02	N	C	D		IRM 17 FAILED DOWNSCALE DUE TO A FAILED CONNECTOR	APPARENTLY DAMAGED DURING REFUELING
G	DR2	171576	121481	IN	PG	SN	A02	N	U	D		REAC VESSEL ECCS PERM L-PRESS ALARM WOULDNT RESET	INSTR MECHANIC DIDNT REOPEN ISOL VLV
G	DR2	172277	121481	GS	PG	NN	A02	M	V	D		ISOL CONDENSER PRESS SW 2-263-53C VALVED OOS	INSTR MECH FAILD TO OPEN PRES SW ISOL VLV
G	DR2	172259*	121681	GS	PT	PX	A02	M	V	D	2	ATWS PRESSURE SW VALVED OUT OF SERVICE	VALVING ERRORS BY INSTRUMENT MECHANIC
G	DR3	022073	072078	GS	FS	SN	A02	T	S	D		MSL HI FLOW ISOL SW DPIS3-261-2C EXCEEDED SETPOINT	PERSONNEL-POINTER BENT DURING MAINTENANCE
G	DR3	022772	101278	GS	PS	IC	B02	I	T	D		DPIS 3-1622A ISOLATION VALVE FOUND CLOSED	PERSONNEL-MAINTENANCE LEFT VALVE CLOSED
G	EN1	037721*	063081	GS	PG	NN	A02	N	U	D	3	D/P INSTR T48-N081,N082,N083 ISOLATED	FAILURE TO FOLLOW PROCEDURE
G	EN1	037952	070181	GS	LS	SA	A02	T	U	D		RX RECIRC PMP TRPD/RX WTR LVL INSTR 1B21-N042B IN/	/SERVICE. TECH VALVED INSTR IN TOO FAST
G	EN1	037953	070781	IN	LG	NN	A02	N	U	D		TORUS WTR LVL INDICATOR 1T48-R622B INOPERABLE	INSTR SENSG LIN NOT PROPERLY BACKFILLED
G	EN2	026193	061179	MO	RT	PX	A02	T	U	D		MSL HIGH RAD TRIP SET POINT FOR 2D11-K603D OOC	SET INCORRECTLY ON 060379

PERSONNEL MAINTENANCE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	EN2	030899	040580	TX	LG	NN	B02	N	U	D		TORUS WTR LVL INSTR 2T48-R070 DWNSCL	XMITTR INSTALL BCKWRD 3-11-80 MAINT ERR
G	EN2	031320	052480	GS	PS	IC	B02	M	U	D		PRIMARY CONT PRG VAC BRKR PS 2T48-N211 INOP	SW INCORRECTLY WIRED MAINT/REPAIR ERROR
G	EN2	032135	072480	RE	XS	SH	B02	M	U	D		SPURIOUS HPCI ISOLATION	MAINT PERS HIT HPCI STM LEAK DETCTN RELAY
G	EN2	036630*	032381	GS	PS	SN	A02	N	U	D	12	HI D/W PRESS SW 2C71-N002A-D;2E11-N010A-D;2E11-N//	011A-D INOP. PERS CLOSD PANEL VALVES
G	EN2	037905	062281	TX	LS	IC	A02	M	U	D		LO FLUID LVL IN XMTR 2T48-N010A	REF LEG SENSG LINE IMPROPERLY BACKFILLED
G	FP1	014483	040576	GS	PT	PX	B02	T	C	U		REACTOR HIGH PRESS SW 2-3-55D FAILED TO ACTUATE	INCORRECT ADJUSTMENT OF MECHANICAL STOP
G	FP1	014480	040876	MO	RR	NN	B02	M		U		ATMOSPHERE ANALYZER B INOP FOR CAL., A UNPLUGGED	ANALYZER A INADVERTANTLY UNPLUGGED
G	FP1	018051*	062677	ZZ	NT	PX	B02	M	C	D	19	LOSS OF 15% APRM SCRAM FUNCTION	CONTRACTOR CUT 19 OF 31 LPRM STRINGS
G	FP1	019770	120677	IM	NC	SN	A02	T		D		ROD BLOCK MONITOR B TRIP PTS HIGH	PERSONNEL ERROR AND INST DRIFT
G	FP1	023120	120478	GS	DT	PX	B02	T		D		MSIV B 29-AOV-80B POS SW INCORRECT SIGNAL	WIRING ERROR DURING MAINTENANCE
G	FP1	023098*	121578	GS	TG	SH	A02	T	U	D	8	B TEMP SW SETPOINTS 178F VICE 140F	TECH USING WRONG TEST EQUIP AND TABLES
G	FP1	026924	090579	CA	LS	SH	B02	T	C	D		SW FOR INST 02-3-LIS-72D DIDNT PICKUP RELAY	WIRING ERROR MADE IN JUNE
G	FP1	030115*	011080	SE	TG	NN	A02	T	U	D	2	RECIRC LOOP TEMP INSTRUMENTS OOC	MAINT PERS USED WRONG TYPE OF TEST SIG
G	FP1	031166	050180	GS	TS	SQ	B02	N	U	D		RCIC HI AMBIENT TEMP SW 13-TE-89B INOP	WIRE ON SW INPT BROKEN DURING HOOKUP
G	FP1	033109	111880	CA	NT	PX	B02	N	U	D		APRM OP BELOW MIN CHNLS DUE TO LPRM SYS WIRING ERR	INSIDE CNTMMNT WHEN REPLCD LPRM STRINGS
G	MI1	171788	111081	MO	RT	PX	B02	N	C	D		MSL RADIATION MONITOR ALARMED DOWNSCALE(CHANNEL B)	CABLES ACCIDENTLY BUMPED
G	MO1	031282	051580	RE	XS	SQ	B02	T	U	D		RCIC CNTRL PWR FUSE OPENED CAUSG RCIC SYS INOP	AC RELAY INADVRTNTLY INSTLD INSTEAD CF DC
G	NM1	014245	021576	GS	PG	SH	B02	N		D		LOSS OF HPCI DUE TO INOPERABLE PUMP SUCTION SWITCH	LINKAGE ARM DISCONNECTED
G	NM1	014983	032176	CM	FT	PX	A02	T		D		APRM #18 FAILED TO TRIP AT 20% FLOW POINT	TEST METER OFFSET CAUSED BAD CALIBRATION
G	NM1	021439*	052678	SE	NT	PX	B02	T	C	D	2	LPRM DET A&B TO APRM 11 & 15 CROSS CONNECTED	GE-MA-100 DETECTORS CROSS-CONNECTED
G	NM1	038196*	072981	HS	FG	SQ	B02	N	U	D	2	HIGH STEAM FLOW FUNCTION OF #11 & #12 EMERGENCY C-	OND INADVERTANTLY TAKEN OOS. PERSONNEL
G	OC1	014524	041476	GS	FG	NN	B02	M	S	D		SENSING LINES IN STBY GAS TMT SYS REVERSED	UNKNOWN-THOUGHT DURING INITIAL INSTALLATN
G	OC1	015086	070176	MO	FG	IC	A02	T	S	D		O2 CONCENT IN TORUS IND 5.4- TS IS 5.0 PERCENT	FOLLOWING CAL, SAMPLE FLOW ADJ INCORRECT
G	OC1	017345	031777	MO	RR	NN	B02	N		D		GAS SMPL PMP "B" TRIPPD OUT DUE TO BRNG FAILURE	LOCKNG TABS NOT BENT ON PMP SHAFT NUT RET
G	OC1	017753*	050477	SE	FS	SN	B02	T	C	D	2	MN STM HI FLO SENSRS RE22D & RE22H WOULD NOT ACTAT	SPNG ELE IN HG BULBS FUSED-GND BY MAINTEN
G	OC1	018574*	072277	CA	NT	PX	B02	T	B	D	2	IRM CHNLS 13 & 14 FOUND INOPERABLE	WIRES TO DETECTRS DISCONN & DAMGD-MAINTEN
G	OC1	021100A	040678	PS	RR	NN	B02	N		D		RU118 PWR SUP FOR AREA RAD MONITORS FAILED	MAINT PERSONNEL GROUNDED RIBBON CABLE
G	OC1	021100B	041078	MO	RR	NN	A02	N	B	D	2	INDIC FED BY RO118 PS WERE LOW BY A HALF VALUE	SENSORS NOT RECALB AFTER PS WAS REPLACED
G	OC1	022743	101978	CA	NT	PX	B02	N	B	D		IRM 12 BECAME INOPERATIVE WHILE IRM 14 DISCONNECTD	CABLE FOR IRM 12 DAMAGED BY MAINT ACTIVIT
G	OC1	030341A	020580	MO	RR	NN	A02	N	B	D		RAD MON RN04A-1 SETPT FOUND LESS CNSRVTV THAN T.S.	INSTR TECH MISREAD MTR SCL ON CALIBRATION
G	OC1	032485	081980	SE	PS	IC	A02	N	U	D		PRESS SENSOR PN-4 NOT SENSING FLOW PROPERLY	MISALIGNED DUE TO WELD LEAD ACROSS TUBING
G	OC1	036577	020281	MO	RT	PX	A02	T	B	D		MSL RAD MONITOR,RN-06B,TRIP SETPOINT FOUND OOC LOW	CHANGES IN BACKGROUND NOT CONSIDERED
G	OC1	172614A	120381	PS	PS	SA	B02	R	U	D		ONE ADS TRIP SYSTEM INOPERABLE	REMOVAL OF DIR CURR CONTROL POWER FUSES
G	PB2	016270*	110176	GS	FG	SN	B02	T	C	D	2	CONT RM RAD SMPL SIGNLS NOT RCVD FRM FS-0760A&B	WIRING ERROR CSD IMP RSP TO LO FLO SIGNAL
G	PB2	019020	091377	TX	LG	SN	B02	N	S	D		LO LVL GRP I LVL XMTR LT-2-3-99B FOUND OUT OF SERV	VALVING ERROR BY INST MECH AFTER CALIBRAT
G	PB2	019268	100477	IM	FG	NN	B02	N	R	D		"A" OFF-GAS FLOW IND LOOP WAS LOST	BLOWN FUSE-LOGIC CARD DISLDGD DURING MAIN
G	PB2	019322	100577	SE	TG	NN	B02	M	S	D		TEMP ELE TE-4931D FOUND NOT INSTLD-MN STM INL EXH	NOT REINSTLD FLWNG REPLCMT OF DUCTWORK
G	PB2	019323B	100777	MO	RT	PX	B02	N	V	D		2C MN STM LINE RAD MON DN SCL TRP IND FLD TO CLEAR	INADEQUATE INST WARMUP PRIOR TO CALIBRTN
G	PB2	019267	101377	IM	FG	NN	B02	N	R	D		"A" OFF-GAS FLOW IND LOOP WAS LOST	BLOWN FUSE-LOGIC CARD DISLDGD DURING MAIN
G	PB2	036040	010381	CM	NT	PX	A02	N	C	D		APRM FLUX SCRAM SETPOINT FOUND 2.88 TO 5.6% HIGH	APRM GAINS NOT ADJUSTED PROPERLY
G	PB2	036165B	011781	MO	RT	PX	B02	N	V	D		"A" MSL RAD MONITOR INADVERTANTLY TAKEN OFF LINE	PERSONNEL ERROR
G	PB2	036797*	040181	TX	PT	PX	B02	N	U	D	3	3 OF 8 DRYWELL PRESSURE TRANSMITTERS FOUND ALMOST-	-VALVED OUT. PERSONNEL
G	PB3	014212	011776	GS	DC	SN	B02	T		D		ROD WITHDWL PERM INTLKS DID NOT PREV WTHDL OF SEC	ROD-WIRING ERROR-FLD IC CHIPS&GRNDED WIRE
G	PB3	018474	071977	MO	RR	NN	B02	N		D		RX BLDG VENT EXH RAD ELE RE-3-17-4300 DISLODGED	APRNTLY DISLGD BY SOMEONE WORKING IN AREA
G	PB3	021120	082377	ZZ	DC	SN	B02	T		D		ROD BLK MON "B" HI TRIP FUNCTION INOPERABLE	CAL JMPR SHORTED ADJ TRMNLS-QUAD TRP CARD
G	PB3	019180*	100177	GS	PS	SN	B02	N	C	D	2	PS-3-3-51C&D SCRAM BYPASS PRS SW FLD TO CLR ALARM	WATER LKG THRU CONDUIT FRM OPEN JCTN BOX
G	PB3	025013	011179	GS	PS	SN	B02	N	V	D		PRESSURE SWITCH(PS3-2-3-52D)FOUND ISOLATED	PERSONNEL ERROR
G	PB3	032052	052080	GS	PT	PX	A02	T	U	D		PS-5121B NOT CAL WITHIN TECH SPEC LIMITS	INSTR TECH TESTED WRONG PRESSURE SWITCH
G	PB3	039140	102381	MO	RR	NN	B02	N	V	D		NO FLOW NOTED TO OFF-GAS SAMPLING SYSTEM	APPARENTLY ROOT VLV NOT OPENED
G	PI1	015997	092876	MO	RR	NN	B02	N		D		PRI SYS CLT BNDRY LKG AIR SMPL I IND RDNG DOWNSCAL	SENSG LEADS BRKN BY MNTNC PERS AT TERMINL

PERSONNEL MAINTENANCE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	PI1	022596	102478	IN	TG	IC	B02	H		D		IND NEEDLE FOR TORUS WTR TEMP(TI-5047) SNAPPED OFF	PERSONNEL DUSTING ASSOCIATED PANEL
G	PI1	019969B	103078	IM	NT	PX	B02	N		U		"A" LOGIC BYPASSED	PERSONNEL JUMPERED OUT ENTIRE LOGIC
G	PI1	037404B	051481	TX	LS	IC	A02	N	C	D		TORUS WATER LEVEL FOUND OUT OF CAL	JARRING OF INSTRUMENT SAMPLE LINES
G	PI1	037538	060781	ZZ	DG	MN	B02	N	C	D		RPIS FOR ROD 42-35 WAS JUMPERED AT POSITION 14 AN-	-D NOT DOCUMENTED. PERSONNEL ERROR
G	QC1	026049A	042779	GS	PS	IC	B02	N	U	D	2	SUPPRESSION CHAMBER PRES SW ES,PS-1-1622A&B MADE//	INOPERABLE. PERSONNEL VALVED OUT
G	QC1	026049B	042779	TX	PS	IC	B02	H	U	D		TORUS PRESS INDICATING TRANS PIT-1-1623 MADE INOP	PERSONNEL VALVED OUT
G	QC1	171853	112681	GS	LS	SQ	B02	H	C	D		RCIC DRAIN POT LEVEL SW VLV FOUND LEAKING.RCIC IS-	-O SYS DECLARED INOP. POOR WELD
G	QC2	020942	022878	MO	RI	PX	B02	N	C	D		2D MAIN STEAM LINE RAD MON READING DOWNSCALE	HI VLTG LEAD TO MON WAS IMPRPRLY ATTACHED
G	QC2	036617	031281	ZZ	XG	IC	B02	N	C	D		SYS WHICH MAINTAINS DP BETWEEN DRYWELL AND SUPPRE-	-SSION CHAMBER WAS LOST. PERSONNEL ERROR
G	VY1	019104	091777	GS	PS	SN	B02	T	R	D		1/4 INIT/ISOL. SWS. ON DELTA P SW.2-3-72A FAILD	MECURY BOTTLE NOT POSITIOND PROPERLY
G	VY1	019855*	101977	GS	PS	SH	A02	R	C	D	8	HPCI & RCIC STEAM LOW PRESS SWITCHS IMPOPRLY CALIBR	DIDN'T CONSIDER HEAD CORRECTION OF 23 PSI
G	VY1	026787	080679	MO	RR	NN	B02	M	S	D		RADIATION MONITOR FOUND INOPERABLE	SAMPLE PUMP WASN'T TURNED ON AFTER MAINT
G	VY1	027295*	092079	TX	LS	IC	B02	N	V	D	2	CH A & B OF TORUS LEVEL INDICATION FAILED HIGH	PERSONNEL DISLODGED FITTINGS ON REF LEG

PERSONNEL TESTING

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE&CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	DB1	031417	053180	IN	FG	SH	A03	T	U	D		LOSS OF DECAY HEAT FLOW IND FI-DH28	TEST PERFORMED W/O SHIFT SUPER KNOWLEDGE
B	RS1	172867	121181	ZZ	XT	PX	B03	T	U	D		RPS CHANNEL INOP DUE TO TESTING ERROR	MAINT PERS INCORRECTLY TRPD BRKR
B	TI1	014677	021976	HS	RR	NN	B03	M	S	D		FLOW RECORDR FR-123 NO OUTPUT TO CLOSE WDG-V47	TEST SWITCH FOR RECORDR LEFT IN TEST POS.
C	CC1	030227	012980	TX	PS	SN	A03	M	V	D		SPURIOUS HI PRESSURE SIG FROM XMITTR PT-103-1	XMITTR JOLTED BY REMOVAL OF CVR IN REVIEW
C	CC2	017983	042177	PS	NT	PX	B03	T	C	D		POWER SUPPLY FOR CH B LINEAR RANGE NUC INS FAILED	POWER SUPPLY GROUNDED BY TECHNICIAN
C	FC1	015615*	090176	MO	RR	NN	A03	T	B	D	2	STM GEN BLOWDOWN MONITORS SETPOINTS HIGH	WRONG COPY OF PROCESS MON SETPOINTS USED
C	FC1	032471*	080480	MO	RR	IC	A03	N	V	D	2	STACK PRTCLT RMO-61 SETPT SELCTR SW IN WRONG POS	PERS ERR SW NOT RETURND TO POS AFTER TEST
C	PA1	026717	080479	ZZ	PT	PX	A03	N	C	D		OUTPUT LIMITER SETPOINT FOR CH B TM/LP TRIP FOUND/	/LOW. PERSONNEL ERROR
W	DC1	030746	032180	ZZ	MG	MN	B03	N	U	D		UNIT 1 APDMS & P-250 APDMS LIMITS INCORRECT	NUCLEAR SECTN PERS USED U-2 LIMITS
W	DC2	170258	102081	HS	TS	SN	A03	T	R	D		A SFTY INJCT OCCURED DURING A SURV TEST SSPS TRN B	PROC STEP WAS MISSED TO TURN OFF MEM TEST
W	JF1	027480*	110779	CM	PT	PX	A03	T	U	D	2	BISTABLES ASSOCIATED WITH PZR PRESS TX PT455 NOT//	TRIPPED WHEN ISO VLV CLOSED. PERSONNEL
W	NA1	026093*	060879	ZZ	DG	NN	B03	N	U	D	2	IRPI'S M-10 AND D-10 INADVERTANTLY TAKEN OUT OF //	SERVICE. PERSONNEL TESTING
W	NA2	032945	091880	ZZ	NT	PX	A03	R	U	D		NUCLEAR POWER RANGE CHNLS INDICATED OOT (LOW)	SHIFT SUPERVSR MISINTERPRETED PT CRITERIA
W	NA2	037046	042381	MO	XG	NN	B03	N	U	D		CH "A" REACTOR COOLANT SYS SUBCOOLING MON DECLARE-	-D INOP. PERSONNEL ERROR
W	NA2	038355	080881	HS	XG	SN	A03	N	U	D		A MISALIGNED SWITCH CAUSED INADVERTANT SI	PERSONNEL TESTING
W	PR1	0204318	011078	SE	MI	PX	B03	T	U	D		CONTROL ROOM LOST ALL SOURCE RANGE INDICATION	TEST PRSNL DISCONN CH N32 VS CH N31
W	PR2	019895	120877	TX	PS	SN	A03	R	S	D		HEAD CORRCTN FOR PSZR PRESS XMITRS NOT APPLIED-CAL	PERSONNEL ERROR IN ESTAB CAL DATA-INI S/U
W	PI2	030846	040880	SE	PT	PX	B03	T	U	D		PZR LVL CHNL 427 FAILED LOW BY I+C TECH	PERS ERR DURING TESTING OF LOGIC CHNLS
W	SE1	039265	102881	PS	NT	PX	B03	N	U	D		POWER RANGE CHANNEL N-41 DECLARED INOP	POWER SUPPLY NOT RETURNED TO SERVICE
W	SU2	032198*	081980	TX	FG	NN	A03	N	V	D	6	STM FLO XMITRS FI-474/5,484/5,494/5 ISOLATED	LEFT ISOLATED AFTER TYPE A TESTING
W	TR1	014252*	011876	TX	FS	SN	B03	N	S	D	2	"C" STEAM LOOP FLOW XMTR ISOLATED CAUSN CONST OUTP	DID NOT RETURN XMTRS TO SERVICE
W	ZI1	014285*	022176	ZZ	NI	PX	A03	T	C	D	4	RESCALED PWR RANGE DET-1N41,42,43 & 44 HOWEVE DID	NOT RESCALE DELTA I SUMMATORS--NONCONSERV
W	ZI2	018393	071277	CM	XT	PX	B03	T	C	D		DUMMY LOADS ON ALL PZR LEVL,PRESS,FLOW &S/G INSTRU	NEGATED THEIR CONTROL FUNCTIONS
G	BR1	027676*	120779	GS	PS	SA	B03	T	U	D	2	CORE SPRAY/RHR RUNNING ANNUN NOT REC'D. ISO VLVS/	/FOR SW'S 1-E21-PS-N008B & 9B FOUND SHUT
G	BR2	032708A	091580	ZZ	LG	SN	A03	T	U	D		SUPPRESSION POOL LVL EXCEEDED TECH SPEC	NOT CONSTANTLY MONITORING PERSONNEL ERR
G	CO1	020805	020778	GS	PG	SH	B03	T	R	D		HPCI TURBINE SPEED INCREASED GREATER THAN 4000 RPM	DPIS SENSING LINES NOT BACKFILLED PROPERL
G	CO1	020806	020778	GS	PG	SH	B03	T	B	D		HPCI DPIS DID NOT CLOSE ASSOCIATED ISOLATION VALVE	DPIS ISOLATION VALVE FOUND CLOSED(LOW SI)
G	DA1	014586	042776	GS	TS	SN	B03	T	S	D		MSL HI TEMP SW ELEMENT 4444 SHORTED-OUT	PERSONNEL ERROR DURING TESTING
G	DA1	015036	061476	RE	XG	SH	B03	M	U	D		RELAY BLOCK LEFT IN HPCI ISOLATION TRIP RELAY	PERSONNEL DID NOT REMOVE BLOCK AFTER TEST
G	DA1	015075*	062276	CM	TS	SN	A03	T	S	D	4	MSL HI TEMP TIS4445 4 SUBCHANNELS EXCEEDED LIMIT	PERSONNEL-MISCALIBRATION DURING TESTING
G	DR3	020871	032778	MO	RT	PX	A03	T	C	D		MSL HIGH RAD SCRAM ISOL MONITOR SETPOINT HIGH	PERSONNEL ERROR-SETPOINT ADJUSTED HIGH
G	EN1	014780	030476	SE	FG	SN	B03	N	S	D		FLOW RACK NOT VALVED BACK INTO SERVICE CORRECTLY	PERSONNEL ERROR
G	EN2	030983	041180	ZZ	XG	NN	B03	M	U	U		"B" SBGT FILTER TRAIN 2T46-D001B WOULDN'T AUTO ST/	/ART. PREVIOUSLY TRIPPED DURING TESTING
G	FP1	031771	071080	IN	LG	NN	A03	N	U	D		AIR IN LVL XMITR &/OR SENSING LINES CAUSD WRNG LV/	/L IND. INADQ VENTG OF LVL IND SYS
G	PB2	014490	040576	GS	PS	SN	B03	T	V	D		DRYWELL HI PRESS SWS PS-2-10-101C&119C VLVD OUT	PERSONNEL ERROR-NOT PUT BACK IN SERV-TSTG
G	PB2	036346	012781	MO	RR	NN	B03	N	U	D		DRYWELL RAD MONITOR FOUND OUT-OF-SERVICE	SAMPLE FLOW VALVE NOT REOPENED AFTER TEST
G	PB3	018159	060377	GS	PG	SD	B03	N	V	D		CORE SPRAY ADMSN VLV SW PS3-2-520 VALVED OUT OF SV	INADVLY LEFT SHUT FOLLOWING SURV TESTING
G	PI1	037053	041481	GS	PS	SL	B03	N	C	D		RECIRC SYS DELTA P INSTRUMENT 261-39B RENDERED IN-	-OPERABLE. PERSONNEL ERROR IN TESTING

DESIGN ERROR

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	CR3	038102	071881	IN	FG	NN	A04	N	V	D		EMERG FW ULTRASONIC FLO IND OUT OF ZERO CHECK LO//	LMT. UNABLE TO CONSISTENTLY IND ZERO FLOW
B	CR3	172159.	120881	IN	FG	CT	A04	M	V	D		EMERGENCY FW ULTRANONIC FLO IND FW-313-FI DRIFTED	DESIGN ERROR
B	DB1	023594*	121578	MO	RR	NN	B04	T	B	D	10	SER.WTR.OUT RAD MONITOR RE8432 INOPER. ON 10 DAYS	DESIGN ERROR-FLOW SWITCH STICKS IF D/P LO
B	DB1	026808	010479	MO	RR	NN	B04	T	B	D		RE8432 ON SERVICE WATER HEADER HAD NO FLOW	SYSTEM DP INSUFFICIENT DUE TO DESIGN
B	DB1	026594	070779	GS	PG	CT	B04	T		D		PSL-4929B AFW PUMP 1-2 SUCTION BEFORE STRAINER SW/	/FAILED. WRONG MATERIAL USED IN DIAPHRAM
B	DB1	027423*	110979	CM	XG	CT	A04	R	C	D	2	SFRCS CH 1&2 FOUND TO HAVE SETPOINTS LESS CONSER//	VATIVE THAN REQUIRED. DESIGN CALCULATION
B	DB1	030262	012280	SE	NC	NN	B04	N	U	D		MI-7 IND ON CMPTR GRP 38 RDG BELOW HEAT BALNC PWR	DESIGN ERROR EXTRMLY TGHT 100% CAL BAND
B	DB1	030434	021780	TX	LS	SN	B04	N	B	D		SFAS CHNL 3 BWST HIGH LVL IND DECLRD INOP	COLD WEATHER FROZE XMITR LT1525C SENS LIN
B	DB1	030457A	022680	TX	LS	SN	B04	N	R	D		SFAS CHNL 3 BWST HIGH LV. IND DECLRD INOP	INADEQUATE DESIGN OF FREEZE PROTECTION
B	DB1	030457B	022980	TX	LS	SN	B04	N	R	D		SFAS CHNL 3 BWST HIGH LVL IND DECLRD INOP	INADEQUATE DESIGN OF FREEZE PROTECTION
B	DB1	031472	060680	IN	LG	NN	A04	T	U	D		SPENT FUEL POOL LVL BELOW TECH SPEC	IMPROPER ALARM SETPOINT
B	DB1	033357	120380	ZZ	XG	SN	B04	T	V	G		SHRT CKT LOST Y3 THUS RPS-3 & SFAS-3 INOP	DESIGN ERROR ALLIGATOR CLIPS TOO SMALL
C	AR2	031785	070880	IM	XS	SN	B04	N		D		"B" SG HI PRETRIP/TRIP ON CHANNEL "C" PPS	DEFECT B/S CRD (PPS "C" SG-2 HI LVL CARD)
C	CC1	014901	051176	IN	NG	PX	A04	N	S	D		CH A RPS VOPT RESETTING AUTOMATICALLY	ELECTRICAL NOISE FROM ANNUNCIATOR
C	CC2	027797B	112779	ZZ	PG	SN	B04	N	C	D		CH ZG PZR PRESS XMITTER TAKEN OOS TO REPAIR CON//	DUIT. CONDUIT TO CLOSE TO PIPE HANGER
C	FC1	014509	032776	IM	NI	PX	B04	N	R	U		B&H 19-301A ADD-SUB MODULE WENT INTO OSCILLATION	CIRCUIT MODIFIED PER LATER LER
C	FC1	014510	040576	IM	NI	PX	B04	N	R	U		CH B APD POS LIMIT HIGH	B&H 19-301A ADD-SUB MODULE OSCILLATING
C	FC1	014558	041376	IM	NI	PX	B04	N	R	U		CH A APD POS LIMIT HIGH	B&H 19-301A MOD OSCILLATES, RANDOM NOISE
C	FC1	014361	101177	GS	LG	SN	B04	T		T		STRWT RECIRC LEVEL SW A/LC-383 FAILED TO TRIP	WRONG SWITCH FOR APPLICATION
C	MI2	014015*	011476	IM	TT	PX	B04	R	C	U	4	4 OF 4 TM/LP TRIP NON-CONSERVATIVE FOR ALL CONDITI	DESIGN WIRING ERROR INPUT TO CEA FUNC GEN
C	MI2	033801	040380	CM	PT	PX	A04	N	U	D		A-RPS LO SG PRES BYPS REMVL B/S CARD HIGH SETPOINT	HI SENSTVTY TO CHANGE IN INPUT RESISTANCE
C	MI2	033062*	102380	CA	NT	PX	B04	T	B	D	2	D-RPS HI PWR, LOCAL PWR DENSITY & TM/LP TRPS INOP	REVERSED UPPER & LOWER DET SIG CABLES
C	MY1	027009	091079	MO	RR	NN	A04	R	U	D		LIQUID RAD WASTE RAD MONITOR DID NOT RESPOND PROP	INSTALLED CHECK SOURCE TO SMALL
C	MY1	037085	050981	GS	LS	SN	B04	T		D		RWST LEVEL SWITCH INTERLOCK FOR RAS FOUND FAILED	MATERIAL INCOMPATIBILITY
C	SL1	014849	050476	IN	DC	NN	B04	T	S	D		DATA PROCESSOR MALFUNCT. CAUSN LOSS OF CEA PULSE	CONT. PROGRAM SKIPPED 160K OF WORDS
C	SL1	014850	051276	ZZ	DC	SN	B04	N	S	D		POWER DEPEND. INSERTION LIMIT CHANGN IN NONCONSERV	DIR. AS POWER INCREASD;ERROR IN WIRING D.
C	SL1	021114	032678	PS	PS	SN	B04	N		T		1 CHAN. OF S/G LO PRESS FOR MAIN STEAM ISO. FAILED	POWER SUPPLY FAILD--REQUESTD DESIGN CHANG
C	SL1	023394	120478	LM	DG	NN	B04	N	R	D		DDPS MALFUNCTIONED	ERROR IN INSTALLED PROGRAM
C	SL1	027298*	092179	CM	LT	PX	A04	R	C	D	4	S/G LVL INSTRUMENTATION HAD A 2% NON-CONSERVATIVE	//ERROR. INCORRECT LEVEL SPAN USED
C	SL1	033148	102480	LM	DG	NN	B04	N	R	D		PRIMARY DDPS COMPUTER FAILD LOST PULSE COUNTG CEA/	/ POS IND. PROGRAM SOFTWARE ERROR
C	SL1	172200.	121081	SE	NG	NN	B04	T	U	D		IN-CORE DETECTOR ALARM SET POINTS INCORRECT	COMPUTER SOFTWARE USED WRONG FLUX INPUTS
W	DC1	172094A	121081	IN	TG	NN	B04	N	V	D	2	2 RCS HOT LEG TEMP INDICATIONS RDG LOW	DESIGN ERROR IN MODIFICATION
W	DC1	172094B	121081	IN	PG	NN	B04	N	V	D	2	2 RCS WIDE RANGE PRESS INDICATN RDG LOW	DESIGN ERROR IN MODIFICATION
W	DC2	021426A	051578	RE	XG	NN	A04	T	R	D	2	H2 SKIMMER FANS STARTING TIMES FOUND EXCESSIVE	WRONG STARTING RELAY RANGE,2HV-CEQ2,Q1
W	DC2	021426B	062078	RE	XG	NN	A04	T	R	D	2	H2 SKIMMER FANS STARTING TIMES FOUND EXCESSIVE	WRONG STARTING RELAY RANGE,2HV-CEQ2,Q1
W	DC2	037005	041681	CM	PT	PX	B04	R	U	D		TURB IMPULSE CHAMBR PRESS B/S SETPT IN ERROR	ERROR IN ENGR. DOC & T.S. TABLE
W	DC2	172093A	121081	IN	TG	NN	B04	N	V	D	2	2 RCS HOT LEG TEMP INDICATION RDG LOW	DESIGN ERROR IN MODIFICATION
W	DC2	172093B	121081	IN	PG	NN	B04	N	V	D	2	2 RCS WIDE RANGE PRESS INDICATION RDG LOW	DESIGN ERROR IN MODIFICATION
W	JF1	022635*	092078	HS	NT	PX	B04	T		U	2	LOSS OF H.V. TO BOTH SOURCE RANGE NIS CHANNELS	SWITCH WIRING DESIGN
W	JF2	038186	071781	TX	FT	PX	B04	N	U	D		STM FLO XMTR FT-474 INOP BREAK IN XMTR VENT PIPE	OVERSIZED VLV USED IN SENSG LINE
W	MG1	038414*	082281	IN	FG	CT	B04	N	C	D	4	AUX FEED FLOW GAUGES IN CONTROL ROOM DIDNT AGREE//	WITH LOCAL GAUGES. WRONG SCALE USED
W	NA1	032275A	080780	TX	LT	PX	A04	N	V	D		PZR PROTCTN CH 3 LVL INDICATION RDG HIGH	STM IMPINGED ON LVL XMITR CAUSING DRIFT
W	NA1	032275B	080880	TX	LT	PX	A04	N	V	D		PZR PROTCTN CH 3 LVL INDICATION RDG HIGH	STM IMPINGED ON LVL XMITR CAUSG DRIFT
W	NA1	032275C	080980	TX	LT	PX	A04	N	V	D		PZR PROTCTN CH 3 LVL INDICATION RDG HIGH	STM IMPINGED ON LVL XMITR CAUSG DRIFT
W	NA2	038751	092281	SE	DG	NN	B04	N	C	D		IRPI FOR ROD B-8,BANK D FOUND GREATER THAN 12 STE-	-PS BELOW DEMAND. TEMP CHANGE IN COIL
W	PR2	018818	081977	IN	XG	SN	B04	T	S	D		AUX BLDG VENT "NOT READY" MON LITES DID NOT ENERGI	OPENING FAN BRKR DEGNRGZS LITE-DESIGN ERR
W	RO2	023183	120578	RE	XT	PX	A04	R		U		RPS RELAY RT-3B POTENTIAL GENERIC PROBLEM GE-BFD	THERMAL DETERIORATION/RELAY STICKING
W	SA1	028007*	112179	MO	RR	IC	B04	N	U	D	2	RADIATION MONITORS MADE INOPERABLE	OVERLOAD FROM TEMP EQUIPMENT TRIPPED BKR
W	SA1	166709A	052181	ZZ	LG	IC	B04	N	U	D	2	PARTIAL BLACKOUT CAUSED LOSS OF CNTNMNT SUMP LEVEL	DESIGN ERROR IN D/G BREAKER
W	SA2	166709B	052181	ZZ	LG	IC	B04	N	U	D	2	PARTIAL BLACKOUT CAUSED LOSS OF CNTNMNT SUMP LEVEL	DESIGN ERROR IN D/G BREAKER

DESIGN ERROR

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	SE1	032343	081380	TX	PG	NN	B04	N	B	D		REMOTE S/D MONITORING CHNL L-68-312C FOUND INOP	WTR IN LP SENSG LINE OF TRANSMITTER
W	SE1	032876A	100480	TX	LG	NN	B04	N	V	D		PZR RELIEF TANK LI-68-312C INOP	XMITTER DRY LEG FULL OF WATER
W	SE1	032876B	101180	TX	LG	NN	B04	N	V	D		PZR RELIEF TANK LI-68-312C INOP	XMITTER DRY LEG FULL OF WATER
W	SE1	032975*	101480	GS	PG	NN	B04	N	U	D	2	ERCW MON 0-RE-90-134/141 INOP SPURIOUS HI SPIKES	PS-3-138A/B CHATTER PRODUCED ELEC PROBLEM
W	SE1	033603*	120980	CM	FT	PX	A04	R	C	D	2	DP AT STM FLO XMITTER LESS THAN EXPECTED	STM/FW FLO MISMTCH B/S SETTING LESS CNSRVT
W	SE1	033727A	122580	TX	PG	NN	B04	N	B	D		SG-3 "A" STEAMLINE PRESSURE CHANNEL FAILED HIGH	UNPROTECTED SENSING LINES FROZE
W	SE1	033727B	122580	TX	FG	NN	B04	N	B	D		SG-3 "A" FLOW CHANNEL FAILED HIGH	UNPROTECTED SENSING LINES FROZE
W	SE1	033727C	122580	TX	FG	NN	B04	N	B	D	3	SG-1,2,4 "B" FEEDWATER FLOW CHANNELS FAILED LOW	UNPROTECTED SENSING LINES FROZE
W	SE1	036220A	010581	TX	FT	PX	B04	N	B	D		FEEDWATER FLOW CHANNEL F-3-35B(S/G #3) FAILED LOW	INADEQUATELY PROTECTED SENSING LINE FROZE
W	SE1	036075	011281	TX	LS	SN	B04	N	B	D		RWST LEVEL CHANNEL L-63-53 FAILED	SENSING LINE FROZE. INSULATION INSUF
W	SE1	036220B	011281	TX	FT	PX	B04	N	B	D		FEEDWATER FLOW CHANNEL F-3-90B(S/G #1) FAILED LOW	INADEQUATELY PROTECTED SENSING LINE FROZE
W	SE1	036799A	032381	TX	LT	PX	B04	N	B	D	3	PZR LEVEL CH 1-L-68-339,325C,& 1-L-326C FAILED	MODIFICATION TO CONDENSATE RESERVOIR
W	SE1	036799B	040281	TX	LT	PX	B04	N	B	D		PZR LEVEL CH 1-L-68-339 DECLARED INOPERABLE	MODIFICATION TO CONDENSATE RESERVOIR
W	SE1	036799C	041781	TX	LT	PX	B04	N	B	D	2	PZR LEVEL CH 1-LI-68-325C & 326C DECLARED INOP	MODIFICATION TO CONDENSATE RESERVOIR
W	SU1	031075	050680	ZZ	XG	NN	B04	N	U	D		INCORE FLUX THIMBLE BENT OUTWARD DEGRADIN OF PRIM/	/ARY COOLANT BDRY. DESIGN ERROR
W	TU3	017101*	010477	RE	XT	PX	B04	T	C	D	4	IE CIRCULAR--ALL BFD RELAYS TESTD ;4 IN CKT.TRAINA	DEFECTIVE RELAYS, COILS OVERHEAT
W	TU4	014877	021476	IN	LG	SN	A04	T		D		REF. WATER ST. TNK 1 PERCENT LOWR THAN ALLOWD T.S.	LEVEL GAGE IS WIDE RANGE;INSTALL NARROW R
W	TU4	017100*	010877	RE	XT	PX	B04	T	C	D	2	ALL BFD RELAYS TESTD; 2 FOUND IN CKT.TRAIN A RT465	DEFECT RELAY; VARNISHD CLOTH OUTER COVER
W	YR1	023411	122878	MO	RR	NN	B04	N	R	D		LO FLOW ALARM ON MAIN COOLNT APD; MOTOR FAILURE	EXCESS CURRENT DUE TO LO VOLTAGE
W	YR1	027502	110979	RE	XS	SN	B04	T		D		SI ACCUMULATOR TIME DELAY RELAY FOUND OOC	DESIGN DEFICIENCY OF CAPACITOR IN PS
W	YR1	032987	101280	TX	LT	PX	A04	M	U	D		LOW LEVEL SCRAM SETPOINTS BELOW TECH SPEC LIMITS	HARD TO VENT XMITR DUE TO LINE CONFIGRTN
W	ZI1	016381*	101976	TX	LS	SN	A04	T	C	D	6	ACCUM. LEVEL XMTRS SETPOINTS OFF (6 OF 8 WERE HI)	INADEQUACY OF PRESENT XMTRS FOR GIVN RANG
W	ZI2	038618A	091481	ZZ	XG	CT	B04	T	C	D	2	FLAW DETECTED IN CONTROL CIRCUITS FOR 2B & 2C AFWP	DESIGN ERROR
G	BF2	014662*	041276	RE	DC	NN	B04	T		D	5	FIVE REED RELAY FAILURES DISCOVERED	FAILED CONTACTS ON REED RELAYS/DESIGN ER.
G	BR1	019085A	091577	SE	LG	NN	A04	N	R	D		TORUS LEVEL INST CAC-LT-2601 FOUND TO BE DRIFTING	MOISTURE IN DRY REFERENCE LEGS
G	BR1	019085B	091777	SE	LG	NN	A04	N	R	D		TORUS LEVEL INST CAC-LT-2601 FOUND TO BE DRIFTING	MOISTURE IN DRY REFERENCE LEGS
G	BR1	020615*	020978	MO	RR	NN	B04	T	R	D	2	CONT RADIATION MONITORS CAC-AQH-1260,1262 FAILED	MOISTURE IN SENSING LINES
G	BR1	031410B	052680	SE	NT	PX	A04	T		T		SRM C COUNT RATE DIDN'T DECR WHEN DET OUT OF CORE	PULSE HEIGHT DISCRIMINATOR OUT OF ADJUST
G	BR1	033699	122880	IM	DC	NN	B04	N		D		ROD WORTH MINIMIZER INOP	COMPUTER RWM SOFTWEAR DESIGN PROBLEMS
G	BR1	169949	100481	TX	LG	NN	A04	N	B	D		IND XMTR 2CAC-LT-3342 OUT OF CALIBRATION	CHNG IN TRCKL FLOW TO WET REFRNC LEG XMTR
G	BR1	171928A	120581	TX	LG	NN	A04	T	B	D		SUPPRESSION CHAMBER WTR LVL TX 1-CAC-LT-2602 READ-	-5" LOW. TRICKLE FLOW DESIGN ERROR
G	BR1	171928B	120881	TX	LG	NN	A04	N	B	D		SUPPRESSION CHAMBER WTR LVL TX 1-CAC-LT-2602 READ-	-3" LOW. TRICKLE FLOW DESIGN ERROR
G	BR1	171928C	121081	TX	LG	NN	A04	N	B	D		SUPPRESSION CHAMBER WTR LVL TX 1-CAC-LT-2602 READ-	-2.5" LOW. TRICKLE FLOW DESIGN ERROR
G	BR2	014652	020876	GS	TG	SH	A04	N	R	D		HPCI ISOLATED ON STEAM LEAK DETECTION	TOO CONSERVATIVE REQUIREMENT
G	BR2	014944*	061276	GS	LT	PX	A04	T	C	D	3	RX LOW WATER LEVEL SW 2-B21-LIS-N024 A,B,25B ACT L	CIRCUIT DESIGN USED HIGH LEVEL SWITCHES
G	BR2	017601*	022177	GS	TG	SH	B04	N	R	D	3	HPCI ISOLATED ON SIGNAL FROM E41-DTS-N601A	COLD REACTOR INLET AIR
G	BR2	026629A	073179	TX	LG	NN	B04	N	B	D		CAC-LT-3342 HAD IMPROPER CALIBRATION RANGE DUE TO	ELEVATION OF TRANSMITTER. DESIGN
G	BR2	026629B	073179	TX	LG	NN	B04	M	B	D	2	CAC-LT-2601&2602 DISCOVERED OOC. FLAT RUNS IN //	SENSING LINES TRAPPS AIR
G	BR2	038491A	081781	TX	LG	NN	A04	N	B	D		SUPPRESSION CHAMBER WTR LVL IND READING OOC	EXACT CAUSE NOT STATED MODIF REQUESTED
G	BR2	038491B	082081	TX	LG	NN	A04	N	B	D		SUPPRESSION CHAMBER WTR LVL IND READING OOC	EXACT CAUSE NOT STATED MODIF REQUESTED
G	BR2	038491C	082381	TX	LG	NN	A04	N	B	D		SUPPRESSION CHAMBER WTR LVL IND READING OOC	EXACT CAUSE NOT STATED MODIF REQUESTED
G	BR2	038692	090981	TX	LG	NN	A04	N	B	D		SUP CHMBR WTR LVL RECORDER 2-CAC-LT-2602 RDG OOC	CHANGE IN TRICKLE FLO TO XMTR WET REF LEG
G	BR2	038913	100481	TX	LG	NN	A04	N	B	D		SUP CHMBR WTR LVL IND 2-CAC-LT-3342 RDG OOC	CHANGE IN TRICKLE FLO TO XMTR WET REF LEG
G	BR2	039366	111881	TX	LG	NN	A04	N	B	D		SUPPRESSION CHAMBER WTR LI-2601-3 IND BELOW ACTUAL	CHANGE IN TRICKLE FLO TO XMTR WET REF LEG
G	CO1	022737	081478	RE	XS	SD	B04	T	R	D		CORE SPRAY TDR #CS-TDR-K16B FAILED TO OPERATE	DESIGN ERROR,INOPERABLE DUE TO INACTIVITY
G	CO1	027469	100179	GS	FG	NN	A04	T		D		MS-DPIS-119B FOUND OOC(MS ISO & CONTROL)	"SET" IN NEW INST AFTER INSTALLATION
G	CO1	037236B	041481	CN	XC	NN	B04	T	C	D		IN SCRAM 2 SCRAM DSCHRG HEADER CMS CHNL OP IMPROPR	BONDING IN TRANSDUCER
G	DA1	016917	010777	MO	RR	NN	B04	T	B	D		RR 4379B WAS FOUND DOWNSCALE ON PARTICULATE CHANNE	CONDENSATE IN DETECTOR-DESIGN ERROR
G	DA1	017310	021377	GS	PG	NN	B04	T		U		RECIRC RISER D/P SWITCH PDIS 4644 NEEDLE STICKING	NEEDLE STICKING ON ADJUSTMENT LOCKSCREW
G	DA1	033570	120780	RC	XG	SN	A04	N	V	D		D/W PRESS & TORUS WTR LVL RECORDER PR/LR-4384 INOP	POUR CABNT VENT/HI TEMP CAUSE PS OUT VARY

DESIGN ERROR

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	EN1	014140*	010976	GS	FG	AS	B04	N		U	2	TWO SERV WATER ISG SWITCHES(P41-N5236525)FROZE	DESIGN ERROR-HEAT TRACING WAS INSTALLED
G	EN1	014784A	042776	TX	FG	SL	A04	T		D		RHR PUMP FLOW TRANSMITTER E11-N015A CAL RANGE WRON	DESIGN ERROR-DESIGN DATA INCORRECT
G	EN1	014784B	042776	RC	FG	SL	A04	T		D		RHR FLOW RECORDER E11-R608 CAL RANGE WRONG	DESIGN ERROR-DESIGN DATA INCORRECT
G	EN1	030463	022480	GS	PS	SH	A04	N	R	D		HPCI SYS DIDN'T BECOME OPERATIONAL AT CRRCT PRESS	PRESS SW DRIFT & DESIGN DEFICIENCY
G	EN1	033851	042380	GS	PS	SN	B04	N	U	D		DRYWELL/TORUS D/P RELIEF VLV OPENED OOT (HIGH)	DESIGN PRBLM W/ PRESS SW SENSING LINES
G	EN1	038895*	100981	GS	PS	SN	B04	N	U	D	3	TORUS TO RX BLDG DP SW 1T48-N211,2T48-N210/N211 //	OOC. MISAPPLICATION OF SW DURING DESIGN
G	EN2	022207	081778	RC	PG	IC	B04	T	S	D		TORUS PURIF SYS ISOL VALVE COULD NOT BE OPENED	WIRING TO PRESS RECORDER SW REVERSED
G	EN2	030192	012980	ZZ	DG	NN	B04	N	U	D		RSCS INOPERABLE	ERRONEOUS DESIGN CHANGE
G	MO1	018465	062377	CL	FG	NN	B04	T		D		SGTS "A" INADEQUATE FLOW AS REQUIRED BY T.S.	ISOL VAVLE CONTROL IMPROPER INSTALLATION
G	MO1	037151	050881	ZZ	PG	SA	A04	N		D		AC INTERLOCK PERMITTING AUTO BLOWDOWN FOR ADS ACT-	-UATED. PRESSURE TAP PLACED IN WRONG
G	OC1	022925*	112178	GS	PS	SN	B04	T	C	D	2	TORUS-RX BLDG DP SWCHS DPS-66A&B RUPTURED DIAPHRGM	NOT DESIGNED FOR DELTA P-CAT NO 1635-12
G	PB2	033340	112380	MO	RR	NN	B04	N	C	D		WTR IN OFF-GAS RAD MON SAMPLING SYS REDUCING FLOW	WATER PROBLEM CAUSD BY DRAIN MODIFICATION
G	PB3	171567*	112181	TX	PS	SN	B04	N	C	D	2	PRESS XMTRS PT3508A AND 3508B WERE BLOWING FUSES	DESIGNED GRND IN THE PRNT CKT ASSMB ON TX
G	PI1	032227	081880	GS	XT	PX	B04	N	U	D		MODE SW IN S/D TRP FUNC OF RPS FAILD WHEN B VITAL/	/ MG SET TRPD. DESIGN CHANGE IN PROGRESS
G	QC1	028067A	112879	GS	LT	PX	A04	T	B	D		FOUND LEVEL INSTRUMENTATION SETPOINT TOO LOW	CALIBRATION BASED ON WRONG REF LEG TEMP
G	QC1	028067B	112879	GS	LS	SN	A04	T	B	D		FOUND LEVEL INSTRUMENT SETPOINT TOO LOW	CALIBRATION BASED ON WRONG REF LEG TEMP
G	VY1	016484	112176	LS	XT	PX	B04	T		D		RPS RELAY 3A-K3F DEENERGZD NORMLY BUT THEN RESET	MSIV-2-80C LIMIT SW.;INSTLLD WEAKR SPRING

FABRICATION/CONSTRUCTION/QUALITY CONTROL

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE &CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	CR3	030297	013080	TX	TS	SN	B05	N	V	D		TEMP XMITTR CI-563-TT STUCK DUE TO OPER OUT OF TE/	/MP RNG. IMPROPERLY LOCATED XMITTER
B	DB1	019527*	102477	MO	RR	SN	A05	N	B	U	3	ERRATIC READINGS SFAS CH 3 CONTAINMENT RADIATION	DESIGN/FAB ERROR IMPROPER GROUND ISOLATIO
B	DB1	019638*	110777	MO	RR	SN	A05	N	B	T	2	SFAS CH 3 RIS 2006 SPIKED,RESET & WAS TRIPPED MANU	IMPROPER ISOLATION BETWEEN INST &STA GROU
B	DB1	021854	062078	RE	XS	SN	B05	T		U		SFAS CH 2 LOGIC TO SEQUENCER WIRING ERROR (E64B)	FACTORY WIRED RELAY SOCKET INCORRECTLY
B	RS1	027887	121679	SE	FG	CT	A05	N		T		FLOW INDICATION APPARENTLY IN FEED AND CONDENSATE/	/SYS FOUND INACCURATE. EROSION WEAR
B	TI2	021612	041778	SE	NT	PX	B05	N		D		RPS CHAN C HI FLUX TRIP INTERMITTENT-DETECTOR NI-7	NI-7 DAMAGD DURN INITIAL INSTALLTN-REPLAC
C	AR2	033199	111180	ZZ	OT	PX	B05	N		D		"A" CPC FAILED	DEFECTIVE DATA LINK CARD
C	AR2	037472*	052081	SE	NG	NN	A05	N	U	D	2	SOURCE RNG NEUTRON FLUX MON SIG INCRSD NOISE INT//	RFRNC. DUE TO WELDER INTERFERENCE
C	CC2	016725	121276	CA	NT	PX	B05	N	C	D		CH D ASI OBSERVED GOING OPPOSITE DIRECTION	CABLES REVERSED DUE TO MISLABLING
C	CC2	033158A	110180	MO	RR	NN	B05	N	B	D		CNTNMNT ATMOS PARTICULATE MON INOP	IMPROPER CRIMPING OF CABLE LEADS
C	CC2	033158B	110780	MO	RR	NN	B05	N	B	D		CNTNMNT ATMOS PARTICULATE MON INOP	IMPROPER CRIMPING OF CABLE LEADS
W	BV1	015915	083076	CA	XG	NN	B05	T	S	D		CONTROL SYS. DID NOT SHUT VALVE WHEN REQUIRED	WIRING DID NOT COFORM TO SYSTEM LOGIC
W	BV1	033487	120580	SE	TS	SN	A05	N	U	D		LO THERMOCOUPLE RDNGS BY BIT OUTLET ISOL VLVS NOT/	/ IN FULL PIPE CONTACT. CONSTRCTN ERROR
W	HN1	014716	040376	TX	FT	PX	A05	N		D		STM LINE LOW FLOW ALARM #4 DURING LOW POWER COND	HEAT TRACE ON SENSING LINE, REMOVED SAME
W	JF1	025437	012379	MO	RR	NN	B05	N	C	D		CNTNMNT AIR PARTICULATE RAD MON SYS,R11,INOPERABLE	REPLACEMENT FILTER PAPER INCORRECT
W	JF1	027179*	082479	ZZ	XG	SN	A05	N	C	D	23	WESTINGHOUSE INFORMED CIRCUIT BOARDS DEFECTIVE. FO	//UND 23,14 OF WHICH IN PROTECTIVE RACKS
W	JF2	038183	072081	MO	RR	NN	B05	N	U	D		TDAFWP EXHST RAD MON R60D INOP PC CARD FAILURE	SHORT BTWN MOUNTG HARDWARE & PC CARD
W	JF2	172099	122881	SE	XS	SN	B05	M	U	D		BLOWN CNTRL PWR FUSE MADE "A" BIT HEAT TRACG INOP	INSTALLATION ERROR
W	KE1	017372	032377	TX	LT	PX	B05	N	C	D		STM GEN LEVEL CONTROLLERS LACK OF CONTROL	CROSSED INSTRUMENT TAPS BETWEEN 2 CHANNEL
W	NA1	027243*	101579	TX	PS	SN	B05	N	C	D	2	SENSING LINES FOR SL PRESS TRANSMITTERS LOOP C & A	//FOUND SWAPPED. OCCURED DURING CNSTRCTN
W	PT1	172239	121981	TX	PS	SN	B05	N	B	D		S/G PRESS INSTR 1PT-482 SENSING LINE FROZEN	POOR INSULATION AND COLD TEMPERATURE
W	RG1	014168*	020776	RE	XG	SN	B05	T	B	D	2	MG-6 RELAYS IN "A" SFGDS TRAIN WOULD NOT LATCH PRP	IMPRPR FACTRY LTCH SCREW ADJ-2898363A11
W	SA1	017017	012077	ZZ	FT	PX	B05	N	S	D		NO 12 RX COOLANT FLOW CHANNEL 1 BECAME INOPERABLE	SWAGELOK TUBE FITNG BACKED OFF-CONST ERUR
W	SA1	020118	112577	IN	FG	NN	B05	T		D		FLOW METER FI-904 RUPTURED WHILE DRWNG RX CLNT SAM	DESIGN CHG AFFCTG PRESS OF SAMP SYS OVLKD
W	SE1	033141	102980	TX	PG	NN	B05	N	U	D		AUX CNTRL RM CNTNMNT 1-PI-30-30C RDG ERRONEOUS	XMITR SENSE LINE IMPROPERLY INSTALLED
W	SE1	038630A	090581	MO	RR	NN	B05	N	B	D		AUX BLDG VENT RAD MON RM-90-101B ALARMED HIGH	INCORRECT HI-RAD RELAY INSTALLED
W	SE1	038630B	092081	MO	RR	NN	B05	N	B	D		AUX BLDG VENT RAD MON RM-90-101B ALARMED HIGH	INCORRECT HI-RAD RELAY INSTALLED
W	SE1	038630C	092381	MO	RR	NN	B05	N	B	D		AUX BLDG RAD MON RM-90-101B ALARMED HIGH	INCORRECT HI-RAD RELAY INSTALLED
W	SO1	031C58*	042080	SE	NT	PX	B05	N	U	D	2	LEAK THRU RX VESSEL TO REFUELING CANAL FLANGE CAU/	/SD SOURCE RNG NI 1201/2 FAILR. INSTL ER
W	TR1	033735	123180	ZZ	XG	SN	A05	N	C	D		CNTRL VLV HAD DEFICIENCY COULD PRVNT THEIR CLOSING	CONSTRUCTION/INSTALLATION ERROR
W	TR1	171865*	120281	IN	PG	IC	B05	R	C	D	2	CNTNMNT PRESSURE IND'S PI-10075 & 76 IND WRONG	IMPROPER DESIGN AND INSTALLATION
W	YR1	021684	050778	MO	RR	NN	A05	N		D		#1 STEAM GEN RAD MONITR OPERATED ERRATICALLY	DEFECTIVE SOLDER CONN. IN COMPUTR-INDICAT
G	BR1	017082	012677	GS	PT	PX	A05	T		D		HIGH DRYWELL PS C71-PS-N002C FOUND TO HAVE FOR.SUB	FOREIGN SUBSTANCE BEEN THERE SINCE INSTAL
G	BR1	019148	092377	GS	LG	CT	B05	T		D		CONDENSATE STORAGE TANK LOW LEVEL SW FAILED TO OP.	SLUDGE IN FLOAT CHAMBER,E41-LS-N002
G	BR2	032623	090580	GS	LS	SN	A05	N	C	D		WIRE PROTRUDING PAST 2-B21-LIS-N031A-1 GROUND TO//	HOUSING. MANUFACTURING ERROR
G	CO1	015357	070776	GS	PS	SQ	B05	T	B	U		EXCEEDED RCIC-DPIS SETPOINT CAUSING GROUP 5 ISOLAT	AIR ENTERED INSTRUMENT DURING INSTALLATIO
G	CO1	031415	051880	RE	XS	SN	A05	T	U	D		CNTCTS 528/EG/62 LEFT CNNCTD IN CORE SPRY PMP CKT	PERS ERR INADEQUATE CNTRL OF CNSTRCTN
G	CO1	037236A	041481	TX	XC	NN	B05	T	U	D		3 OR 4 SCRAM DSCHRG HEADER CMS CHNLS FAILED	MARGINAL CRYSTALS USED IN TRANSMITTER
G	CO1	037936*	052281	GS	PS	SN	B05	M	B	D	2	CS HEADER BREAK DETCTN INSTR SW PIPED TO WRONG CS/	/LINES. CONSTRUCTION/INSTALLATION ERROR
G	DA1	021862*	061778	RE	XT	PX	B05	T	U	D	7	7 RPS RELAY AUXILIARY SW FAILED CLOSED,CAUSE SCRAM	SCRAM RETAINING SCREWS NOT TIGHTENED PROP
G	DR2	027573*	101979	LS	DI	PX	A05	T	B	D	3	SCRAM LIMIT SWITCHES FOR 3 MSIV'S FOUND OOC	NOT CALIBRATED UPON INSTALLATION
G	DR2	033404A	120280	CA	LG	NN	A05	N	B	D		CRD VOLUME HI-HI LVL ALRM NOT REC'D IN A RX SCRAM	ERRORS IN CABLE LENGTH & ROUTING
G	DR2	033404B	120280	CN	LG	NN	A05	N	B	D		CRD VOLUME HI-HI LVL ALRM NOT REC'D IN A RX SCRAM	TRANSDUCR PLACEMNT,MOUNTG,SIG INTRFRNC
G	DR2	036032	010481	CN	LG	NN	A05	T	B	D		CRD VOL HI-HI LVL ALRM FAILD ON 3 OF 4 CHNLS	TRANSDUCER PLACEMENT/MOUNT HI GAIN NOISE
G	DR3	030292*	021380	LS	OT	PX	A05	N	R	D	2	MSIV SCRAM LIMIT SW SETPOINTS OUT (HIGH)	CONSTRUCTION/INSTALLATION ERROR
G	EN1	014793	050176	RE	DI	PX	B05	N		D		REACTOR SCRAM-RPS RELAYS BURNED OUT & FUSES BLEW	FABRICATION ERROR-WRONG TYPE RELAYS
G	EN1	015559*	070276	GS	PG	SD	B05	T	C	D	2	CORE SPRAY D/P SW E21-N004A & B OPERATED IMPROPERL	FABRICATION-WIRING ERROR
G	EN1	171632	120381	SE	PS	SN	B05	N	S	D		VCUUM RELIEF ISOL VLV 2T48-F310 DIDNT CLOSE	ERR INSTAL TOR/REACT BLDG.PRESS SENS LINE
G	EN2	022019*	081078	GS	PS	IC	B05	M	V	U	2	SW 2T48-N211 AND N212 INOPERABLE	SENSING LINES BACKWARD, WIRING WRONG
G	EN2	022211	081078	GS	PS	IC	B05	N	V	U		SW 2T48-F310 INOPERABLE	SENSING LINES BACKWARD AND WIRING WRONG

FABRICATION/CONSTRUCTION/QUALITY CONTROL

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	EN2	022735	100978	TX	LG	NN	B05	N	S	U		LEVEL INDICATOR 2C82-R005 READING HIGH	LEVEL XMTR SENSING LINES BACKWARDS
G	EN2	022752*	101778	GS	LS	SN	A05	N		U	2	LEVEL SW SETPOINT HIGHER THAN INTENDED	INSTALLATION DEVIANT FROM SPECIFICATIONS
G	EN2	025990*	052379	SE	FG	CT	A05	M	U	D	2	FEEDWATER FLOW TAPS FOR FLOW ELEMENTS 2C32-N001A&B	//PIPED UP TO WRONG TAP. CONSTRUCTION
G	EN2	030759A	040280	SE	TG	NN	B05	T	B	D		D/W SENSOR 2T47-N073 INCRRCTLY CNNCTD TO SUPPRESS/	/ION POOL VAPOR TEMP IND. CNSTRCTN ERROR
G	EN2	030759B	040280	SE	TG	NN	B05	T	B	D		SUPPRESSION POOL VAPOR TEMP SENSOR 2T48-N073 INCR/	RCTLY CNNCTD TO D/W TEMP IND. CNSTRC ERR
G	EN2	030834	041580	RE	XS	SL	B05	T	C	D		"D" RHR LPCI PMP WOULDN'T START ON LOCA SIG TO ST/	/ART RELAY 2E11-K121B. MISWIRED RELAY
G	EN2	030951	041680	LS	DS	NN	B05	R	U	D		NON-QUALIFIED MSIV LMT SW WHERE A QUALIFIED IS REQ	ERROR IN INSTALLATION
G	EN2	039261	110781	GS	PS	IC	A05	N	V	D		RX BLDG-TORUS VAC BRKR ISOL VLV 2T48-F311 INOP	MOIST IN SENSG LINES OF D/P SW 2T48-N211
G	EN2	172230	122581	GS	PS	SH	B05	M	V	D		HPCI INOP DUE TO SPURIOUS TURBINE ALARMS	INCORRECTLY INSTALLED PRESSURE SWITCH
G	FP1	016375	110976	SE	FS	SH	A05	N		U		SPURIOUS HPCI INITIATION UPON REACTOR SCRAM	LACK OF STEAM SENSING FLOW SNUBBERS
G	FP1	019772*	111777	RE	XG	NN	B05	T		U	2	TURBINE BLDG EXH FANS 67FN2[illegible]&B DID NOT STOP	TIMING RELAY REMOVED DURING PLANT MOD
G	FP1	020928*	040178	SE	NI	PX	B05	T	C	D	4	LPRM-36-45 DET A & B, LPRM-1[illegible]-21 DET B & C NOT OP	DETECTOR WIRING INCORRECT
G	MI1	016617	121376	MO	RR	NN	B05	T		D		RADIATION MONITOR INOPERABLE, DOWN FOR REPAIRS	PAINT BUILDUP ON CONNECTOR
G	MO1	030958	041180	GS	LG	NN	B05	N	V	D		THRU-WALL CRACK ON MOIST SEPARATR LS-1188 FITTING	FAILURE CAUSED BY IMPROPER WELD PROCEDURE
G	OC1	027699*	110679	GS	PS	SN	B05	N	U	D	2	EVR NR 108A OPENED TWICE WITH NO APPARENT REASON	PRESSURE SWITCH NOT CONDITIONED
G	OC1	031154	051280	GS	PI	PX	B05	N		D		PS PSL-D HAD MISLOCATED OPER LVR IN SW HOUSING	SW ACTUATOR WAS COCKED & CAUSED FAILURE
G	OC1	172614B	120381	GS	PS	SA	B05	N	C	D		FAULTY EMRV PRESSURE SWITCH 1A83-A	MICROSWITCHES IN 1A83-A NOT RATED AT 125V
G	PB3	019958	121577	RE	LG	SN	B05	T		D		TESTING REVEALED FAILURE OF RELAY 5A-K26C(LO-LO LV	MISADJ OF CONT PAIR BY MFR - GPBC757
G	QC1	021787	060778	GS	PS	SH	B05	R		D		DRYWL/SUP CHMBR DIGTL DELTA-P INST INOPER	INCOMP INI INSTLATN -Q/C DOCUMTN PROBLEMS
G	QC2	020720*	030278	GS	PG	NN	B05	N		D	2	JET PUMP RISER DP SWS DPIS 2-261-34A&C SENSING LIN	ES INCRCTLY INSTLD-OCCRD DURNG STA CONSTR
G	QC2	025310*	042979	LS	DI	PX	A05	T	C	D	13	MSIV LIMIT SWITCHES FOUND OOC	SET IMPROPERLY AT MANUFACTURER
G	VY1	037331A	0505[illegible]	MO	RR	NN	B05	N	R	D		SAMPLE PUMP AT STATION 1.4 FOUND INOPERABLE	DEFECTIVE WINDINGS
G	VY1	037331B	051381	MO	RR	NN	B05	N	R	D		SAMPLE PUMP AT STATION 1.4 FOUND INOPERABLE	DEFECTIVE WINDINGS

DEFECTIVE PROCEDURES

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	CR3	022710	091578	IN	DG	NN	B06	T		D		RELATIVE POSITION INDICATOR INOPERABLE(GP-7 ROD-8)	PROCEDURE-REACTIMETER TERMINATION TO RPI
B	CR3	032855A	102880	MO	RR	IC	A06	N	I	D		RAD MON-A1 NOT CRRCTLY SAMP RX BLDG ATMOS DUE TO//	MAINT PROC W/ DET REMOV/REPLAC. DFCT PROC
B	DB1	019378	101177	PS	NT	PX	B06	N	S	D		RPS CHANNEL 1 ACCIDENTALLY DEENERGIZED DURING TEST	ERROR IN MAINTENANCE WORK ORDER
B	DB1	030077	010780	SE	DG	NN	B06	N	B	D		CNTRL ROD 5-11 API INOP CAUSE DFCTV REED SW CAUSED	//BY EXCESSV TEMP. DEFECTIVE PROCEDURE
B	DB1	030432	021080	SE	DG	NN	B06	N	B	D		CNTRL ROD 5-11 API INOP DFCTV REED SW CAUSED BY //	HIGH TEMP. MAJOR CAUSE DFCTV PROCEDURES
B	DB1	030867	033080	SE	DG	NN	B06	N	B	D		CNTRL ROD 5-11 API INOP DFCTV REED SW DUE TO HIGH/	/TEMP. MAJOR CAUSE DFCTV PROCEDURES
B	DB1	031416	052880	ZZ	XG	SH	B06	T	C	D		TEST CNNCTN CAUSED DH ISOL VLV TO CLOSE,DH PMP 1-/	/1 TO STOP. PROCEDURAL INADEQUACY
B	DB1	031471	060980	SE	NC	NN	B06	T	C	D		NI-2 NOT COMPLETELY CONNCTD TO NIMBINS EQUIP	LACK OF WRITTEN PROCEDURE ON CRRCT HOOKUP
B	DB1	038238	071781	SE	XG	CT	A06	R	U	D		AFW PUMP DSCHRG VLV SPEED OOC (HIGH)	SPEED ELEMENT PROBE NOT ADJSTD/PROC INADQ
B	OE1	025840B	121578	AM	NT	PX	A06	R	B	D	4	NI POWER INDICATIONS DISCOVERED OUT OF CALIBRATION	DEFECTIVE PROCEDURES
B	OE1	025840C	122678	AM	NT	PX	A06	R	B	D	4	NI POWER INDICATIONS DISCOVERED OUT OF CALIBRATION	DEFECTIVE PROCEDURES
B	OE3	019485	090877	CM	PS	SN	A06	T		U		SHUTDOWN BYPASS TRIP 1726 VICE LESS THAN 1720	TEST PROCEDURE TOLERANCE EXCEEDS TS TOLER
B	OE3	019884	122877	TX	PT	PX	B06	N	U	D		XMTR LEFT VALVED OUT AFTER REPAIR TO TEST TEE	INCORRECT/INCOMPLETE VALVE CHECKLIST
B	TI1	018772	072677	MO	RR	SN	B06	N	R	D		RADIATION MONITOR RM-A2 OOS;R.B. SAMPLE NOT TAKEN	FAILD TO ENSURE O-RING IN PLACE
C	AR2	023486	123078	CA	NT	PX	B06	N		D		UPPER AND LOWER NI LEADS SWAPPED	LEADS INITIALLY INSTALLED BACKWARDS
C	AR2	036443	022481	ZZ	LT	PX	A06	R	C	D		PPS "A" SG HI LVL TRP SETPT LESS CNSRVTV THAN T.S.	DEFICIENCY IN SURVEILLANCE PROCEDURE
C	AR2	037634	061081	MO	RR	NN	A06	N	C	D		CNTRL RM VENT RAD MON 2RITS-8750-1 HI ALRM SETPT//	ERRONEOUS. PROCEDURE TO BE MODIFIED
C	AR2	171777*	112481	CM	XT	PX	B06	T	C	D	4	PENELTY FACTORS NOT CONCIDERED IN SETTING DNBR SE-	-T POINTS. PROCEDURAL DISCREPANCY
C	CC1	019201	092777	ZZ	DC	NN	B06	N		D		CMI DECLARED INOP DUE TO METRASCOPE BEING INOP.	INCORRECT SIZE POTENTIOMETER SPEC. BY TM
C	CC2	036931	040781	MO	RR	NN	B06	M	B	D		APD CABLE TO JUNCTN BOX CNNCTR FAILED	CONDUCTOR STRESS FORMED DURING REPAIR
C	FC1	016667	121476	TX	TT	PX	A06	T		D		B CH COLD LEG TEMP HIGH	CALIBRATION PROCEDURE IN ERROR
C	FC1	031386	052280	MO	RR	NN	A06	M	C	D		STACK IODINE PROCESS MON RMO-60 CAL W/ OUT OF DAT/	/E PROCEDURE. WRNG PROC USED BY HP TECH
C	MI2	019925	121377	ZZ	XG	NN	B06	T		D		SUMP RECIRC ACTUATE SIGNAL DID NOT OCCUR	SRAS BYPASSED PER PROCEDURE
C	MI2	022887	111578	MO	RR	NN	A06	N		D		SFP VENT PART & GAS SETPOINTS EXCEED T.S.	INCORRECT PROCEDURE DID NOT LIST TS LIMIT
C	PA1	021323	041478	CM	FT	PX	A06	T	C	D		CH A LO PRI FLOW WAS 94.6 PCT, TS REQ MIN 95 PCT	CALIB PROCED REQS CHK THAT AFFECTS TRIP
C	PA1	031640*	051080	GS	PS	IC	A06	R	C	D	4	PS-1801 THRU 1804 SET AT LOWER SETPT THAN T.S.	DEFECTIVE PROCEDURE
C	PA1	031954	071080	IN	XG	NN	A06	N	U	D		NI-C3 NOT DCLRD OPERABLE PRIOR TO RX S/U	ADMIN CNTRL MECHANISM (EOR) NOT CLEARED
C	PA1	032156	071980	IN	FG	SN	B06	N	U	D		HSPI FLO TO LOOP 2B (FT-0313) INOP	INSTRMNT EQUALZG VLV NOT CLOSD AFTER CAL
C	SL1	017871	050577	CM	PS	SN	A06	T	S	D		SETPOINT OF BISTABLE TRIP FOR S/G PRESS LT. TS LMT	SETPOINT NOT CHECKED DUE TO ERROR IN PROC
C	SL1	020513*	020378	SE	TT	PX	A06	T	C	D	3	RTD RESPONSE TIMES GT. 5SEC. VALUE SET BY VENDOR	RTD'S MOUNTD IN INST.WELLS--NOT ACCTD FOR
W	BV1	018724*	072877	ZZ	XT	PX	B06	T	C	D	9	NINE PROTECTION CIRCUITS FOUND INOPERABLE	INCORRECT PROCEDURE DAMAGED DIODES
W	BV1	022397	022178	CM	FG	NN	A06	R		D		LOOP 1B COLD LEG LOOP STOP VLV INTER SETPOINT LOW	DEFECTIVE PROCEDURE
W	BV1	036045*	010881	SE	TS	SN	A06	T	U	D	2	RWST RECIRC LINE FROZEN	HEAT TRACE CKT THERMOSTATS IN OFF POS
W	BV1	037353*	052881	MO	RR	NN	A06	M	C	D	2	GASEOUS WASTE PROCESS VENT EFF MON PLACD ON MAINT/	/CLEARANCE. MISSG PROCEDURE STEP IN MSP
W	BV1	038232	071981	GS	XS	SN	A06	M	U	D		B SSPS INOP DUE TO ERRATIC RX TRP & SI SIGNALS	WIRING CHANGE TO OUTPUT RELAY SELECTOR SW
W	DC1	017145	020777	HS	NT	PX	B06	T		D		POWER WAS LOST TO BOTH SOURCE RANGE CHANNELS	PROCEDURE FOR TEST WAS DEFECTIVE(N-31632
W	IP2	019237	083177	IN	DG	NN	A06	N		D		ROD N-5 INDICATED POSITION 13 STEPS HIGH	WRONG CALIBRATION CURVE USED
W	IP2	020743*	022378	TX	PG	SN	A06	N		U	8	NRC NOTIFICATION OF ACCUM LEVEL XMTR CAL PROCEDURE	MODEL 1151DP XMTRS CALIBRATED WRONG
W	JF1	026249*	062379	SE	NT	PX	B06	T	U	D	2	BOTH SOURCE RANGE CHANNELS INADVERTENTLY DEENERGIZ	//ED DURING TEST. DEFECTIVE PROCEDURE
W	JF1	172222A	121581	MO	RR	NN	A06	M	V	D		CNTNMNT PURGE VLV NOT CLOSD WHEN RAD MON R24A INOP	PROCEDURAL INADEQUACY
W	JF1	172222B	121781	MO	RR	NN	A06	M	V	D		CNTNMNT PURGE VLV NOT CLOSD WHEN RAD MON R24A INOP	PROCEDURAL INADEQUACY
W	KE1	015C27	060176	RE	XT	PX	A06	R	R	T		MGT REVIEW OF PROC UV TRIPS LESS CONSERVATIVE	BUS 1-1A TRIP SAME AS T.S. NO TOLERANCE
W	KE1	020424*	020678	TX	PT	PX	A06	R	C	U	4	PZR PRESS READINGS HIGH	PROCEDURE NOT INCLUDING HEAD CORRECTION
W	NA1	021151	041378	CM	PG	SN	A06	T		D		PC-455B RESET PT AT 1998.5 VICE 1990	ERROR IN CALIBRATION PROCEDURE
W	NA1	022571	092778	TX	FT	PX	A06	T		D		RX COOLANT LO-LO FLOW TRIP NON-CONSERVATIVE	XMTR CAL PROCEDURE W/O ELEVATION COMPENSA
W	PR1	026267*	052579	PS	NT	PX	B06	N	U	D	2	BOTH NIS CHANNELS DEENERGIZED AS SAME TIME	PROCEDURE DIDNT STATE HOW MANY
W	PR1	039115	102981	TX	PT	PX	A06	N	C	D		PZR PRESSURE TX 1-PT-431 OBSERVED TO BE 30 PSI LO	APPARENTLY DEFECTIVE PROCEDURES
W	RG1	031056*	050680	GS	PG	NN	A06	T		D	2	DC PWR SW OF LO TEMP OPPS OFF W/NO RCS VENT OPEN	DEFECTIVE PROCEDURES
W	RG1	036825B	040281	MO	RR	NN	B06	N	U	D		RAD MONITOR R-10A NOT PLACED IN SERVICE AFTER FAI-	-LURE OF R-11 & 12. DEFECTIVE PROCEDURES
W	RO2	027652	073179	HS	PG	SN	B06	R	U	D		ON 111279 DISCOVERED THAT A SAFEGUARD TEST SW IN//	B SL HI DP TRAIN LEFT IN TEST. PROCEDURAL

DEFECTIVE PROCEDURES

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPES	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	RO2	031119*	042480	PS	NT	PX	B06	T	U	D	2	SOURCE RNG CHNLS N31 + N32 INADVRTNT DEENERGIZED	OCCURRD DURING PT-PROCEDURE DFCTV PROC
W	SA1	025074	011679	MO	RR	IC	B06	T	U	D		RMS CHANNEL NOT RESET AT RMS(1R11A;	PROCEDURE DIDNT STIPULATE RESETING
W	SE2	171655	110581	PS	NT	PX	B06	N	U	D		THE NIS PR CHANNEL III N-43 WAS INOP	INSTRUM PWR FUSE TO CHANN N-43 WAS PULLED
W	SO1	027654*	101079	CM	PT	PX	A06	R	B	D	2	DISCOVERED TWO CASES WHERE LP PZR TRIP WAS OOT	DEFECTIVE PROCEDURE
W	SO1	037802*	062381	CM	PT	PX	A06	R	B	D	4	LOW PRESSURE TRIP BISTABLES SET 3 LBS LOW	PROCEDURE ERROR
W	SU1	015548*	072176	GS	PG	NN	B06	R	S	D	2	2 PRESS.SW. JUMPERED OUT--CLS CONTNMENT HI SIGNAL	JUMPER LOG NOT REVIEWD AT PROPER TIME
W	SU1	025183*	012479	TX	FT	PX	A06	R	C	D	6	ERROR IN CALIBRATION PROCEDURES DISCOVERED IN STEA	//M FLOW CAL. ALL THREE LOOPS(AB&C) OOC
W	SU1	027331*	132979	MO	RR	NN	A06	T	V	D	2	RADIATION ALARM SETPOINT FOR CCW SYS MONITORS FO//	UND GREATER THAN TWICE BACKGROUND.
W	SU1	037932	070481	TX	LG	AG	006	N	C	D		TRANSMITTER FOR CAT CALIBRATED WITH WRONG DATA	PROCEDURE DIDNT ACCOUNT FOR NAOH
W	SU1	171167	120681	CA	PG	NN	B06	N	C	D		MOV-LCV-1115E DIDNT RESP TO TRNB ONLY SI SIGNAL	IMPROPER WIRING CONNECTION
W	SU2	030545	031080	IN	NG	NN	A06	R		D		DEVIATION FROM ALLOWABLE DELTA FLUX BANDWIDTH	INADEQUACY IN CALIBRATION PROCEDURE
W	TR1	019671*	111777	TX	PS	SN	B06	N	C	D	4	SENSING LINES FOR EACH OF 4 WIDE PRESS INST CAPPED	ALL CHANNELS INOPERABLE FROM 5/77
W	TR1	032816	092480	SE	FT	PX	A06	R	U	D		RX TRP SETPTS INCRRCTLY SET FOR HI STEAM FLOW	ERROR IN PROCEDURES MANUAL
W	TU3	037161*	042081	CM	NT	PX	B06	N	U	D	2	ALL BISTABLES FOR NI N-43 WERE NOT PLACED IN TRI-	-P NI INPUT TO COMPUTER. PROCEDURAL
W	YR1	025460	030379	SE	PS	SN	B06	N	U	D		LOW MAIN COOLANT PRESSURE SENSOR PLACED IN AUTO TO	//SOON. DEFECTIVE PROCEDURES
W	ZI1	032441*	081280	GS	XT	PX	A06	T	U	D	2	RX TRIP SK SET 11 PSIG OFF IN CONSERVATIVE DIRCTN	FAULTY TEST GAUGE USED BY INSTR MECHANICS
G	BF1	039336	110681	MO	RR	IC	A06	N	U	D		D/W AIR SAMPLER HI ALRM SET ABOVE 3X BACKGROUND	SETPT NOT REVISED DOWN AFTER BCKGRD DECRS
G	BF2	022854*	111478	MO	RT	PX	A06	T	C	D	4	M/S LINE RAD MON RM-90-135,136,137,138 SETPOINT HI	INSTRUCTION DEFICIENT IN REQUIREMENTS
G	BF3	023032*	112878	CA	NT	PX	B06	T	C	D	43	ALL 4 LRPM'S OF 43 STRINGS FOUND REVERSE CONNECTED	LACK OF EXPLANATION OF PROPER LPRM CONNEC
G	BR1	016855*	010577	CM	NT	PX	A06	T	B	D	6	HIGH FLUX TRIP FOR APRM'S FOUND TO BE TOO HIGH	DEFECTIVE PROCEDURE
G	BR1	019185	092677	CM	NT	PX	A06	T	B	D		APRM CHANNEL F UPSCALE THERMAL TRIPS BEYOND T/S	RECAL. DONE WITH INADEQUATE PROCEDURE
G	BR1	030197	011480	TX	LS	SN	A06	N	C	D		TORUS LVL IND CAC-LI-3342 OOC LVL XMITTER OUT OF//	TOL. DEFECTIVE PROCEDURE IN CALIBRATION
G	BR1	036704*	031581	GS	PS	IC	B06	R	C	D	2	VAC BRKR ACTUATED OOT (LOW)	DFCTV CAL PROCEDURES FOR C/P SWITCHES
G	BR1	172765*	123181	PS	LS	SD	B06	T	U	D	2	AUTO START AND INJECT OF 1A AND 1B CORE SPRAY SYST	LOSS OF INSTR POWER PROCEDURAL DEFICIENCY
G	BR2	036265A	012081	IN	LG	IC	A06	N	B	D	2	SUPPRESSION POOL LVL EXCEEDED TECH SPEC LIMIT	IMPROPR CAL DATA FOR 2-CAC-LI-2601,-2602
G	BR2	036265B	012381	IN	LG	IC	A06	N	B	D	2	SUPPRESSION POOL LEVEL EXCEEDED TECH SPEC LIMIT	IMPROPER CAL DATA FOR 2-CAC-LI-2601,-2602
G	CO1	017070	010577	GS	PG	SH	A06	T		U		HPCI PS TRIPPED AT LESS THAN REQUIRED PRESSURE	IMPROPERLY CALIBRATED-INACCURATE PROCEEDU
G	CO1	017519	030377	GS	PG	SH	A06	N	S	D		HPCI STEAM LINE ISOLATED WHEN PS VALVED INTO SERVI	PS VALVED INTO SERVICE TOO QUICKLY
G	CU1	021747	052778	MO	RT	PX	A06	N	C	D		MAIN STEAM LINE RAD MONITOR TRIP POINT NOT ADJUSTE	PROCEEDURAL DEFICIENCY FOR SOURCE CALIBRA
G	DA1	015990*	100776	GS	PG	NN	A06	T	C	D	3	RX HI PRESS RECIRC PUMP PS45938,C,D EXCEEDED SETPT	PROCEDURE DEFICIENCY FOR TRIP SETTING
G	DR2	017184*	012877	CN	FT	PX	A06	T	B	D	2	APRM FLOW-BIAS FLOW INDICATION EXCEEDED 100% (A&B)	PROCEDURE FOR TOTAL CORE FLOW IND REVISED
G	DR2	017651*	042577	CN	FT	PX	A06	T	B	D	2	APRM/RBM FLOW BIAS EXCEEDED 100% AT 100% CORE FLOW	APRM/RBM CONVERTERS CALIB TO ORIG SPECS
G	DR2	019910*	122277	CN	FT	PX	A06	N	B	D	2	APRM FLOW BIAS SCRAM & ROD BLOCK SETPOINTS NON-CON	DEFICIENT PROCEDURE
G	DR2	020869*	032778	MO	RT	PX	A06	T	C	D	4	MSL HIGH RAD ISOLATION SETPOINT SET HIGH	TYPOGRAPHICAL ERROR IN PROCEDURE
G	DR3	017181	012877	IN	FG	PX	A06	T		D		APRM FLOW BIAS FLOW INDICATION EXCEEDED 100%	PROCEDURAL DEFICIENCY-TOTAL FLOW ADJUSTM
G	DR3	038981	100581	GS	LG	NN	A06	M	B	D		REC'D EAST BANK/EAST XDCR TROUBLE ALARM	SENSITIVITY SET TOO HI CAUSED DRIFT
G	EN1	014108*	012476	GS	PG	SD	A06	T	B	D	4	CORE SPRAY PUMP DSCHG PRESS INTLK SW SETPOINT WRON	DEFECTIVE PROCEDURES
G	EN1	023189*	121578	GS	PS	SQ	A06	T	B	D	8	HPCI & RCIC TURB EXH DIAPH PRESS SW CAL INCORRECTL	DEFECTIVE PROCEDURES REQUIRED HEAD CORRE
G	EN1	030205	012080	RC	PG	NN	A06	N	U	D		TORUS TO D/W D/P RECORDER 1T48-R631B RDG LOW	DFCTV PROC ALLOWED WTR INTO SENSING LINE
G	EN2	022676*	101178	CM	NT	PX	A06	T	C	U	6	HIGH FLUX SCRAM SETPOINTS SET VERY HIGH	PROCEDURE DID NOT LIST STARTUP SETTING
G	EN2	025273*	020979	TX	FG	NN	A06	T	V	D	2	DRYWELL EQUIP & FLOOR DRAIN SUMPS FLOW XMITTERS //	FOUND SET INCORRECTLY. PROCEDURAL ERROR
G	EN2	025461*	030379	GS	PS	SH	A06	T	B	D	4	HPCI TURBINE EXHAUST DIAPHRAM PRESS INST 2E41-N012	//A-D FOUND OOC. PROCEDURAL ERROR
G	EN2	025989*	051779	IM	FS	SN	A06	N	U	D	2	ISO TRIP SETPOINT OF ALARM UNITS 2G31-K603A&B SET/	/INCORRECTLY. PROCEDURAL ERROR
G	EN2	026640*	071879	TX	FG	CT	A06	N	V	D	2	2C32-N002A&B,FW FLOW TRANSMITTER,FOUND OUT OF CAL	CALIBRATION ERROR, PROCEDURAL ERROR
G	EN2	030765A	032180	GS	PC	NN	A06	T	B	D	2	ALL BUT 6 ACC PRESS SW OOT	DEFECTIVE CALIBRATION PROCEDURES
G	EN2	031319	052180	CL	XG	SQ	B06	N		D		RCIC TRPD ON OVERSPEED IN MAN S/U USED TEST INST//	EAD OF AUTO FLO CNTRLLR. DFCTV PROC
G	EN2	031555	060480	ZZ	XS	SH	A06	N		D		HPCI AUTO ISOL LOGIC "B" INOP	CAL PROCDR HAS TOO CONSERVATIVE SETPOINT
G	FP1	016777	011277	GS	PS	SL	A06	T	U	D		RHR AND LPCI SETPOINTS HIGH UPON INCREASING PRESS,	SETTING MADE ON DECREASING PRESSURE
G	FP1	030316	020580	ZZ	DG	SN	A06	N	U	D		ROD SEQUENCE CNTRL SYS DIDN'T COME INTO SERVICE //	AT EXPECTED PWR LVL. CALIBRTN PROC ERROR
G	FP1	031162*	043080	GS	PS	SL	A06	N	U	D	2	SHUTDOWN COOLING PERMISSIVE SW SET OOT (HIGH)	RESULT OF A PROCEDURE ERROR

DEFECTIVE PROCEDURES

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	FP1	171670	040181	AM	FT	PX	A06	N	C	D		DURING SHUTDWN OP IN SINGLE LOOP CORE FLW TOO HIGH	IMPROPER AMP GAIN SETT NG
G	FP1	171673	082181	MO	RR	NN	B06	N	U	D		ISOL VLVS FOR CONT ATM GAS AND PARTIC MO CLSD 22HR	PROC ERR NOT TO OPEN ISOLATION VALVES
G	FP1	038979	100781	GS	LS	SN	A06	N	U	D		CST LVL SW 23-LIS-75B DAMAGED NEEDED REPAIR	SCREW CAUGHT & DAMAGED WIRE INSULATION
G	MI1	032046	080380	MO	RR	NN	B06	N	U	D		AIR EJCTR OFF-GAS SYS RAD MON INOP SAMP LIN MAN //	STOP VLV CLOSD. VLV NOT ON LINE-UP LIST
G	MO1	021562*	060678	CM	NT	PX	A06	T	C	T	4	4 OF 6 APRM SCRAM SETTINGS 3 TO 4% LOW	BIASED DISTRIB OF LPRMS WITHIN APRM PAGES
G	MO1	022186*	080578	CM	NT	PX	B06	I	B	U	2	1 APRM SETTING 4 TO 5% LOW, 1 BYPASSED	LRG PWR SHAPE CHNG DEFECT PROCEDURES
G	NM1	038144A	063081	MO	RR	SQ	A06	T	C	D	3	3 EMERGENCY COND VENT MONITORS FOUND OUT OF CAL	POSSIBLY DUE TO IMPROPER CALIBRATION PROC
G	NM1	038144B	063081	MO	RR	SQ	B06	T	C	D		EMER CONDENSER MONITOR #122 FOUND OOC HIGH BY	75 MR/HR. IMPROPER CALIBRATION PROCEDURE
G	OC1	021929*	071478	GS	LT	PX	A06	I	C	D	4	FOUR RX WTR SWTCHS USED FOR SCRAM INI LESS CONSV	THAN TS-DEFICIENCIES IN TEST PROCEDURE
G	OC1	027014	082279	CM	NC	SN	A06	R	U	D		ROD BLOCK TRIP FROM SOURCE RANGE TRIP FOUND OOC LO	TRIP SETPOINT TO CLOSE TO TECH SPEC
G	OC1	033850B	051680	ZZ	DC	NN	A06	M	U	D		GREEN-GREEN RPI REMAINED LIT WHEN W/DREW ROD 10-23	PROC IN BYPS OF 2 CNTRL ROD INTERLOCKS
G	PB2	025882	050379	CL	TG	NN	A06	N	U	D		TEMP OF SOLUTION IN SBLCS FOUND OUT OF SPEC	TEMP CONTROLLER SETPOINT SET WRONG
G	QC2	015157	062876	MO	RR	NN	B06	N	S	D		REFUEL FLOOR RAD MON 2B WAS FOUND OUT OF SER GT 24	PROCEDURE INADEQUACY-OUTG RPT QOS 1700-1

APPENDIX F

INSTRUMENTATION AND CONTROL ONE-LINERS SORTED BY SYSTEM

CONTENTS

CODES USED IN LER ONE-LINE DESCRIPTIONS

FAULT MODE

CODE	DESCRIPTION
A	REDUCED CAPABILITY
B	INOPERABLE

FUNCTION

CODE	DESCRIPTION
I	REACTOR TRIP
S	ENGINEERED SAFETY FEATURES ACTUATION
C	REACTOR CONTROL
G	GENERAL CONTROL/INDICATION/ALARM
R	RADIATION DETECTION

PARAMETER

CODE	DESCRIPTION
L	LIQUID LEVEL
N	NUCLEAR (CORE FLUX)
F	FLOW
T	TEMPERATURE
R	RADIATION
P	PRESSURE/VACUUM
D	POSITION
X	OTHER/UNKNOWN

TYPE OF EVENT

CODE	DESCRIPTION
B	RECURRING COMMON CAUSE FAILURE
C	COMMON CAUSE FAILURE
R	RECURRING FAILURE
S	COMMAND FAULT
T	RECURRING COMMAND FAULT
U	COMMON CAUSE COMMAND FAULT
V	RECURRING COMMON CAUSE COMMAND FAULT
BLANK	RANDOM FAILURE

FAULT CAUSE

CODE	DESCRIPTION
00	UNKNOWN
01	PERSONNEL OPERATION
02	PERSONNEL MAINTENANCE
03	PERSONNEL TESTING
04	DESIGN ERROR
05	FABRICATION/CONSTRUCTION/QUALITY CONTROL
06	DEFECTIVE PROCEDURES
07	EXTREME ENVIRONMENT
08	MECHANICAL MALFUNCTION
09	ELECTRICAL MALFUNCTION
11	LEAKING OR BLOCKED INSTRUMENT SENSING LINES
12	DIRTY,BINDING, OR STICKING
13	PIECE PART FAULT
14	DRIFT

COMPONENT

CODE	DESCRIPTION
AM	AMPLIFIER/BUFFER/ISOLATION AMPLIFIER
CA	CABLE/RECEPTACLE/JUNCTION BOX/TERMINAL
CL	CONTROLLER
CM	COMPARATOR (BISTABLE)
CN	CONVERTER/CONDITIONER
GS	GENERAL SWITCH
HS	HAND SWITCH
IM	COMPUTATION MODULE
IN	INDICATOR/METER/ANNUNCIATOR
LM	COMPUTER
LS	LIMIT SWITCH
MO	MONITOR
PS	POWER SUPPLY
RC	RECORDER
RE	RELAY/SOLENOID
SE	SENSOR
TI	TIMER
TR	TRANSFORMER
TX	TRANSMITTER
ZZ	OTHER/UNSPECIFIED

ACTIVITY RESULTING IN DISCOVERY

CODE	DESCRIPTION
N	DURING NORMAL PLANT OPERATION (I.E. OTHER THAN LISTED BELOW)
M	DURING MAINTENANCE
R	DURING RECORDS REVIEW
T	DURING TESTING

NSSS VENDOR

CODE	DESCRIPTION
B	BABCOCK & WILCOX
C	COMBUSTION ENGINEERING
W	WESTINGHOUSE
G	GENERAL ELECTRIC

EVENT CLASSIFICATION

CODE	DESCRIPTION
D	FREQUENCY
T	AGE
U	UNKNOWN

SYSTEM IDENTIFICATION CODES

CODE	DESCRIPTION
SA	AUTOMATIC DEPRESSURIZATION (BWR'S ONLY)
IC	CONTAINMENT (INCLUDES PENETRATION & ISOLATION CONTROL)
SD	LOW PRESSURE CORE SPRAY (LPCS) (BWR'S ONLY)
SF	CONTAINMENT SPRAY INJECTION (CSI)
AG	CHEMICAL VOLUME CONTROL (CVCS) (PWR'S ONLY)
SH	HIGH PRESSURE COOLANT INJECTION (HPCI)
SL	LOW PRESSURE COOLANT INJECTION (LPCI)
SQ	REACTOR CORE ISOLATION COOLING (RCIC) (BWR'S ONLY)
AS	SERVICE WATER
CT	CONDENSATE AND FEED
PX	REACTOR TRIP
NN	ALL OTHERS
SN	OTHER ESF(PARENT SYSTEM NOT IDENTIFIED)

PWR -- CONTAINMENT (INCLUDES PENETRATION AND ISOLATION CONTROL)

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE&CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	CR3	023422	100578	RE	XS	IC	B08	T		D		M RELAY IN ACTUATION CH CABINET 2A WAS STICKING	IMPROPER RELAY ALIGNMENT,CABLE STRESS
B	CR3	023420	121378	RE	XC	IC	B12	T	R	T		PB3-GP-2 LIGHT DID NOT LIGHT WHEN CIRCUIT TESTED	RELAY L IN ES CABINET STUCK,CLEANED
B	CR3	025357	021479	RE	XS	IC	B12	T	R	D		RELAY FAILED	BURR ON RELAY SHAFT
B	CR3	032855A	102880	MO	RR	IC	A06	N	T	D		RAD MON-A1 NOT CRRCTLY SAMP RX BLDG ATMOS DUE TO//	MAINT PROC W/ DET REMOV/REPLAC. DFCT PROC
B	CR3	032855B	102980	MO	RR	IC	A02	N	V	D		RAD MON-A1 NOT CRRCTLY SAMP RX BLDG ATMOS	VALVE MISALIGNMENT PERSONNEL MAINTENANCE
B	CR3	036096	011981	IN	DG	IC	B00	N		U		POSITION INDICATOR FOR CNTNMNT ISO VLV CAV-2 FAIL-	-ED. NO CAUSE FOUND
B	CR3	036510	030181	RE	XS	IC	B12	T	R	U		RX BLDG ISO CH B GROUP 2 RELAY FAILED	BURR FOUND ON RELAY SHAFT
B	CR3	171804A	122181	RE	XS	IC	B13	T	R	U		RELAY 63Z 3D/RB-3(FOR CNTNMNT ISO VLV CFV-27) INOP	COILS & PLUNGER REPLACED
B	CR3	171804B	122181	RE	XS	IC	B13	T	R	U	2	RELAYS 63Z 4D/RB-1 & 2E/RD-3 FOR CNTNMNT ISO VLVS-	-FAILED. COILS AND PLUNGERS REPLACED
B	OE1	025338A	020579	TX	PS	IC	A14	N		T		ES CHANNEL A RX BLDG NARROW RANGE PRESS TRANSMITT/	/ER FOUND OOC. INSTRUMENT DRIFT
B	OE2	025175A	011879	TX	PS	IC	A14	T	R	T		ES CHANNEL C RB NARROW RANGE FOUND OUT OF CAL	INSTRUMENT DRIFT
B	OE2	025175B	012379	TX	PS	IC	A14	T	R	T		ES CHANNEL C RB NARROW RANGE FOUND OUT OF CAL	INSTRUMENT DRIFT
B	OE2	025175C	012979	TX	PS	IC	A13	T	R	T		ES CHANNEL C RB NARROW RANGE FOUND OUT OF CAL	AMPLIFIER REPLACED
B	OE2	025338B	020579	TX	PS	IC	A14	N	R	T		CHANNEL C RX BLDG NARROW RANGE PRESS TRANSMITTER//	FOUND OOC. INSTRUMENT DRIFT
B	TI2	021608	051278	GS	PS	IC	A14	T		T		SETTING OF BS-PS-3260 GT. TECH SPECS	INSTRUMENT DRIFT DURN SURVEILLNC TIME
C	AR2	031377	050780	SE	DS	IC	B08	M	C	D		POSITION SWITCH MISALIGNED	SCREW BACKED OUT LEAVING SW MISALIGNED
C	CC2	027392	100579	IN	PG	IC	B13	T		T		CONTAINMENT PRESSURE SENSOR VOLTAGE METER FAILED	AGING OF METER MOVEMENT WINDINGS
C	CC2	171060	101781	GS	LS	IC	B12	N		T		CONT SUMP LVL ALARM WAS INOPERABLE	PROBABLY DIRT IN LEVEL SWITCH
C	FC1	032471*	080480	MO	RR	IC	A03	N	V	D	2	STACK PRTCLT RMO-61 SETPT SELCTR SW IN WRONG POS	PERS ERR SW NOT RETURND TO POS AFTER TEST
C	PA1	031640*	051080	GS	PS	IC	A06	R	C	D	4	PS-1801 THRU 1804 SET AT LOWER SETPT THAN T.S.	DEFECTIVE PROCEDURE
C	PA1	032486	081180	MO	RR	IC	A07	N	C	T		CV-0437B/38B LIGHTS NOT LIT,PWR SUP FUSES BLOWN	MOISTURE IN JUNCTN BOX CAUSED GROUND
C	PA1	039053	100681	MO	RR	IC	B13	T		U		RAD MON RIA 2316 FAILED	BELIEVED TO BE CABLE CONNECTORS
C	SL1	027971	112379	MO	RR	IC	B13	T	R	T		MB CIS CHANNEL WOULD NOT TRIP ON HIGH RADIATION	FAILED MV/I CONVERTER
C	SL1	030988	032480	AM	TG	IC	B00	N		U		6B2 HEATER FOR SBVS DISCOVERED INOP	DFCTV THERMOCOUPLE AMPLIFIER IN CNTRL CKT
C	SL1	036801	031981	MO	RR	IC	913	N	R	U		HIGH CNTNMT RAD MON CH "B" FOR CNTNMNT ISO FAILED	MODULE POWER SUPPLIES FAILED
C	SL1	038527B	081881	CM	PS	IC	A14	T		T		CH "A" CNTNMNT PRESSURE SET POINT FOR CNTNMNT ISO-	-FOUND OOC. INSTRUMENT DRIFT
C	SL1	172032	122281	CM	RR	IC	A14	N		T		CNTNMNT ISOL CHNL MC HI RAD B/S OOC NON-CONSRVTVLY	INSTRUMENT DRIFT
W	BV1	037636A	060181	TX	LS	IC	B00	N		U	2	"A" CHEMICAL ADDITION TANK LT-QS-101A FAILED LOW	UNKNOWN REASONS
W	BV1	037636B	071081	TX	LS	IC	B00	N		U		"A" CHEMICAL ADDITION TANK LT-QS-101A FAILED LOW	XMTR ELECTRONIC ADJSTD LOOP PWR SUP REPLC
W	DC1	171681	112381	MO	RR	IC	A02	M	U	D		CONT RAD BYPASS VLVS WERE FOUND OPEN	MAINTENANCE PERSONNEL ERROR
W	JF1	027854	120279	CM	PS	IC	B00	N		U		CNTNMNT PRESS HI-1&2 TRIP STATUS LIGHTS FOR ONE //	CHANNEL FOUND ENERGIZED. FAIL COMPARTOR
W	JF1	027914	122079	CA	PS	IC	B12	T		T		CNTNMNT PRESS CHANNEL(PT950) FOUND INOPERABLE	FILM BUILDUP ON CONNECTION
W	KE1	038264	080781	TX	PS	IC	A14	T		T		CNTNMNT PRESSURE TRANSMITTER FOUND OOC LOW	INSTRUMENT DRIFT
W	NA1	025854	041279	PS	PS	IC	B14	T		T		HI-HI CONTAINMENT PRESSURE TRIP FOUND OOC HIGH	EXCESSIVE INST DRIFT IN POWER SUPPLY
W	NA1	027089	080979	CM	PS	IC	B13	N	R	D		CONTAINMENT HI-HI PRESS CH II BECAME INOPERABLE	CARD COMPONENT W-39-1-J WAS HEAT SENSITIV
W	NA1	027087	081479	CM	PS	IC	B13	N	R	U		CNTNMNT INTERMEDIATE HI HI PRESS CH II BISTABLE //	FAILED IN TRIP POS. FAILED CAPACITOR
W	NA1	027086	091179	CM	PS	IC	B13	N	R	U		CNTNMNT HI-HI PRESS CH I BISTABLE FAILED	BAD SIGNAL COMPARATOR CARD
W	NA1	027258	091879	SE	FS	IC	B07	N	C	D		CNTNMNT SUMP FLOW INTEGRATOR FTO-DA115 FAILED	PIECE OF RUBBER GLOVE FOUND IN INTERNALS
W	NA1	031C45	120779	PS	LS	IC	B13	N		U		CASING COOLING TNK LVL IND LI-RS103A OOC	DFCTV ZENER DIODE IN LOOP'S PWR SUP CARD
W	NA1	030111	011180	TX	LS	IC	A02	M	B	D		CASING COOLG TNK LT-RS103A REMOVD MOV-RS100A INOP	CNSTRCTN PERS REMOVD LT FOR DESIGN CHANGE
W	NA1	030333	012980	TX	LS	IC	B02	N	B	D		"B" CASING COOLING SUBSYS INOP LT-RS103B DISCNNCTD	//FOR DESIGN CHANGE. CNSTRCTN PERS ERROR
W	NA1	033433	120780	CM	PS	IC	B00	N		U		CNTNMNT HI-HI PRESS ALARM REC'D	SIG COMPARATOR CRD FAILED OUT (LOW)
W	NA2	033020	102580	IM	FS	IC	B12	N		T		CONT SUMP FLO INTEGRTR FTO-DA215 STOP TOTALZNG FLO	FOREIGN MAT'L IN INTEGRATOR MECHANISM
W	NA2	033338	112780	CL	PG	IC	B00	N		U		CONTAINMENT PRESSURE CHNL III FAILED HIGH	DEFECTIVE CARD IN THE CIRCUIT
W	NA2	033622A	122080	TX	LS	IC	B02	N	B	D	3	RWST LVL XMITTERS LT-QS-200B,C,D FROZEN	IMPROP ADJST HEAT TRACING CKT SETPT POTS
W	NA2	033622B	122080	TX	LS	IC	B07	N	B	T	3	RWST LVL XMITTERS LT-QS-200B,C,D FROZEN	COLD OUTSIDE TEMPERATURES
W	NA2	036120	012181	PS	PS	IC	B13	N	R	U		CNTNMNT PRESSURE PROTECTION CH III FAILED LOW	FAILED POWER SUPPLY CARD
W	NA2	036242	012681	PS	PS	IC	B13	N	R	U		CNTNMNT PRESSURE, CH III, FAILED HIGH	FAILED POWER SUPPLY CARD
W	PR1	030697	031180	GS	PS	IC	A14	T		T		#11 CNTNMNT VAC BRKR ISOL VLV OPENED OOT (HIGH)	DRIFT IN O/P SWITCH
W	SA1	025074	011679	MO	RR	IC	B06	T	U	D		RMS CHANNEL NOT RESET AT RMS(1R11A)	PROCEDURE DIDNT STIPULATE RESETING

The remainder of Appendix F is provided on microfiche.

APPENDIX G

INSTRUMENTATION AND CONTROL ONE-LINERS SORTED BY TYPE OF EVENT

CONTENTS

CODES USED IN LER ONE-LINE DESCRIPTIONS

FAULT MODE

CODE	DESCRIPTION
A	REDUCED CAPABILITY
B	INOPERABLE

FUNCTION

CODE	DESCRIPTION
I	REACTOR TRIP
S	ENGINEERED SAFETY FEATURES ACTUATION
C	REACTOR CONTROL
G	GENERAL CONTROL/INDICATION/ALARM
R	RADIATION DETECTION

PARAMETER

CODE	DESCRIPTION
L	LIQUID LEVEL
N	NUCLEAR (CORE FLUX)
F	FLOW
T	TEMPERATURE
R	RADIATION
P	PRESSURE/VACUUM
D	POSITION
X	OTHER/UNKNOWN

TYPE OF EVENT

CODE	DESCRIPTION
B	RECURRING COMMON CAUSE FAILURE
C	COMMON CAUSE FAILURE
R	RECURRING FAILURE
S	COMMAND FAULT
T	RECURRING COMMAND FAULT
U	COMMON CAUSE COMMAND FAULT
V	RECURRING COMMON CAUSE COMMAND FAULT
BLANK	RANDOM FAILURE

FAULT CAUSE

CODE	DESCRIPTION
00	UNKNOWN
01	PERSONNEL OPERATION
02	PERSONNEL MAINTENANCE
03	PERSONNEL TESTING
04	DESIGN ERROR
05	FABRICATION/CONSTRUCTION/QUALITY CONTROL
06	DEFECTIVE PROCEDURES
07	EXTREME ENVIRONMENT
08	MECHANICAL MALFUNCTION
09	ELECTRICAL MALFUNCTION
11	LEAKING OR BLOCKED INSTRUMENT SENSING LINES
12	DIRTY,BINDING, OR STICKING
13	PIECE PART FAULT
14	DRIFT

COMPONENT

CODE	DESCRIPTION
AM	AMPLIFIER/BUFFER/ISOLATION AMPLIFIER
CA	CABLE/RECEPTACLE/JUNCTION BOX/TERMINAL
CL	CONTROLLER
CM	COMPARATOR (BISTABLE)
CN	CONVERTER/CONDITIONER
GS	GENERAL SWITCH
HS	HAND SWITCH
IM	COMPUTATION MODULE
IN	INDICATOR/METER/ANNUNCIATOR
LM	COMPUTER
LS	LIMIT SWITCH
MO	MONITOR
PS	POWER SUPPLY
RC	RECORDER
RE	RELAY/SOLENOID
SE	SENSOR
TI	TIMER
TR	TRANSFORMER
TX	TRANSMITTER
ZZ	OTHER/UNSPECIFIED

ACTIVITY RESULTING IN DISCOVERY

CODE	DESCRIPTION
N	DURING NORMAL PLANT OPERATION (I.E. OTHER THAN LISTED BELOW)
M	DURING MAINTENANCE
R	DURING RECORDS REVIEW
T	DURING TESTING

NSSS VENDOR

CODE	DESCRIPTION
B	BABCOCK & WILCOX
C	COMBUSTION ENGINEERING
W	WESTINGHOUSE
G	GENERAL ELECTRIC

EVENT CLASSIFICATION

CODE	DESCRIPTION
D	FREQUENCY
T	AGE
U	UNKNOWN

SYSTEM IDENTIFICATION CODES

CODE	DESCRIPTION
SA	AUTOMATIC DEPRESSURIZATION (BWR'S ONLY)
IC	CONTAINMENT (INCLUDES PENETRATION & ISOLATION CONTROL)
SD	LOW PRESSURE CORE SPRAY (LPCS) (BWR'S ONLY)
SF	CONTAINMENT SPRAY INJECTION (CSI)
AG	CHEMICAL VOLUME CONTROL (CVCS) (PWR'S ONLY)
SH	HIGH PRESSURE COOLANT INJECTION (HPCI)
SL	LOW PRESSURE COOLANT INJECTION (LPCI)
SQ	REACTOR CORE ISOLATION COOLING (RCIC) (BWR'S ONLY)
AS	SERVICE WATER
CT	CONDENSATE AND FEED
PX	REACTOR TRIP
NH	ALL OTHERS
SN	OTHER ESF(PARENT SYSTEM NOT IDENTIFIED)

RECURRING COMMON CAUSE FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	CR3	031470*	060980	AM	NT	PX	A13	T	6	U	2	"A" SOURCE RNG NEUTRON FLUX MON COUNT RATE AMP OOC	DEFCTV PULSE AMP & OUTPUT STAGE AMP CARDS
B	DB1	019527*	102477	MO	RR	SN	A05	N	B	U	3	ERRATIC READINGS SFAS CH 3 CONTAINMENT RADIATION	DESIGN/FAB ERROR IMPROPER GROUND ISOLATIO
B	DB1	019638*	110777	MO	RR	SN	A05	N	B	T	2	SFAS CH 3 RIS 2006 SPIKED,RESET & WAS TRIPPED MANU	IMPROPER ISOLATION BETWEEN INST &STA GROU
B	DB1	023013	111078	CM	LG	SN	B13	T	B	T		BWST LOW LEVEL TRIP SETPOINT OUT OF TOLERANCE	BISTABLE SETPOINT DRIFT-DUE TO TEST POTEN
B	DB1	023594*	121578	MO	RR	NN	B04	T	B	D	10	SER.WTR.OUT RAD MONITOR RE8432 INOPER. ON 10 DAYS	DESIGN ERROR-FLOW SWITCH STICKS IF D/P LO
B	DB1	026808	010479	MO	RR	NN	B04	T	B	D		RE8432 ON SERVICE WATER HEADER HAD NO FLOW	SYSTEM DP INSUFFICIENT DUE TO DESIGN
B	DB1	025059A	010679	CM	LS	SN	A13	T	B	D		BWST LEVEL BISTABLE FOUND OUT OF CALIBRATION	NOISY CONSTANT CURRENT TEST POTENTIOMETER
B	DB1	025390	021779	TX	LS	SN	B11	N	B	D		CHANNEL 1 BWST LEVEL XMITTER PLACED IN TRIPPED POS	FROZEN SENSING LINES,INADEQUATE INSULATIO
B	DB1	025601A	033079	CM	LS	SN	A13	T	B	D		BWST LEVEL BISTABLE FOUND OUT OF CALIBRATION	NOISY CONSTANT CURRENT POTENTIOMETER
B	DB1	030077	010780	SE	DG	NN	B06	N	B	D		CNTRL ROD 5-11 API INOP CAUSE DFCTV REED SW CAUSED	//BY EXCESSV TEMP. DEFECTIVE PROCEDURE
B	DB1	030432	021080	SE	DG	NN	B06	N	B	D		CNTRL ROD 5-11 API INOP DFCTV REED SW CAUSED BY //	HIGH TEMP. MAJOR CAUSE DFCTV PROCEDURES
B	DB1	030434	021780	TX	LS	SN	B04	N	B	D		SFAS CHNL 3 BWST HIGH LVL IND DECLRD INOP	COLD WEATHER FROZE XMITR LT1525C SENS LIN
B	DB1	030457A	022680	TX	LS	SN	B04	N	B	D		SFAS CHNL 3 BWST HIGH LVL IND DECLRD INOP	INADEQUATE DESIGN OF FREEZE PROTECTION
B	DB1	030457B	022980	TX	LS	SN	B04	N	B	D		SFAS CHNL 3 BWST HIGH LVL IND DECLRD INOP	INADEQUATE DESIGN OF FREEZE PROTECTION
B	DB1	030867	033080	SE	DG	NN	B06	N	B	D		CNTRL ROD 5-11 API INOP DFCTV REED SW DUE TO HIGH/	/TEMP. MAJOR CAUSE DFCTV PROCEDURES
B	OE1	025840B	121578	AM	NT	PX	A06	R	B	D	4	NI POWER INDICATIONS DISCOVERED OUT OF CALIBRATION	DEFECTIVE PROCEDURES
B	OE1	025840C	122678	AM	NT	PX	A06	R	B	D	4	NI POWER INDICATIONS DISCOVERED OUT OF CALIBRATION	DEFECTIVE PROCEDURES
B	OE1	027537*	101079	AM	NT	PX	A01	N	B	D	4	NI POWER INDICATIONS DISCOVERED OUT OF CALIBRATION	PERSONNEL ERROR
B	OE3	025840A	071878	AM	NT	PX	A01	R	B	D	4	NI POWER INDICATIONS DISCOVERED OUT OF CALIBRATION	PERSONNEL DID NOT FOLLOW PROCEDURES
C	AR2	033378	120580	TX	LS	SN	A07	N	B	D		ALL ESFAS RWT INSTRUMENTATION CHNLS INOP	FUSE REMOVED CAUSED FROZEN RWT LVL XMITTR
C	AR2	036382*	021181	TX	LG	NN	A07	M	B	I	2	RWT LVL CH A,B (2LI-5636-1,-5637-2) OOT	FRO. N RWT LVL XMTR SENSING LINES
C	CC2	028086	122879	MO	RR	NN	B02	N	B	D		CNTNMNT GASEOUS MONITOR DISCOVERED FAILED	DETECTOR CABLE CONNECTOR WAS LOOSE,INAD.
C	CC2	033158A	110180	MO	RR	NN	B05	N	B	D		CNTNMNT ATMOS PARTICULATE MON INOP	IMPROPER CRIMPING OF CABLE LEADS
C	CC2	033158B	110780	MO	RR	NN	B05	N	B	D		CNTNMNT ATMOS PARTICULATE MON INOP	IMPROPER CRIMPING OF CABLE LEADS
C	CC2	033708	122680	MO	RR	NN	B02	N	B	D		APD INOP APD JUNCTION BOX CNNCTR FAILED HI INDCTN	NORMAL WEAR FRM PREVENT/CORRECT MAINT
C	CC2	036931	040781	MO	RR	NN	B06	M	B	D		APD CABLE TO JUNCTN BOX CNNCTR FAILED	CONDUCTOR STRESS FORMED DURING REPAIR
C	FC1	015615*	090176	MO	RR	NN	A03	T	B	D	2	STM GEN BLOWDOWN MONITORS SETPOINTS HIGH	WRONG COPY OF PROCESS MON SETPOINTS USED
C	MI2	032773	093080	CA	NT	PX	B02	N	B	D		WIDE RANGE NI CHANNEL INOP	ELECTRICIANS LIFTED NI SIGNAL LEADS
C	MI2	033062*	102380	CA	NT	PX	B04	T	B	D	2	D-RPS HI PWR, LOCAL PWR DENSITY & TM/LP TRPS INOP	REVERSED UPPER & LOWER DET SIG CABLES
W	DC2	021412*	032278	CN	DC	NN	A14	N	B	T	4	POSITION INDICATION EXCEEDED STEP LIMIT (D-12)	SIGNAL CONDITIONING MODULE ADJUSTED
W	DC2	021425*	050778	CA	DC	NN	B13	M	B	U	22	RPI EXCEEDED STEP LIMIT 22 TIMES IN 12 DAYS(D-8)	SHORTS IN CONNECTOR ON REACTOR HEAD
W	DC2	021392*	051178	LS	DT	PX	B13	T	B	T	2	MAIN TURBINE STOP VALVE D LIMIT SWITCH INOPERABLE	SEVERE VIBRATION OF MOUNTING BRACKETS
W	DC2	022697*	100578	LS	DT	PX	B13	T	B	T	2	MAIN TURBINE STOP VALVES C&D LIMIT SWITCHES INOPER	EXCESSIVE VIBRATION OF STOP VALVES
W	DC2	027762*	111979	SE	NT	PX	B07	M	B	D	2	SOURCE RANGE NEUTRON MON N-31 ERRATIC. DISCOVERED/	/BOTH DETECTORS & CABLES SOAKED
W	NA1	030111	011180	TX	LS	IC	A02	M	B	D		CASING COOLG TNK LT-RS103A REMOVD MOV-RS100A INOP	CNSTRCTN PERS REMOVD LT FOR DESIGN CHANGE
W	NA1	030333	012980	TX	LS	IC	B02	N	B	D		"B" CASING COOLING SUBSYS INOP LT-RS103B DISCNNCTD	//FOR DESIGN CHANGE. CNSTRCTN PERS ERROR
W	NA1	032861	101180	TX	LS	SN	A02	M	B	D		PZR LVL IND FROM LT-1461 OSCILLATING DECLRD INOP	INSTR TECH SECURG REF LEG ASSOC W/ XMITR
W	NA2	033122A	102780	IN	DG	NN	A14	N	B	T		RPI FOR ROD CLUSTER J3 DIFF FRM DEMND POS MORE T//	HAN 12 STEPS. TEMP CHNG CAUSD INSTR DRFT
W	NA2	033122B	102880	IN	DG	NN	A14	N	B	T		RPI FOR ROD CLUSTER J3 DIFF FRM DEMND POS MORE T//	HAN 12 STEPS. TEMP CHNG CAUSD INSTR DRFT
W	NA2	033122C	102980	IN	DG	NN	A14	N	B	T		ROD CLUSTER J3 RPI DIFF FRM DEMND POS MORE THAN //	12 STEPS. TEMP CHNG CAUSD INSTRUMNT DRFT
W	NA2	033622A	122080	TX	LS	IC	B02	N	B	D	3	RWST LVL XMITTERS LT-QS-200B,C,D FROZEN	IMPROP ADJST HEAT TRACING CKT SETPT POTS
W	NA2	033622B	122080	TX	LS	IC	B07	N	B	I	3	RWST LVL XMITTERS LT-QS-200B,C,D FROZEN	COLD OUTSIDE TEMPERATURES
W	NA2	037729	010481	TX	LG	NN	B07	N	B	D		LI-RS-203B(CASING COOL TANK LEVEL)FAILED HIGH	TX HEAT TAPE FAILED AND TX FROZE
W	NA2	038407A	081481	CM	NT	PX	A02	N	B	D	2	LOW AND HI RANGE OVERPOWER RX TRIP SETPOINTS FOR-	-CH N-41 FOUND OOC. APPARENTLY PERSONNEL
W	NA2	038407B	081481	CM	NG	PX	A02	N	B	D	2	P-8 & P10 PERMISSIVES FOUND OUT OF CALIBRATION	APPARENTLY PERSONNEL MAINTENANCE
W	PR1	014276	030176	RE	XS	SN	B08	T	B	U		A SAFETY INJ RELAY FLD TO LATCH AFTER ACTUATION	INCRCT TOLRNCE BTWN ARMATURE & ELEC POLE
W	PR2	014704	041576	RE	XS	SN	B08	T	B	U		A SAFETY INJ RELAY FLD TO LATCH AFTER ACTUATION	INCRCT TOLNCE BTW ARMTUR & ELEC-MAG POLE
W	PR2	171640B	111881	CM	PS	SN	A09	T	B	D	2	PRESSURIZER PRESS BISTABLES 2-PC-431G AND I DRFTED	LOOSE ELECTRICAL LEADS TO THE UNIT
W	PR2	171640C	121881	CM	PS	SN	A09	T	B	D	2	PRESSURIZER PRESS BISTABLES 2PC-431G AND I DRFTED	LOOSE ELECTRICAL LEADS TO THE UNIT
W	PT1	016682	122976	TX	PS	SN	B07	N	B	T		STM LINE PRESS INST 1PT-478 READ DIFF FROM OTHERS	FROZEN POINT IN THE SENSING LINE-611GM051

RECURRING COMMON CAUSE FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	PT1	019946	121177	TX	PS	SN	B07	N	B	T		STM LINE PRESS INST 1PT-478 HAD FROZEN SNSING LINE	GAP IN SNSG LINE INSULATION - 611GM - D51
W	PT1	172239	121981	TX	PS	SN	B05	N	B	D		S/G PRESS INSTR 1PT-482 SENSING LINE FROZEN	POOR INSULATION AND COLD TEMPERATURE
W	RG1	014168*	020776	RE	XG	SN	B05	T	B	D	2	MG-6 RELAYS IN "A" SFGDS TRAIN WOULD NOT LATCH PRP	IMPRPR FACTRY LTCH SCREW ADJ-2096363A11
W	SA1	018332*	070677	TX	PS	SN	B07	N	B	D	2	#12 S/G PRESS XMTRS IN CHNLS I & II FAILED	SEVERE ELEC STORM CSD BK SHNT EMF DIOD FL
W	SA1	031540*	060880	TX	PT	PX	B07	N	B	U	2	TRANSIENT ON MSL PRESS XMITTER,CAUSED TRIP AND SI	LIGHTNING STRIKE
W	SA1	036503*	022781	TX	LG	AG	B11	N	B	D	2	LEVEL INDICATION WAS LOST FOR BAT'S 11 AND 12	SENSING LINES CLOGGED WITH BORIC ACID
W	SA2	170206*	090381	TX	FT	PX	B07	R	B	D	2	NO 21 STM FLW CHNN 1 AND 2 OUT OF CALIBRATION	EXCESSIVE CARRYOVER FROM STEAM GENERATOR
W	SE1	032343	061380	TX	PG	NN	B04	N	B	D		REMOTE S/D MONITORING CHNL L-68-312C FOUND INOP	WTR IN LP SENSG LINE OF TRANSMITTER
W	SE1	033727A	122580	TX	PG	NN	B04	N	B	D		SG-3 "A" STEAMLINE PRESSURE CHANNEL FAILED HIGH	UNPROTECTED SENSING LINES FROZE
W	SE1	033727B	122580	TX	FG	NN	B04	N	B	D		SG-3 "A" FLOW CHANNEL FAILED HIGH	UNPROTECTED SENSING LINES FROZE
W	SE1	033727C	122580	TX	FG	NN	B04	N	B	D	3	SG-1,2,4 "B" FEEDWATER FLOW CHANNELS FAILED LOW	UNPROTECTED SENSING LINES FROZE
W	SE1	036220A	010581	TX	FT	PX	B04	N	B	D		FEEDWATER FLOW CHANNEL F-3-35B(S/G #3) FAILED LOW	INADEQUATELY PROTECTED SENSING LINE FROZE
W	SE1	036075	011281	TX	LS	SN	B04	N	B	D		RWST LEVEL CHANNEL L-63-53 FAILED	SENSING LINE FROZE, INSULATION INSUF
W	SE1	036220B	011281	TX	FT	PX	B04	N	B	D		FEEDWATER FLOW CHANNEL F-3-90B(S/G #1) FAILED LOW	INADEQUATELY PROTECTED SENSING LINE FROZE
W	SE1	036799A	032381	TX	LT	PX	B04	N	B	D	3	PZR LEVEL CH 1-L-68-339,325C,& 1-L-326C FAILED	MODIFICATION TO CONDENSATE RESERVOIR
W	SE1	036799B	040281	TX	LT	PX	B04	N	B	D		PZR LEVEL CH 1-L-68-339 DECLARED INOPERABLE	MODIFICATION TO CONDENSATE RESERVOIR
W	SE1	036799C	041781	TX	LT	PX	B04	N	B	D	2	PZR LEVEL CH 1-LI-58-325C & 326C DECLARED INOP	MODIFICATION TO CONDENSATE RESERVOIR
W	SE1	038630A	090581	MO	RR	NN	B05	N	B	D		AUX BLDG VENT RAD MON RM-90-101B ALARMED HIGH	INCORRECT HI-RAD RELAY INSTALLED
W	SE1	038630B	092081	MO	RR	NN	B05	N	B	D		AUX BLDG VENT RAD MON RM-90-101B ALARMED HIGH	INCORRECT HI-RAD RELAY INSTALLED
W	SE1	038630C	092381	MO	RR	NN	B05	N	B	D		AUX BLDG RAD MON RM-90-101B ALARMED HIGH	INCORRECT HI-RAD RELAY INSTALLED
W	SE1	172068	121981	CA	LG	NN	B02	M	B	D		RWST LVL XMTR 1-LT-63-50 INOPERABLE	CABLES DAMAGED DUE TO MAINTENANCE ERROR
W	SO1	027654*	101079	CM	PT	PX	A06	R	B	D	2	DISCOVERED TWO CASES WHERE LP PZR TRIP WAS OOT	DEFECTIVE PROCEDURE
W	SO1	037802*	062381	CM	PT	PX	A06	R	B	D	4	LOW PRESSURE TRIP BISTABLES SET 3 LBS LOW	PROCEDURE ERROR
W	SU1	038773	091281	TX	FG	NN	B07	N	B	D		"C" STEAM FLOW TRANSMITTER FT-1495 FAILED	WATER COLLECTED IN AND SHORTED OUT TX
W	SU1	038774	092081	TX	FG	NN	B07	N	B	D		"C" S/G STEAM FLOW TRANSMITTER FI-1494 FAILED	MOISTURE COLLECTED INSIDE TRANSMITTER
W	SU1	039341	110881	MO	RR	NN	B07	T	B	D		RECIRC SPRAY HX SW RAD MON PUMP SW-P-5A FAILED	SEDIMENT IN PUMPS INTERNALS
W	SU2	037851	062681	MO	RR	NN	B07	N	B	T		INSIDE RECIRC SPRAY HX SERVICE WTR RAD MON 2-SW-P-	--5B PUMP FAILED. WTR HAD HARDENED
W	SU2	038856*	092481	MO	RR	NN	B07	N	B	D	3	SW RAD MON PUMPS SW-P-5A,C & D FAILED AFTER DESIGN	--CHANGE. SEDIMENT ACCUMULATION
G	BF1	032457	082080	MO	RR	NN	B02	N	B	D		CAM-1-RM-90-249 OF TURB BLDG ROOF VENT OOS TOO LON	//G. MAINT & REPAIR PERS ERROR
G	BF1	172770*	121181	GS	LG	NN	A01	N	B	D	2	HPCI SUPPR CHAM H-LVL SWITCHES SET TOO HIGH	ADMINISTRATIVE ERROR
G	BF2	033639*	121580	GS	PS	SN	A14	N	B	T	3	MAIN STM LINE LP PS-1-76, -82, -86 OOC	MODEL B2TA12SS SW SETPOINTS HAD DRIFTED
G	BF2	172774*	121181	GS	LG	NN	A01	N	B	D	2	HPCI SUPPR CHAMBER H-LVL SWITCHES SET TOO HIGH	ADMINISTRATIVE ERROR
G	BR1	016855*	010577	CM	NT	PX	A06	T	B	D	6	HIGH FLUX TRIP FOR APRM'S FOUND TO BE TOO HIGH	DEFECTIVE PROCEDURE
G	BR1	019185	092677	CM	NI	PX	A06	T	B	D		APRM CHANNEL F UPSCALE THERMAL TRIPS BEYOND T/S	RECAL. DONE WITH INADEQUATE PROCEDURE
G	BR1	020506	020578	MO	RR	NN	A02	T	B	D		RX BLDG VENT RAD MON SETPOINT FOUND SET TO HIGH	ADJUST FOUND ON MECH STOP,ID D12-RM-N010B
G	BR1	028035	121879	GS	LS	SN	A02	T	B	D		RX VESSEL LEVEL CH SW #1 ON 1-B21-LITS-N037 OOC	MAY HAVE BEEN BUMPED BY SCAFFOLDING
G	BR1	028031*	122579	MO	RR	NN	B07	N	B	D	2	CNTNMNT ATMOS MON'S CAC-AQH-1261 & 1263,CH 263 FA/	/ILED DOWNSCALE. CONDENSATE IN CABINETS
G	BR1	031746*	070180	CA	NT	PX	B02	M	B	D	2	APRM'S B & F INOP LPRM CONNCTRS PULLED LOOSE	PERSONNEL ERROR DURING CRD REPLACEMENT
G	BR1	033316	112280	IN	FG	SL	B02	M	B	D		RHR FLO IND 1-E11-FI-3338 LOADS SIG CNVRTR INCRR//	CTLY FLO IND MOVMNT REPLCD. PERS ERROR
G	BR1	169949	100481	TX	LG	NN	A04	N	B	D		IND XMTR 2CAC-LT-3342 OUT OF CALIBRATION	CHNG IN TRCKL FLOW TO WET REFRNC LEG XMTR
G	BR1	171928A	120581	TX	LG	NN	A04	T	B	D		SUPPRESSION CHAMBER WTR LVL TX 1-CAC-LT-2602 READ-	-5" LOW. TRICKLE FLOW DESIGN ERROR
G	BR1	171928B	120881	TX	LG	NN	A04	N	B	D		SUPPRESSION CHAMBER WTR LVL TX 1-CAC-LT-2602 READ-	-3" LOW. TRICKLE FLOW DESIGN ERROR
G	BR1	171928C	121081	TX	LG	NN	A04	N	B	D		SUPPRESSION CHAMBER WTR LVL TX 1-CAC-LT-2602 READ-	-2.5" LOW. TRICKLE FLOW DESIGN ERROR
G	BR2	020204B	122577	TX	LS	IC	A02	T	B	D		TORUS LEVEL FOUND OUT OF T/S LIMITS FOLLOWING CAL.	REF LEG FOR CAC-LT-2602 PARTIALLY DRAINED
G	BR2	020168	010278	MO	RT	PX	A02	T	B	D		MAIN STEAM LINE RAD MON D12-RM-K603 READ DOWNSCALE	PREVIOUS CALIBRATION PERFORM WRONG
G	BR2	026629A	073179	TX	LG	NN	B04	N	B	D		CAC-LT-3342 HAD IMPROPER CALIBRATION RANGE DUE TO	ELEVATION OF TRANSMITTER. DESIGN
G	BR2	026629B	073179	TX	LG	NN	B04	M	B	D	2	CAC-LT-2601&2602 DISCOVERED OOC. FLAT RUNS IN //	SENSING LINES TRAPPS AIR
G	BR2	030314	020180	TX	LG	NN	A02	N	B	D		SUPPRSSN POOL LVL IND CAC-LT-2601 RDG HI OFFSCALE	LVL XMITTR DISLOCATED CNSTRCTN PERS ERR
G	BR2	031091B	042480	CA	NT	PX	B02	M	B	D		IRM E FAILED DOWNSCALE	CONNECTOR DAMAGE CONTRCT/CONSULT PERSONL
G	BR2	031091C	042880	CA	NT	PX	B02	M	B	D		IRM C FAILED	CABLE DAMAGE CONTRCT/CONSULT PERSONNEL

RECURRING COMMON CAUSE FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	BR2	031174A	050280	CA	NT	PX	B02	M	B	D		IRM "B" CABLE SEPERATED FROM ITS CONNECTOR	CONTRACT/CONSULT PERSONNEL ERROR
G	BR2	036265A	012C81	IN	LG	IC	A06	N	B	D	2	SUPPRESSION POOL LVL EXCEEDED TECH SPEC LIMIT	IMPROPR CAL DATA FOR 2-CAC-LI-2601,-2602
G	BR2	036265B	012381	IN	LG	IC	A06	N	B	D	2	SUPPRESSION POOL LEVEL EXCEEDED TECH SPEC LIMIT	IMPROPER CAL DATA FOR 2-CAC-LI-2601,-2602
G	BR2	038491A	081781	TX	LG	NN	A04	N	B	D		SUPPRESSION CHAMBER WTR LVL IND READING OOC	EXACT CAUSE NOT STATED MODIF REQUESTED
G	BR2	038491B	082081	TX	LG	NN	A04	N	B	D		SUPPRESSION CHAMBER WTR LVL IND READING OOC	EXACT CAUSE NOT STATED MODIF REQUESTED
G	BR2	038491C	082381	TX	LG	NN	A04	N	B	D		SUPPRESSION CHAMBER WTR LVL IND READING OOC	EXACT CAUSE NOT STATED MODIF REQUESTED
G	BR2	038398	082781	GS	TS	SH	B02	M	B	D		HPCI STM LINE AREA D/T SW WOULD NOT CALIBRATE	FAILURE TO PROPERLY FOLLOW CAL PROCEDURE
G	BR2	038489	082881	GS	TS	SH	B02	M	B	D		HPCI ISOLATED HAD REC'D HPCI ISOL TRP SIG "A"	TECH REMOVED TEMP SW THERMOCOUPLE LEADS
G	BR2	038692	090981	TX	LG	NN	A04	N	B	D		SUP CHMBR WTR LVL RECORDER 2-CAC-LT-2602 RDG OOC	CHANGE IN TRICKLE FLO TO XMTR WET REF LEG
G	BR2	038913	100481	TX	LG	NN	A04	N	B	D		SUP CHMBR WTR LVL IND 2-CAC-LT-3342 RDG OOC	CHANGE IN TRICKLE FLO TO XMTR WET REF LEG
G	BR2	039366	111881	TX	LG	NN	A04	M	B	D		SUPPRESSION CHAMBER WTR LI-2601-3 IND BELOW ACTUAL	CHANGE IN TRICKLE FLO TO XMTR WET REF LEG
G	BR2	172064*	122081	GS	PS	SQ	B07	T	B	T	2	RCIC TURB EXHST DIAPHRAGM INSTR 2-E51-PS-N012A,C//	DIDN'T ACTUATE. CORROSN FROM MOIST ACCUM
G	CO1	015357	070776	GS	PS	SQ	B05	T	B	U		EXCEEDED RCIC-DPIS SETPOINT CAUSING GROUP 5 ISOLAT	AIR ENTERED INSTRUMENT DURING INSTALLATIO
G	CO1	016713	111676	GS	PI	PX	B02	M	B	U		DURING STARTUP PRESSURE SWITCH TRIP CAUSED RPS TRI	PRESSURE SWITCH LEFT ISOLATED AFTER SURVE
G	CO1	019286	092377	CA	NT	PX	A02	M	B	D		SRM WAS READING HIGH AND ERRATIC DURING REFUELING	BREAK IN OUTER SHIELD OF TRIAXIAL CABLE
G	CO1	020047	120277	GS	PS	SN	A14	T	B	D		PC PRESSURE SWITCH DRIFTED OUT OF LIMITS	EXTENDED OUTAGE CAUSED BELLOWS PRESS SET
G	CO1	020806	020778	GS	PG	SH	B03	T	B	D		HPCI DPIS DID NOT CLOSE ASSOCIATED ISOLATION VALVE	DPIS ISOLATION VALVE FOUND CLOSED(LOW SI)
G	CO1	021197	040878	CA	NT	PX	A02	M	B	D		SRM WOULD NOT RESPOND PROPERLY DURING REFUELING	BREAK IN SHIELD OF TRIAXIAL CABLE
G	CO1	037936*	052281	GS	PS	SN	B05	M	B	D	2	CS HEADER BREAK DETCTN INSTR SW PIPED TO WRONG CS/	/LINES. CONSTRUCTION/INSTALLATION ERROR
G	DA1	016917	010777	MO	RR	NN	B04	T	B	D		RR 4379B WAS FOUND DOWNSCALE ON PARTICULATE CHANNE	CONDENSATE IN DETECTOR-DESIGN ERROR
G	DA1	016915*	011277	GS	FS	SN	A14	T	B	T	12	12 OF 16 MSL HI FLOW SWITCHES EXCEEDED SETPOINT	INSTRUMENT DRIFT
G	DA1	032179*	080180	MO	RR	NN	A07	N	B	T	2	D/W PARTICULATE RAD RECRDR RR4379A/B DWNSCL	HI MOIST IN RE8101A/B FRM MSIV PCK LEAK
G	DR2	017184*	012877	CN	FT	PX	A06	T	B	D	2	APRM FLOW-BIAS FLOW INDICATION EXCEEDED 100% (A&B)	PROCEDURE FOR TOTAL CORE FLOW IND REVISED
G	DR2	017651*	042577	CN	FT	PX	A06	T	B	D	2	APRM/RBM FLOW BIAS EXCEEDED 100% AT 100% CORE FLOW	APRM/RBM CONVERTERS CALIB TO ORIG SPECS
G	DR2	019989	120877	CM	NT	PX	A14	T	B	T		IRM#13 TRIPPED ABOVE LIMITS	INSTRUMENT DRIFT
G	DR2	019910*	122277	CN	FT	PX	A06	N	B	D	2	APRM FLOW BIAS SCRAM & ROD BLOCK SETPOINTS NON-CON	DEFICIENT PROCEDURE
G	DR2	027573*	101979	LS	DT	PX	A05	T	B	D	3	SCRAM LIMIT SWITCHES FOR 3 MSIV'S FOUND OOC	NOT CALIBRATED UPON INSTALLATION
G	DR2	033404A	120280	CA	LG	NN	A05	N	B	D		CRD VOLUME HI-HI LVL ALRM NOT REC'D IN A RX SCRAM	ERRORS IN CABLE LENGTH & ROUTING
G	DR2	033404B	120280	CN	LG	NN	A05	N	B	D		CRD VOLUME HI-HI LVL ALRM NOT REC'D IN A RX SCRAM	TRANSDUCR PLACEMNT,MOUNTG,SIG INTRFRNC
G	DR2	036032	010481	CN	LG	NN	A05	T	B	D		CRD VOL HI-HI LVL ALRM FAILD ON 3 OF 4 CHNLS	TRANSDUCER PLACEMENT/MOUNT HI GAIN NOISE
G	DR2	038030	070381	RE	NT	PX	B09	T	B	D		APRM 6 FAILD TO INITIATE A ROD BLOCK	K2 RELAY FAILD PREVENTG PROPER OP OF K5
G	DR3	019176*	092977	ZZ	NT	PX	A14	T	B	T	2	APRM'S 4 & 6 GENERATED INOP WITH 12 LPRM'S BYPASS&	ELECTRONIC DRIFT
G	DR3	019177*	092977	SE	NT	PX	A14	T	B	T	2	APRM'S 4 & 6 GENERATED INOP WITH 12 LPRM'S BYPASSD	ELECTRONIC DRIFT ON COUNT CIRC REF CARD
G	DR3	038981	100581	GS	LG	NN	A06	N	B	D		REC'D EAST BANK/EAST XDCR TROUBLE ALARM	SENSITIVITY SET TOO HI CAUSED DRIFT
G	DR3	039113*	102081	IM	NT	PX	A01	N	B	D	4	4 APRM GAIN ADJUSTMENT FACTORS OOC CHNL 2,4,5,6	APRM'S LAST CALIBRATION PRIOR TO S/D
G	EN1	014108*	012476	GS	PG	SD	A06	T	B	D	4	CORE SPRAY PUMP DSCHG PRESS INTLK SW SETPOINT WRON	DEFECTIVE PROCEDURES
G	EN1	023189*	121578	GS	PS	SQ	A06	T	B	D	8	HPCI & RCIC TURB EXH DIAPH PRESS SW CAL INCORRECTL	DEFECTIVE PROCEDURES REQUIRED HEAD CORRE
G	EN2	025461*	0[illegible]79	GS	PS	SH	A06	T	B	D	4	HPCI TURBINE EXHAUST DIAPHRAM PRESS INST 2E41-N012	//A-D FOUND OOC. PROCEDURAL ERROR
G	EN2	030765A	032180	GS	PC	NN	A06	T	B	D	2	ALL BUT 6 ACC PRESS SW OOT	DEFECTIVE CALIBRATION PROCEDURES
G	EN2	030759A	040280	SE	TG	NN	B05	T	B	D		D/W SENSOR 2T47-N073 INCRRCTLY CNNCTD TO SUPPRESS/	/ION POOL VAPOR TEMP IND. CNSTRCTN ERROR
G	EN2	030759B	040280	SE	TG	NN	B05	T	B	D		SUPPRESSION POOL VAPOR TEMP SENSOR 2T48-N073 INCR/	RCTLY CNNCTD TO D/W TEMP IND. CNSTRC ERR
G	EN2	037976	062481	MO	RR	NN	B13	N	B	U		A,B SAMP PMP TRP NO FLO TO RX BLDG VENT RAD MON	OVERLOAD PROTCTN TRPD/PUMP A VANES BROKEN
G	MU1	022186*	080578	CM	NT	PX	B06	T	B	U	2	1 APRM SETTING 4 TO 5% LOW, 1 BYPASSED	LRG PWR SHAPE CHNG DEFECT PROCEDURES
G	OC1	018574*	072277	CA	NT	PX	B02	T	B	D	2	IRM CHNLS 13 , 14 FOUND INOPERABLE	WIRES TO DETECTRS DISCONN & DAMGD-MAINTEN
G	OC1	021100B	041078	MO	RR	NN	A02	M	B	D	2	INDIC FED BY RJ11B PS WERE LOW BY A HALF VALUE	SENSORS NOT RECALB AFTER PS WAS REPLACED
G	OC1	022743	101978	CA	NT	PX	B02	N	B	D		IRM 12 BECAME INOPERATIVE WHILE IRM 14 DISCONNECTD	CABLE FOR IRM 12 DAMAGED BY MAINT ACTIVIT
G	OC1	030341A	020580	MO	RR	NN	A02	N	B	D		RAD MON RN04A-1 SETPT FOUND LESS CNSRVTV THAN T.S.	INSTR TECH MISREAD MTR SCL ON CALIBRATION
G	OC1	036577	020281	MO	RT	PX	A02	T	B	D		MSL RAD MONITOR,RN-06B,TRIP SETPOINT FOUND OOC LOW	CHANGES IN BACKGROUND NOT CONSIDERED
G	PB2	018475*	072977	RE	DS	SN	B07	T	B	D	18	18 RELAYS IN SRM/IRM DETECTR DRIVE RELAY CABINET	FIRE DAMAGE DUE TO OVERHEAT & COIL FAILR
G	PB3	019327	100577	GS	PG	NN	B07	T	B	U		200-250 PSIG PRTN OF PS-3-2-3-52B FOUND INOPERABLE	WIRE CORRODED THRU,EVIDNC OF WATER-CONDUI

RECURRING COMMON CAUSE FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	PI1	016078	090876	MO	RR	NN	B13	N	B	T		RBVPRM SAMPLE PUMP OVERLOADING POWER SUPPLY	PUMP BINDING MODEL 2065-V2,GE FRAME 56
G	PI1	016077	090976	MO	PR	NN	B13	N	B	T		MS-PRM SAMPL PUMP BLOWING POWER SUPPLY FUSE	PUMP BINDING GAST MFG. MUDEL 2065-V2
G	PI1	016177	101176	MO	RR	NN	B13	N	B	D		MS-PRM PUMP BLEW FUSES IMPLEMING PLNT DESGN CHANGE	MS-PRM PUMP BINDS GAST MFG MODEL 2065-V2
G	PI1	018324	061777	MO	RR	NN	B13	N	B	T		MS-PRM SAMPL PUMP BLOWING FUSES GAST MFG	PUMP BINDS MODEL 2065-V2 GE FRAME 56
G	PI1	018326	062077	MO	RR	NN	B13	N	B	T		MS-PRM SAMPLE PUMP INOPERATIVE	SAMPLE PUMP BINDS
G	PI1	020247	123077	MO	RX	NN	B13	N	B	T		MS-PRM SAMPLE PUMP INOPERATIVE	MS-PRN PUMP BINDS OVERLDNG POWR SUPPLY
G	QC1	028067A	112879	GS	LT	PX	A04	T	B	D		FOUND LEVEL INSTRUMENTATION SETPOINT TOO LOW	CALIBRATION BASED ON WRONG REF LEG TEMP
G	QC1	028067B	112879	GS	LS	SN	A04	T	B	D		FOUND LEVEL INSTRUMENT SETPOINT TOO LOW	CALIBRATION BASED ON WRONG REF LEG TEMP
G	QC2	022817*	100478	MO	RR	NN	B13	N	B	U	2	2A RX VENT & REFLNG FLR RAD MONS SPURIOUSLY SPIKNG	FAULTY PWR SUPPLY COMMON TO BOTH MONITORS
G	VY1	017953A	052477	MO	RR	NN	B07	N	B	D		LIGHTNING STRIKE MADE STACK GAS I MONITR INOPERABL	LIGHTNIN CAUSD A LOG CRM BOARD FAILURE
G	VY1	017953B	052477	MO	RR	NN	B07	N	B	D		STACK GAS II FAILD TO START IN STNDBY	LIGHTNING CAUSD CONTRL PWR FUSES TO BLOW
G	VY1	018703A	080177	MO	RR	NH	B07	N	B	D		SG I DISABLED BY LIGHTNING; CAUSED POWER SUPPLY TO	FAIL & LOG RATE METER CKT. BOARD TO FAIL
G	VY1	018703B	080177	MO	RR	NN	B07	N	B	D		SG II MONITOR WOULDN'T START WHEN DEMANDED TO	UNIT II PUMP CONT PWR FUSES BLEW
G	VY1	021767	061978	MO	RR	NN	B07	N	B	D		ELEC STORM SG II S/D; SG I FAILD DUE TO LIGHTNING	HIGH VOLT PWR SUPPLY & LOG COUNT RATE BRD
G	VY1	027704*	111079	TX	LS	IC	B11	N	B	T	2	CH A & B,LI 16-19-46A/B,TORUS LEVEL,FAILED HIGH	PACKING LEAK

COMMON CAUSE FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE&CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	AR1	016955*	011077	GS	PG	SN	B07	N	C	U	4	SLBIC ALARM ACTUATION IN CONTROL ROOM	ALL 4 SENSING LINES FROZE ACTUATING PS
B	CR3	032300A	081680	TX	FG	NN	A14	N	C	T	2	STARTUP FW FLO INSTRU READOUTS IND UNEXPCTD VALUES	INSTRU DRIFT FW FLO DP XMTRS SP-7A/7B-DPT
B	CR3	032300B	081680	TX	FG	NN	A14	N	C	T	2	STARTUP FW FLO INSTRU READOUTS IND UNEXPCTD VALUES	INSTRU DRIFT FLOW INDICATORS SP-7A/7B-FI
B	DB1	025911A	041679	TX	PS	SN	B11	N	C	D		DUCT TAPE FOUND BLOCKING SENSING LINE TO PT2003 //	CNTNMNT PRESS SFAS CH 4. PROCEDURE ERROR
B	DB1	025911B	041679	GS	PS	SN	B11	N	C	D		DUCT TAPE FOUND BLOCKING SENSING LINE TO PS NI-3//	CNTNMNT PRESS SFAS CH 4. PROCEDURE ERROR
B	DB1	026599	062379	MO	RR	NN	B02	T	C	D		CNTNMNT POST-ACCIDENT RAD MON RE5029 DECLARED INOP	SHEAVE SET SCREWS NOT TIGHTENED PROPERLY
B	DB1	027123	081179	MO	RR	SN	A07	N	C	D		RAD DETECTOR RE2005 SPIKED CAUSING SFAS CH 2 BIS//	TABLE TO TRIPP. VIB CAUSED STRETCHING CA
B	DB1	027423*	110979	CM	XG	CT	A04	R	C	D	2	SFRCS CH 1&2 FOUND TO HAVE SETPOINTS LESS CONSER//	VATIVE THAN REQUIRED. DESIGN CALCULATION
B	DB1	031416	052880	ZZ	XG	SH	B06	T	C	D		TEST CNNCTN CAUSED DH ISOL VLV TO CLOSE,DH PMP 1-/	/1 TO STOP. PROCEDURAL INADEQUACY
B	DB1	031471	060980	SE	NC	NN	B06	T	C	D		NI-2 NOT COMPLETELY CONNCTD TO NIMBINS EQUIP	LACK OF WRITTEN PROCEDURE ON CRRCT HOOKUP
B	DB1	039211*	091981	MO	RR	NN	B13	T	C	U	9	RE503A,B,C;RE8446;RE5327A,B,C;RE2387;RE1412 INOP	BLOW POWER SUPPLY FUSE IN CKT Y103
B	RS1	036690	031681	MO	RR	NN	B02	T	C	D		RX BLDG ATMOSPHERE RAD MON DISCOVERED INOPERABLE	PLASTIC BOTTLE CAP FOUND IN SAMPLE LINE
C	AR2	030819	031680	TX	PG	PX	B00	N	C	T		"A" SG PI 2PI-1041-4N ON CHNL "D" PPS FAILED HIGH	ELECTRONIC OUTPUT OF PT FAILED HIGH
C	AR2	031377	050780	SE	DS	IC	B08	M	C	D		POSITION SWITCH MISALIGNED	SCREW BACKED OUT LEAVING SW MISALIGNED
C	AR2	036443	022481	ZZ	LT	PX	A06	R	C	D		PPS "A" SG HI LVL TRP SETPT LESS CNSRVTV THAN T.S.	DEFICIENCY IN SURVEILLANCE PROCEDURE
C	AR2	037634	061081	MO	RR	NN	A06	N	C	D		CNTRL RM VENT RAD MON 2RITS-8750-1 HI ALRM SETPT//	ERRONEOUS. PROCEDURE TO BE MODIFIED
C	AR2	171777*	112481	CM	XT	PX	B06	T	C	D	4	PENELTY FACTORS NOT CONCIDERED IN SETTING DNBR SE-	-T POINTS. PROCEDURAL DISCREPANCY
C	CC1	033560A	122180	SE	TT	PX	B02	N	C	D		RPS "B" HI PWR, TM/LP, AXL FLX BYPS TO FIX TCOLD//	INPUT. 1TE122CB LEAD BROKEN IN INSTLLTN
C	CC1	036230*	011381	TX	LT	PX	A00	N	C	U	2	SG #11 LVL CHNL OOS PROBLEM W/ REFERENCE LEG	INDICATION DEVIATION IN 1-LT-1113D/1111
C	CC1	037362	052181	IM	NC	NN	B02	M	C	D		SOME INCORE DET INOP DUE TO A COMPUTER PROBLEM	DFCTV ANALOG BUS SEGMENTATION CARD INSTLD
C	CC2	016725	121276	CA	NT	PX	B05	N	C	D		CH D ASI OBSERVED GOING OPPOSITE DIRECTION	CABLES REVERSED DUE TO MISLABLING
C	CC2	017983	042177	PS	NT	PX	B03	T	C	D		POWER SUPPLY FOR CH B LINEAR RANGE NUC INS FAILED	POWER SUPPLY GROUNDED BY TECHNICIAN
C	CC2	027797B	112779	ZZ	PG	SN	B04	N	C	D		CH ZG PZR PRESS XMITTER TAKEN OOS TO REPAIR CON//	DUIT. CONDUIT TC CLOSE TO PIPE HANGER
C	FC1	031386	052280	MO	RR	NN	A06	M	C	D		STACK IODINE PROCESS MON RMO-60 CAL W/ OUT OF DAT/	/E PROCEDURE. WRNG PROC USED BY HP TECH
C	MI2	014015*	011476	IM	TT	PX	B04	R	C	U	4	4 OF 4 TM/LP TRIP NON-CONSERVATIVE FOR ALL CONDITI	DESIGN WIRING ERROR INPUT TO CEA FUNC GEN
C	MI2	017116	020977	CM	FT	PX	A02	T	C	D		RPS LOW FLOW SETPOINT SET HIGH NONCONSERVATIVE	PERSONNEL MISINTERPRETED FORMULA
C	MI2	039000	100881	IM	NT	PX	A02	T	C	D		EXCORE DETECTOR CH "D" POTENTIOMETER FOUND OOC	INCORRECTLY SET
C	MI2	171814	120381	CA	TT	PX	B07	N	C	D		COLD LEG TEMP INPUTS (TC) FAILED "B" RPS	TERMINAL BOX LEFT OPEN,MOISTURE ACCUM.
C	MY1	030723	031280	TX	LT	PX	B02	M	C	D		SG LVL IND CH INOP IMPROP ALGNMNT OF OSCILLATOR //	AMP IN LVL XMITTR. IMPROP TECHNIQUE USED
C	MY1	037386	061081	CA	XS	SL	B02	M	C	D		CONNECTOR ON FLOW CONTROLLER PIC-103-1 PULLED	MAINTENANCE ON OTHER EQUIPMENT
C	PA1	021323	041478	CM	FT	PX	A06	T	C	D		CH A LO PRI FLOW WAS 94.6 PCT, TS REQ MIN 95 PCT	CALIB PROCED REQS CHK THAT AFFECTS TRIP
C	PA1	026717	080479	ZZ	PT	PX	A03	N	C	D		OUTPUT LIMITER SETPOINT FOR CH B TM/LP TRIP FOUND/	/LOW. PERSONNEL ERROR
C	PA1	031640*	051080	GS	PS	IC	A06	[illegible]	C	D	4	PS-1801 THRU 1804 SET AT LOWER SETPT THAN T.S.	DEFECTIVE PROCEDURE
C	PA1	032486	081180	MO	RR	IC	A07	N	C	T		CV-0437B/38B LIGHTS NOT LIT,PWR SUP FUSES BLOWN	MOISTURE IN JUNCTN BOX CAUSED GROUND
C	PA1	036173	012181	GS	PG	AS	B02	N	C	D		COPPER TUBING TO PS-1473,SERVICE WATER LP ALARM F-	-OR DIESEL GEN,BROKE. PERSONNEL
C	SL1	020513*	020378	SE	TT	PX	A06	T	C	D	3	RTD RESPONSE TIMES GT. 5SEC. VALUE SET BY VENDOR	RTD'S MOUNTD IN INST.WELLS--NOT ACCTD FOR
C	SL1	027298*	092179	CM	LT	PX	A04	R	C	D	4	S/G LVL INSTRUMENTATION HAD A 2% NON-CONSERVATIVE	//ERROR. INCORRECT LEVEL SPAN USED
W	BV1	018724*	072877	ZZ	XT	PX	B06	T	C	D	9	NINE PROTECTION CIRCUITS FOUND INOPERABLE	INCORRECT PROCEDURE DAMAGED DIODES
W	BV1	022881	101378	CM	NT	PX	A02	T	C	D		EX CORE INST.,CH N41,RATE TRIP SETPOINT TOO HIGH	INADVERTENT READJUSTMENT
W	BV1	026972	082779	SE	TT	PX	A02	N	C	D		CH 3 OVERPOWER DELTA TEMP FOUND MISCALIBRATED	WRONG RTD CALIBRATION DATA USED
W	BV1	030137*	012380	MO	RR	NN	A01	R	C	D	4	CONT AREA RM-215A,B & PURGE EXHT PROC RM-VS-10RA,B	// SETPOINTS HI. PERSONNEL ERROR
W	BV1	033233*	112080	PS	NT	PX	B09	N	C	U	2	HIGH VOLTAGE PROTECTION CAUSED 2 OF 4 NI INOP	UNKNOWN VOLTAGE SPIKE FROM POWER SUPPLY
W	BV1	164674*	020781	IN	DC	NN	B02	N	C	D	2	RPI FOR CHANNELS H2 AND B8 FOUND GREATER THAN 12 -	-STEPS FROM DEMAND. NONLINEARITY IN CAL
W	BV1	036308*	020881	IN	PC	NN	A00	N	C	U	4	ARPI CHNLS H2,P8,F10,K10 IND MORE THAN 12 STEPS //	FROM DEMAND. LOST ARPI ACCURACY AT CURVE
W	BV1	037353*	052881	MO	RR	NN	A06	M	C	D	2	GASEOUS WASTE PROCESS VENT EFF MON PLACD ON MAINT/	/CLEARANCE. MISSG PROCEDURE STEP IN MSP
W	BV1	038349	080381	IM	PS	SN	B00	N	C	U		"A" CH 3 LO STM PRESS B/S ALRMD REPEATEDLY INOP	CKT BRD CAPACITOR FAILD DAMAGD ADJCNT BRD
W	DC1	016114	100776	TX	FT	PX	B02	T	C	D		FEED FLOW TRANSMITTER EXCESSIVE ERROR (FFC-211)	PERSONNEL ERROR VALVING OUT TRANSMITTER
W	DC1	027763	120179	TX	LT	PX	B13	N	C	D		SG LEVEL CH I LOOP 4 FOUND READING HIGH DUE TO TX/	/BELLOWS FLUID LEAKING. MANUFACTURING
W	DC2	025046*	010679	ZZ	PT	PX	A11	N	C	D	2	RX TRIP/SAFETY INJ OCCURRED DUE TO SL DP	FREEZING OF #2 & #3 SG/MS SENSING LINES
W	DC2	026819	071379	GS	NS	SN	A02	R	C	D		APDMS DETECTOR F(Z) LIMIT SETPOINT SET WRONG	PERSONNEL ERROR

COMMON CAUSE FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE&CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	DC2	027929	121879	CA	NT	PX	A02	N	C	D		SOURCE RANGE INDICATION LOST FOR 13 MINUTES(N-31)	PERSONNEL ERROR DURING MAINTENANCE
W	HN1	015217	072076	TX	FT	PX	B02	N	C	D		LOOP 2 STM LINE FLOW INDICATOR FAILED LOW	LEAKING SENSING LINE FITTING CROSSTHREAD
W	HN1	030460	022680	MO	RR	NN	B02	N	C	D		MAIN STCK RAD MON SYS FAILD LO BENT EDGE CONNCTN//	ON PLUG-IN MODULE. OCCURD IN MAINT/INSTL
W	JF1	021589	051878	MO	RR	SN	B13	N	C	T		CONTAIN ATMOS GAS & PARTIC MNTR INOPERABLE R11&R12	BROKEN WIRE IN HIGH FLOW RELAY VIBRATION
W	JF1	023288	111478	MO	RR	NN	B13	N	C	T		CONT ATMOS PARTIC & GAS MONITOR INOP VAC PUMP TRIP	BROKEN WIRE LOW FLOW RELAY DUE TO VIBRATI
W	JF1	025437	012379	MO	RR	NN	B05	N	C	D		CNTNMNT AIR PARTICULATE RAD MON SYS,R11,INOPERABLE	REPLACEMENT FILTER PAPER INCORRECT
W	JF1	027179*	082479	ZZ	XG	SN	A05	N	C	D	23	WESTINGHOUSE INFORMED CIRCUIT BOARDS DEFECTIVE. FO	//UND 23,14 OF WHICH IN PROTECTIVE RACKS
W	JF1	030613	030380	TX	PT	PX	A11	N	C	T		FROZEN SENSING LINE FOR PT-494 CAUS INACC PRES SIG	ABNORMALLY COLD TEMP/INSUFF FREEZE PROTCT
W	KE1	017372	032377	TX	LT	PX	B05	N	C	D		STM GEN LEVEL CONTROLLERS LACK OF CONTROL	CROSSED INSTRUMENT TAPS BETWEEN 2 CHANNEL
W	KE1	020424*	020678	TX	PT	PX	A06	R	C	U	4	PZR PRESS READINGS HIGH	PROCEDURE NOT INCLUDING HEAD CORRECTION
W	MG1	038414*	082281	IN	FG	CT	B04	N	C	D	4	AUX FEED FLOW GAUGES IN CONTROL ROOM DIDNT AGREE//	WITH LOCAL GAUGES. WRONG SCALE USED
W	MG1	171921	111881	CA	TS	SL	B02	N	C	D		PZR VAPOR SPACE TEMP SENSOR CONNECTOR DISCONNECTED	PERSONNEL,CAUSED VARIOUS RHR VLV CLOSURES
W	NA1	027258	091879	SE	FS	IC	B07	N	C	D		CNTNMNT SUMP FLOW INTEGRATOR FTO-DA115 FAILED	PIECE OF RUBBER GLOVE FOUND IN INTERNALS
W	NA1	027243*	101579	TX	PS	SN	B05	N	C	D	2	SENSING LINES FOR SL PRESS TRANSMITTERS LOOP C & A	//FOUND SWAPPED. OCCURED DURING CNSTRCTN
W	NA2	031913B	071380	TX	PT	PX	A02	M	C	D		PZR PRESS PRTCTN CH 3 P-2457 RDG HIGH	CAL AT ATMOS INSTEAD OF CNTNMNT OP PRESS
W	NA2	033019	102580	IN	TG	PX	B02	N	C	D		TI-2412B ASSOC W/ OVERPWR DELTA-T SETPT A FAILD LO	RECORDR LEADS CNNCTD UPSTRM OF ISOL AMP
W	NA2	033290*	113080	IN	DG	NN	A14	N	C	T	4	RODS G03,J03 RPI IN S/D A & G07,J09 IN S/D B DIFF/	/IN DMND POS. TEMP CHNG CAUSD INSTR DRFT
W	NA2	033437	120280	IN	DG	NN	A14	N	C	T		ROD CLUSTER G13 RPI DIFF FRM DEMND POS MORE THAN//	12 STEPS. TEMP CHNG CAUSD INSTRUMNT DRFT
W	NA2	033900	122680	TX	PS	SN	B07	N	C	U		TURBINE 1ST STAGE PRESSURE CHANNEL FAILED XMITR//	FROZE FAILURES IN TURB BLDG VENT/HEAT SYS
W	NA2	038407C	081481	SE	NT	PX	A02	N	C	D		POWER RANGE CHANNEL N41 DISCOVERED ODC HI BY 6%	APPARENTLY PERSONNEL MAINTENANCE
W	NA2	038751	092281	SE	DG	NN	B04	N	C	D		IRPI FOR ROD B-8,BANK D FOUND GREATER THAN 12 STE-	-PS BELOW DEMAND. TEMP CHANGE IN COIL
W	PR1	038915A	101181	RE	XT	PX	B13	N	C	D	2	TWO RELAYS IN RPS SYSTEM FOUND INOPERABLE	FAILED SOLDER JOINT "PIGTAIL" CONNECTIONS
W	PR1	039115	102981	TX	PT	PX	A06	N	C	D		PZR PRESSURE TX 1-PT-431 OBSERVED TO BE 30 PSI LO	APPARENTLY DEFECTIVE PROCEDURES
W	PR2	038915B	101181	RE	XT	PX	B13	N	C	D	5	FIVE RELAYS IN RPS SYSTEM FOUND INOPERABLE	FAILED SOLDER JOINT "PIGTAIL" CONNECTIONS
W	PT1	027283*	100279	TX	PS	SN	A11	N	C	D	2	LOOSE PIPE FITTING ON CNTNMNT(COMMON SENSING LINE)	//PRESSURE FOR TWO TRANSMITTERS LOOSE
W	PT1	171975*	121081	TX	FT	PX	B02	N	C	D	2	STEAM FLOW CH'S FC-464 & 465 LOOP "A" FOUND READI-	-NG ZERO. IMPROPER ZERO SETTINGS
W	PT2	033448	111880	CM	NT	PX	A01	N	C	D		HI NEUTRON FLUX SETPOINT NOT REDUCED AS REQUIRED	IMPROPER INTERPRETATION OF TECH SPEC
W	RG1	171940*	111481	ZZ	DC	NN	B02	N	C	D	2	TWO FULL LENTH ROD POSITION INDICATIONS FAILED	FIRE SUPPRESSION SYS INADVERTENLY ACTCUAT
W	SA1	016026*	092776	CA	NT	PX	B07	N	C	U	2	BOTH INTERMEDIATE RANGE NUCLEAR INST CHNLS INOPER	WETTING OF DTCTRS WITHIN WELL-HI CONN RES
W	SA1	021648*	061078	CA	NT	PX	B02	N	C	D	2	TWO INOPERABLE POWER RANGE CH WERE IDNTFD(N41&N42)	MAINT PERS DISCONN WRONG LEADS FOR RX CUM
W	SA1	023576	122878	TX	FG	NN	B01	H	C	D		ZERO FLOW INDICATION ON THE PLANT VENT RECORDER	DE-ENGZD HT TRACING CSD FRZN XMTR SNSG LN
W	SA1	025069	010379	TX	PS	SN	B11	N	C	T		LOOP 4,CH 4,S/G PRESSURE FOUND INDICATING HIGH	SENSING LINE FROZEN
W	SA1	028120	120779	MO	RR	NN	B07	N	C	D		LIQUID RAD WASTE MONITOR 1R18 FAILED DOWNSCALE	GROUND WATER SHORTED OUT POWER SUPPLY
W	SA1	033185	102880	ZZ	XG	NN	B02	N	C	D		LOST AUDIO COUNT RATE DUE TO BROKEN CARD HOLDER	CABLES CAUGHT EDGE OF CKT BRD PERS ERROR
W	SA1	037454	052081	ZZ	XG	SN	B09	N	C	D		1B SEC CHANNEL AT ESFAS FAILED,PRODUCED ERRONEOUS-	-SIGNAL. VOLTAGE TRANSIENT ON 1B VITAL
W	SA2	037945	070281	CL	FG	AS	A02	N	C	D		SETTING FOR SW FLOW GENERATOR FOR CFCU 21 FOUND I-	-NCORRECTLY SET. PERSONNEL ERROR
W	SE1	033459*	120180	MO	RR	NN	B13	N	C	U	3	RAD MON 1-RE-90-112/134/141 INOP	0-RE-90-134 MOTOR FAILD CAUSG CKTBRK TRIP
W	SE1	033603*	120980	CM	FT	PX	A04	R	C	D	2	DP AT STM FLO XMITTER LESS THAN EXPECTED	STM/FW FLO MISMTCH B/S SETTNG LESS CNSRVT
W	SE1	038118*	071981	PS	DC	NN	B09	N	C	U	2	RPI FOR G13 & B12 FAILED	13 VDC-TO-GROUND SHORT FAILED PS'S
W	SE1	033685	122581	TX	LS	SN	B01	N	C	D		RWST 1-LI-63-50 FAILD HI INSTRUMNT LINES FOR LVL//	XMITR FROZEN. CABINET DOOR LEFT AJAR
W	SO1	037804	063081	ZZ	FT	PX	B02	N	C	D		ERRONEOUS FEEDWATER FLOW PRODUCED IND LOW POWER	ORIFICE INSTALLED BACKWARDS
W	SO1	171818*	111581	MO	RR	NN	B02	N	C	D	2	ON TWO SEPARATE OCCASIONS RAD MON'S HAD IMPROPER -	-AIR SAMPLES. FILTERS WERE MISPOSITIONED
W	SU1	025183*	012479	TX	FT	PX	A06	R	C	D	6	ERROR IN CALIBRATION PROCEDURES DISCOVERED IN STEA	//M FLOW CAL. ALL THREE LOOPS(AB&C) OUC
W	SU1	030009	010680	RC	RG	NN	B01	N	C	D		LW EFF FLOW RECORDER PAPER MALFUNCTIONED	INADQ MESH BTWN REC DRV GEARS & PAPER ROL
W	SU1	037932	070481	TX	LG	AG	B06	N	C	D		TRANSMITTER FOR CAT CALIBRATED WITH WRONG DATA	PROCEDURE DIDNT ACCOUNT FOR NAOH
W	SU1	037751*	070881	SE	TT	PX	B02	N	C	D	2	RTD'S,TH & TC,DISCOVERED INOPERABLE	BOTH RTD'S WIRED WRONG
W	SU1	171167	120681	CA	PG	NN	B06	N	C	D		MOV-LCV-1115E DIDNT RESP TO TRNB ONLY SI SIGNAL	IMPROPER WIRING CONNECTION
W	TR1	014227	020576	ZZ	XT	PX	B13	T	C	T		NO TRIP SIGNALS WHEN BOTH TRAINS OF SOLID STATE PR	FAILD ZENER DIODE IN UV PRINTD CKT BOARD
W	TR1	014937*	051876	ZZ	DG	NN	B13	N	C	U	2	DRPI (DIG.ROD POS.IND.) OF ROD H-10 LOST	CKT BOARD FAILRS ON BOTH DATA A& DATA B
W	TR1	019671*	111777	TX	PS	SN	B06	N	C	D	4	SENSING LINES FOR EACH OF 4 WIDE PRESS INST CAPPED	ALL CHANNELS INOPERABLE FROM 5/77

COMMON CAUSE FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	TR1	037735	123180	ZZ	XG	SN	A05	N	C	D		CNTRL VLV HAD DEFICIENCY COULD PRVNT THEIR CLOSING	CONSTRUCTION/INSTALLATION ERROR
W	TR1	171865*	120281	IN	PG	IC	B05	R	C	D	2	CNTNMNT PRESSURE IND'S PI-10075 & 76 IND WRONG	IMPROPER DESIGN AND INSTALLATION
W	TU3	017101*	010477	RE	XT	PX	B04	T	C	D	4	IF CIRCULAR--ALL BFD RELAYS TESTD ;4 IN CKT.TRAINA	DEFECTIVE RELAYS, COILS OVERHEAT
W	TU4	017100*	010877	RE	XT	PX	B04	T	C	D	2	ALL BFD RELAYS TESTD; 2 FOUND IN CKT.TRAIN A RT465	DEFECT RELAY; VARNISHD CLOTH OUTER COVER
W	YR1	036440	021381	IN	PG	IC	A07	N	C	D		CNTNMNT PRESSURE GAGE FOUND READING TOO LOW	ABNORMALLY HIGH BAROMETRIC PRESSURE
W	ZI1	014285*	022176	ZZ	NT	PX	A03	T	C	D	4	RESCALED PWR RANGE DET.1N41,42,43 & 44 HOWEVE DID	NOT RESCALE DELTA I SUMMATORS--NONCONSERV
W	ZI1	016381*	101976	TX	LS	SN	A04	T	C	D	6	ACCUM. LEVEL XMTRS SETPOINTS OFF (6 OF 8 WERE HI)	INADEQUACY OF PRESENT XMTRS FOR GIVN RANG
W	ZI1	021463	051378	MO	RR	NN	A07	N	C	T		FAILD FUEL LIQ RAD MON 1RTPR27 LOW FLOW; PLACD OOC	ACCUMLATD DEPOSITS OF BORIC ACID
W	ZI2	016049*	091076	AM	FT	PX	B13	N	C	T	2	LOOP B COMPARTR 2FC-541B & 2FC-541A FOUND HIGH	BAD OPERATIONAL AMPLIFIER A-1 ; REPLACED
W	ZI2	016708*	121876	CM	PG	SF	B02	T	C	D	2	CONTMNT PRESS HI CHANL I BISTABLES DEENERGIZD	2BS-CS1981 & 82 IN TEST FOR BOTH TRAINS
W	ZI2	018393	071277	CM	XT	PX	B03	T	C	D		DUMMY LOADS ON ALL PZR LEVL,PRESS,FLOW &S/G INSTRU	NEGATED THEIR CONTROL FUNCTIONS
W	ZI2	025677	041279	CL	TG	NN	B02	T	C	D		TEMPERATURE CONTROL MODULE(TY-45) ON H2 RECOMBINER	//FOUND MISSING. NOT REPLCD AFTER MAINT
W	ZI2	037556	042181	MO	RR	NN	B07	M	C	D		AUX BLDG RAD MON 2PR/38 FAILED	SAMPLERS FLOODED,EXHUST FANS WERE OOS
W	ZI2	038618A	091481	ZZ	XG	CT	B04	T	C	D	2	FLAW DETECTED IN CONTROL CIRCUITS FOR 2B & 2C AFWP	DESIGN ERROR
G	BF2	016395	111576	GS	PT	PX	B02	T	C	D		EHC LOF PRESS. SWITCH (PS-47-142) FAILED	SWITCH PLUGGED WITH TEFLON TAPE
G	BF2	022854*	111478	MO	RT	PX	A06	T	C	D	4	M/S LINE RAD MON RM-90-135,136,137,138 SETPOINT HI	INSTRUCTION DEFICIENT IN REQUIREMENTS
G	BF2	027233A	100179	ZZ	XC	SN	B02	M	C	D		RBM "A" WAS MADE INOP DUE TO A SHORTED LAMP BASE	PERSONNEL ERROR
G	BF2	027233B	100179	ZZ	XC	SN	B02	M	C	D		RBM "B" WAS DAMAGED WHEN REPAIRING RBM "A"	PERSONNEL ERROR
G	BF3	016060A	092076	IN	FG	SN	B02	T	C	D		STEAM LINE D FLOW IND FI-46-4 FOUND INOPERABLE	PRESSURE SENSING LINES SWITCHED
G	BF3	016060B	092076	GS	PS	SN	B02	T	C	D	4	DP IND SWITCHES PDIS-1-50 (A-D) FOUND NOT RESPONDG	PRESSURE SENSING LINES SWITCHED
G	BF3	016199*	100776	GS	FG	SH	B01	T	C	D	2	HPCI STEAM FLOW IND PDIS-73-1A,B INDICATED LOW	OPEN EQUALIZING VALVE (COMMON TO BOTH)
G	BF3	022824*	102978	CA	NT	PX	B02	N	C	D	2	IRM F,H CHANNELS DECLARED INOPERABLE	IRM F,H SIGNAL CABLES SHEARED AND DISCONN
G	BF3	023032*	112878	CA	NT	PX	B06	T	C	D	43	ALL 4 LRPM'S OF 43 STRINGS FOUND REVERSE CONNECTED	LACK OF EXPLANATION OF PROPER LPRM CONNEC
G	BF3	032458	082580	CA	XS	SQ	B01	T	C	D		LEAD WIRES PULLED FRM RCIC SPD FDBCK MAG PCKUP CON	//NCTR. PERSONNEL ERROR-NONLIC OPER PERS
G	BF3	033768	122380	MO	RR	NN	B02	N	C	D		CAM 3-RM-90-251 INOP DET HI VOLT SET IMPROPERLY	PERSONNEL ERROR--MAINTENANCE & REPAIR
G	BF3	171760*	121181	GS	LG	NN	A07	N	C	D	2	HPCI SUPPRESSION CHAMBER HI LEVEL SW'S LS-73-57A&-	-B FOUND OOC. TABLE NOT UPDATED W/CHANGE
G	BP1	015117	052876	GS	PG	SN	A02	T	C	D		ACCUMULATOR PRESSURE SWITCH OPERATING TOO LOW	PREVIOUSLY ADJUSTED WITH DEFECTIVE GAGE
G	BP1	015443	081376	CA	NT	PX	B02	N	C	D		PR NEUTRON MONITOR DID NOT RESPOND PROPERLY (#2)	POLARIZING VOLT. ON COMP ION CHAM SWAPPED
G	BP1	020574	020378	SE	FG	NN	A02	N	C	D		FLOW INSTRUMENT WOULD NOT GIVE PROPER FLOW (LOW)	INADEQUATE CLEANING OF INDICATING BALL
G	BP1	020936*	040678	IN	LG	PX	B02	N	C	D	2	SWITCH/POINTER MECH. BINDING TO SCALE PLATE	NEW COVER AND PLATE INSTALLED IMPROPERLY
G	BR1	017161*	021377	GS	TG	SH	A02	N	C	D	3	TEMP SW E41-TS-3315,3317,3354 CAUSED HPCI ISOLATIO	PREVIOUS CALIBRATION DONE INCORRECTLY
G	BR1	020770	030178	MO	RT	PX	B02	M	C	D		MAIN STEAM LINE RAD MONITOR "D" PS FAILED	IRM CABLES DAMAGED D12-RM-K603D PS
G	BR1	027619	102479	SE	LG	NN	A02	N	C	D		TORUS LEVEL INSTRUMENT 1-CAC-LT-3342 READING LOW	CALIBRATED INCORRECTLY
G	BR1	030197	011480	TX	LS	SN	A06	N	C	D		TORUS LVL IND CAC-LI-3342 OOC LVL XMITTER OUT OF//	TOL. DEFECTIVE PROCEDURE IN CALIBRATION
G	BR1	031202	050880	GS	LS	SN	B02	M	C	D		CAL ADJST SCRW CAP GSKT ON RX 1-B21-LIS-N031B RE//	PLCD SW 2 FAILED. MAINT/REPAIR PERS ERR
G	BR1	036704*	031581	GS	PS	IC	B06	R	C	D	2	VAC BRKR ACTUATED OOT (LOW)	DFCTV CAL PROCEDURES FOR D/P SWITCHES
G	BR2	014944*	061276	GS	LT	PX	A04	T	C	D	3	RX LOW WATER LEVEL SW 2-B21-LIS-N024 A,B,25B ACT L	CIRCUIT DESIGN USED HIGH LEVEL SWITCHES
G	BR2	025320	013179	CA	XS	SL	B09	T	C	D		LOSS OF LPCI "A" LOOP AUTOMATIC FUNCTION	JUMPER GROUNDED PS AND FUSE BLEW
G	BR2	027679	112779	IM	XS	SL	B02	M	C	D		RHR LOGIC "A" POWER FAILURE OCCURED WHEN A LEAD //	TAKEN OFF A SWITCH GROUNDED. PERSONNEL
G	BR2	027744	120179	IN	XC	NN	B01	N	C	D		RBM "B" TRIPPED WHEN INDICATING LIGHT BEING REPLAC	//ED. PERSONNEL ERROR,BULB GROUNDED SYS
G	BR2	032623	090580	GS	LS	SN	A05	N	C	D		WIRE PROTRUDING PAST 2-B21-LIS-N031A-1 GROUND TO//	HOUSING. MANUFACTURING ERROR
G	BR2	032661	090780	CN	FS	SQ	B02	T	C	D		NO FLO IND ON RCIC 2-E51-FIC-R600 A NEW SQ ROOT //	CONVRTR MODULE NOT INSTAL PERS ERROR
G	BR2	033088	102480	LS	DG	IC	A02	N	C	D		RIP ISOL VLV X51D HAD NO POS IND	LMT SW OOC MISSNG HOUSNG COVER. PERS ERR
G	BR2	036713	032081	GS	XG	NN	B02	M	C	D		WIRING DEFICIENCY IN ACTUATION SW 2-CAC-PDS-4223	IMPROPER WRITING OF A FIELD REVISION
G	BR2	038922	100481	RC	LG	NN	B02	M	C	D		SUPPRESSION CHAMBER WTR LVL REC RDG DOWNSCALE	INPUT SIG CABLE PULLED FROM TERMINAL
G	BR2	039015	101381	SE	XS	IC	B00	N	C	D		COMMON CNTRL PWR SUP FUSE TO DWFD/DWED INTEG,DWED/	/TANK TEMP IND BLEW. NO CAUSE FOUND
G	CO1	021747	052778	MO	RT	PX	A06	N	C	D		MAIN STEAM LINE RAD MONITOR TRIP POINT NOT ADJUSTE	PROCEEDURAL DEFICIENCY FOR SOURCE CALIBRA
G	CO1	037236B	041481	CN	XC	NN	B04	T	C	D		IN SCRAM 2 SCRAM DSCHRG HEADER CMS CHNL OP IMPROPR	BONDING IN TRANSDUCER
G	CO1	039254	102681	GS	TG	NN	B02	M	C	D		UNCAL TEMP SW INSTALLD IN MS-TS-148D	INSTRUMENT TECHNICIAN ERROR
G	DA1	015990*	100776	GS	PG	NN	A06	T	C	D	3	RX HI PRESS RECIRC PUMP PS4593B,C,D EXCEEDED SETPT	PROCEDURE DEFICIENCY FOR TRIP SETTING

COMMON CAUSE FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	DA1	019965*	112877	CA	NT	PX	A01	T	C	D	4	NONCONSERV ERRORS INDUCED IN APRM CH A,B,C & D	PERSONNEL-REVERSED INPUT/OUTPUT OF RECORD
G	DA1	032033	071880	CA	DS	SN	A01	N	C	D		"B" RBM FAILED "INOP" CAUSING CONTROL ROD BLOCK	PIN CNNCTR LOOSE INADVRT CNTCT W/ PERS
G	DR2	020869*	032778	MO	RT	PX	A06	T	C	D	4	MSL HIGH RAD ISOLATION SETPOINT SET HIGH	TYPOGRAPHICAL ERROR IN PROCEDURE
G	DR2	025904A	051979	CA	NT	PX	B02	N	C	D		IRM 17 FAILED DOWNSCALE DUE TO A FAILED CONNECTOR	APPARENTLY DAMAGED DURING REFUELING
G	DR3	020871	032778	MO	RT	PX	A03	T	C	D		MSL HIGH RAD SCRAM ISOL MONITOR SETPOINT HIGH	PERSONNEL ERROR-SETPOINT ADJUSTED HIGH
G	DR3	021510*	052178	GS	FS	SN	A14	T	C	T	3	MSL HI-FLOW ISOL DPIS 261-2C,2N,2S EXCEEDED LIMITS	INSTRUMENT DRIFT
G	EN1	015559*	070276	GS	PG	SD	B05	T	C	D	2	CORE SPRAY D/P SW E21-N004A & B OPERATED IMPROPERL	FABRICATION-WIRING ERROR
G	EN2	022676*	101178	CM	NT	PX	A06	T	C	U	6	HIGH FLUX SCRAM SETPOINTS SET VERY HIGH	PROCEDURE DID NOT LIST STARTUP SETTING
G	EN2	030834	041580	RE	XS	SL	B05	T	C	D		"D" RHR LPCI PMP WOULDN'T START ON LOCA SIG TO ST/	/ART RELAY 2E11-K121B. MISWIRED RELAY
G	EN2	032217*	072680	GS	LT	PX	B00	N	C	U	2	SCRAM DSCHRG VOL HI LVL SW 2C11-N013A/D INOPERABLE	CRUSHED FLOATS CAUSE UNKNOWN
G	FP1	014483	040576	GS	PT	PX	B02	T	C	U		REACTOR HIGH PRESS SW 2-3-55D FAILED TO ACTUATE	INCORRECT ADJUSTMENT OF MECHANICAL STOP
G	FP1	01805[illegible]*	062677	ZZ	NT	PX	B02	M	C	D	19	LOSS OF 15% APRM SCRAM FUNCTION	CONTRACTOR CUT 19 OF 31 LPRM STRINGS
G	FP1	020928*	040178	SE	NT	PX	B05	T	C	D	4	LPRM-36-45 DET A & B, LPRM-12-21 DET B & C NOT OP	DETECTOR WIRING INCORRECT
G	FP1	026924	090579	CA	LS	SH	B02	T	C	D		SW FOR INST 02-3-LIS-72D DIDNT PICKUP RELAY	WIRING ERROR MADE IN JUNE
G	FP1	163896*	010681	GS	LS	SN	B07	T	C	D	2	CONDENSATE STORAGE TANK LEVEL SW'S 23-LS- 48 & 75B	--FOUND OOC. MOISTURE CAUSED DRIFT
G	FP1	171670	040181	AM	FT	PX	A06	N	C	D		DURING SHUTDWN OP IN SINGLE LOOP CORE FLW TOO HIGH	IMPROPER AMP GAIN SETTING
G	MI1	171788	111081	MO	RT	PX	B02	N	C	D		MSL RADIATION MONITOR ALARMED DOWNSCALE(CHANNEL B)	CABLES ACCIDENTLY BUMPED
G	MO1	021562*	060678	CM	NT	PX	A06	T	C	T	4	4 OF 6 APRM SCRAM SETTINGS 3 TO 4% LOW	BIASED DISTRIB OF LPRMS WITHIN APRM PAGES
G	NM1	021439*	052678	SE	NT	PX	B02	T	C	D	2	LPRM DET A&B TO APRM 11 & 15 CROSS CONNECTED	GE-NA-100 DETECTORS CROSS-CONNECTED
G	NM1	022698*	102078	ZZ	FS	SN	A08	T	C	D	8	ALL 8 MN STM HIGH FLOW SETPOINTS NON-CONSERVATIVE	HEISE TEST GUAGE INACCURATE LOOSE SCREW
G	NM1	038144A	063081	MO	RR	SQ	A06	T	C	D	3	3 EMERGENCY COND VENT MONITORS FOUND OUT OF CAL	POSSIBLY DUE TO IMPROPER CALIBRATION PROC
G	NM1	038144B	063081	MO	RR	SQ	B06	T	C	D		EMER CONDENSER MONITOR #122 FOUND OOC HIGH BY	75 MR/HR. IMPROPER CALIBRATION PROCEDURE
G	OC1	017753*	050477	SE	FS	SN	B02	T	C	D	2	MN STM HI FLO SENSRS RE22D & RE22H WOULD NOT ACTAT	SPNG ELE IN HG BULBS FUSED-GND BY MAINTEN
G	OC1	021929*	071478	GS	LT	PX	A06	T	C	D	4	FOUR RX WTR SWTCHS USED FOR SCRAM INI LESS CONSV	THAN TS-DEFICIENCIES IN TEST PROCEDURE
G	OC1	022925*	112178	GS	PS	SN	B04	T	C	D	2	TORUS-RX BLDG DP SWCHS DPS-66A&B RUPTURED DIAPHRGM	NOT DESIGNED FOR DELTA P-CAT NO 1635-12
G	OC1	172614B	120381	GS	PS	SA	B05	N	C	D		FAULTY EMRV PRESSURE SWITCH 1A83-A	MICROSWITCHES IN 1A83-A NOT RATED AT 125V
G	PB2	015143*	061976	MO	RR	NN	B09	N	C	U	2	REFUEL FLR EXH VENT RAD MON&RX BLDG EXH VENT RADIA	MON FAILED DOWN SCALE-COMMON PWR SUP FAIL
G	PB2	016270*	110176	GS	FG	SN	B02	T	C	D	2	CONT RM RAD SMPL SIGNLS NOT RCVD FRM FS-0760A&B	WIRING ERROR CSD IMP RSP TO LO FLO SIGNAL
G	PB2	033340	112380	MO	RR	NN	B04	N	C	D		WTR IN OFF-GAS RAD MON SAMPLING SYS REDUCING FLOW	WATER PROBLEM CAUSD BY DRAIN MODIFICATION
G	PB2	036040	010381	CM	NT	PX	A02	N	C	D		APRM FLUX SCRAM SETPOINT FOUND 2.88 TO 5.6% HIGH	APRM GAINS NOT ADJUSTED PROPERLY
G	PB2	171564*	120581	GS	TS	SN	B01	N	C	D	2	TRP SETPTS FOR MSL TUNN TEMP SW RAISE FOR OP PRB	PERSONNEL ERROR
G	PB3	017480*	041177	GS	PS	SN	B11	N	C	D	4	MN STM LN SWCHS DPIS 3-2-116A,B,C&D FAILED DWNSCLE	COM HI PRESS SNSG LINE WAS AIR BOUND
G	PB3	019180*	100177	GS	PS	SN	B02	N	C	D	2	PS-3-3-51C&D SCRAM BYPASS PRS SW FLD TO CLR ALARM	WATER LKG THRU CONDUIT FRM OPEN JCTN BOX
G	PB3	171567*	112181	TX	PS	SN	B04	N	C	D	2	PRESS XMTRS PT3508A AND 3508B WERE BLOWING FUSES	DESIGNED GRND IN THE PRNT CKT ASSMB ON TX
G	PI1	036127A	010781	MO	RR	NN	B11	N	C	D		MAIN STACK SAMPLE LOW FLOW ALARM RECEIVED	SUCTION LINE FOUND FROZEN
G	PI1	037053	041481	GS	PS	SL	B03	N	C	D		RECIRC SYS DELTA P INSTRUMENT 261-39B RENDERED IN-	-OPERABLE. PERSONNEL ERROR IN TESTING
G	PI1	03740[illegible]	051281	MO	RR	NN	B07	N	C	D		STACK GAS RAD MON 1705 FAILED	VOLTAGE SURGE CREATED BY LIGHTNING STRIKE
G	PI1	037404B	051481	TX	LS	IC	A02	N	C	D		TORUS WATER LEVEL FOUND OUT OF CAL	JARRING OF INSTRUMENT SAMPLE LINES
G	PI1	037538	060781	ZZ	DG	NN	B02	N	C	D		RPIS FOR ROD 42-35 WAS JUMPERED AT POSITION 14 AN-	-D NOT DOCUMENTED. PERSONNEL ERROR
G	QC1	171853	112681	GS	LS	SQ	B02	N	C	D		RCIC DRAIN POT LEVEL SW VLV FOUND LEAKING,RCIC IS-	-O SYS DECLARED INOP. POOR WELD
G	QC2	020942	022878	MO	RT	PX	B02	N	C	D		2D MAIN STEAM LINE RAD MON READING DOWNSCALE	HI VLTG LEAD TO MON WAS IMPRPRLY ATTACHED
G	QC2	025310*	042979	LS	DT	PX	A05	T	C	D	13	MSIV LIMIT SWITCHES FOUND OOC	SET IMPROPERLY AT MANUFACTURER
G	QC2	036617	031281	ZZ	XG	IC	B02	N	C	D		SYS WHICH MAINTAINS DP BETWEEN DRYWELL AND SUPPRE-	-SSION CHAMBER WAS LOST. PERSONNEL ERROR
G	VY1	019855*	101977	GS	PS	SH	A02	R	C	D	8	HPCI & RCIC STEAM LOW PRESS SWTCHS IMPOPRLY CALIBR	DIDN'T CONSIDER HEAD CORRECTION OF 23 PSI

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE	CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	AR1	013962	010576	PS	DC	NN	B	13	N	R	T		DURING NORMAL OP.,CONTROL ROD GROUP 6 TRIPPED	APP. CAUSE IS FAILURE OF GROUP 6 PS
B	AR1	017234A	021977	TX	FG	AG	B	13	T	R	D		FLOW TRANSMITTER ON HPI SYSTEM (LOOP A) FAILED	BELLOWS FAILED DUE TO OVERPRESSURIZATION
B	AR1	017234B	021977	TX	FG	AG	B	13	T	R	D		FLOW TRANSMITTER ON HPI SYSTEM (LOOP A) FAILED	BELLOWS FAILED DUE TO FATIGUE
B	CR3	017175	020177	IN	TG	NN	B	13	T	R	U		RC REMOTE TEMPERATURE INDICATOR FOUND TO BE IN ERR	METER MOVEMENT FAILED-REPLACED & CALIBRAT
B	CR3	018232	060777	MO	RR	NN	B	07	N	R	D		RMA-6 VAC PUMP INOPERABLE ON THREE DIFFERENT OCASN	THRML COND CAUSED TRIP, USING TEMP FAN
B	CR3	018384	062977	IN	DG	NN	B	13	N	R	T		ABSOLUTE POSITION INDICATOR DECLARED INOPERABLE	FAILURE OF ABSOLUTE POSITION INDICATOR TU
B	CR3	019002	091877	MO	RR	NN	B	13	N	R	T		RB PURGE MONITOR RM-A1 DECLARED INOPERABLE	VACUUM PUMP FAILED
B	CR3	019304*	092077	IN	DG	NN	B	13	N	R	T	4	API FOR ROD 1 GROUP 8 FAILED	MIS-ALIGNMENT OF API TUBE
B	CR3	019639	110777	MO	RR	NN	B	13	N	R	D		RM-A6 VAC PUMP INOPERABLE, CSD LOSS OF LK DET SYS	WORN & DISTORTED CARBON VANES,2ND OCCURNC
B	CR3	021209	042878	MO	RR	NN	B	13	N	R	T		MOTOR OL RELAYS FOR RAD MON RM-2 FOUND DEFECTIVE	MOTOR OVERLOAD RELAYS WERE RENEWED
B	CR3	021777	060378	MO	RR	NN	B	13	T	R	T		AUX BLDG MONITOR FAILED TO RESPOND	FAILED SURGE CAPACITOR IN CONTROL RELAY
B	CR3	022708	092078	MO	RR	NN	A	14	N	R	T		RX BUILDING AIR SAMPLE MONITOR INOPERABLE (RMA 6)	FLOW CONTROLLER OUT OF ADJUSTMENT
B	CR3	023168	111378	MO	RR	NN	B	13	N	R	T		VACUMN PUMP FOR RAD MON RMA-1 SEIZED	CAUSE NOT MENTIONED,REPAIRED BY NORM MAIN
B	CR3	023165	112178	GS	DC	NN	A	12	T	R	T		API FOR ROD 4 GROUP 3 NOT OBSERVED AS ROD MOVED	STICKING REED SWITCH
B	CR3	023420	121378	RE	XC	IC	B	12	T	R	T		RB3-GP-2 LIGHT DID NOT LIGHT WHEN CIRCUIT TESTED	RELAY L IN ES CABINET STUCK,CLEANED
B	CR3	023421*	121378	GS	DC	NN	A	12	T	R	T	2	API FOR ROD 5 GROUP 6 FLUCTUATING(OCCURRED TWICE)	STICKING REED SWITCHES
B	CR3	023418	122478	MO	RR	NN	B	13	N	R	T		SAMPLE PUMP FOR RAD MON RMA-6 FAILED	WORN AND DISTORTED CARBON VANES
B	CR3	025353	011979	RE	XS	SN	B	12	T	R	T		RELAY AR IN CABINET 5C FAILED	DIRTY CONTACTS
B	CR3	025357	021479	RE	XS	IC	B	12	T	R	D		RELAY FAILED	BURR ON RELAY SHAFT
B	CR3	025628	031879	MO	RR	NN	B	13	N	R	U		RX BLDG IODINE RAD MON RMA-6 FOUND INOP	FAILED PRINTED CIRCUIT BOARD
B	CR3	025992A	051079	AM	NI	PX	A	14	T	R	T		NUCLEAR SOURCE RANGE INS NI-2 FOUND OOC	COUNT-RATE AMP HAD DRIFTED
B	CR3	026208	052379	RC	XG	AG	B	13	N	R	T		HEAT TRACE RECORDER HTRI-5 FAILED	DRIVE CORD LOOSE
B	CR3	026670A	073179	MO	RR	NN	B	11	N	R	D		RX BLDG ATMOS MONITOR RMA-6 FOUND ISOLATED	ISO VLV CONTROL SW WIRES FOUND DAMAGED
B	CR3	026670B	0801[illegible]	MO	RR	NN	B	11	N	R	D		RX BLDG ATMOS MONITOR RMA-6 FOUND ISOLATED	ISO VLV CONTROL SW WIRES FOUND DAMAGED
B	CR3	027277	093079	IN	TG	SL	B	13	N	R	U		REMOTE SD IND FOR B DHR COOLER OUTLET TEMP DH-40-T	//I FOUND INOPERABLE. METER MOVEMENT
B	CR3	027436	102879	IN	TG	SL	B	13	N	R	U		B DHR COOLER OUTLET TEMP DH-40-TI FOUND INOPERABLE	LOOSE PRECISION RESISTOR ASSEMBLY
B	CR3	027477	110879	RC	XG	AG	B	13	N	R	T		HEAT TRACE RECORDER HTRT-5 FAILED	BROKEN DRIVE CORD
B	CR3	027952	122179	IN	TG	SL	B	13	N	R	U		A DHR COOLER OUTLET TEMP DH-39-TI FOUND INOPERABLE	FAILED METER MOVEMENT
B	CR3	028083	122779	MO	RR	NN	B	08	N	R	T		CONTROL COMPLEX RAD MON RMA-5 FAILED	SAMPLE PUMP MOTOR HAD SEIZED
B	CR3	033760	080680	CL	FS	SN	B	11	T	R	T		"A" DECAY HEAT PMP THRTTL VLV,DHV-110,NO AUTO FLOW	AIR IN THE CONTROLLER SENSING LINE
B	CR3	032554	082780	CL	FG	SL	B	11	T	R	T		"B" DECAY HEAT PMP DSCHRG THRTTL VLV NO AUTO FLOW	AIR IN THE SENSING LINE
B	CR3	032682	091680	GS	XS	SL	B	08	T	R	T		"B" DECAY HEAT PMP DSCHRG THRTTL VLV NO AUTO FLOW	ROLLR NUT NOT ACTUATG HI ALRM CAM IN SW
B	CR3	033355A	111980	IN	LG	SN	B	11	N	R	T		LVL IND FOR SODIUM HYDROXIDE TANK BST-2 ERRATIC	WATER IN SENSING LINES
B	CR3	033355B	112980	IN	LG	SN	B	11	N	R	T		LVL IND FOR SODIUM HYDROXIDE TANK BST-2 ERRATIC	WATER IN SENSING LINES
B	CR3	033566	121880	RE	XS	SN	B	13	T	R	T		LOAD SEQUENCE BLOCK 3 TRIP CKT WOULD NOT RESET	LOOSE CNNCTN IN RELAY 62-2/RC3 MOUNT BLCK
B	CR3	033567	121880	MO	RR	SN	B	13	N	R	T		ATMOSPHERIC RADIATION MONITOR RM-A5 WAS INOPERABLE	NORMAL WEAR CAUSED SEIZED SAMPLE PUMP
B	CR3	036231	012681	MO	RR	NN	B	13	N	R	U		RAD MON RM-A5 WOULD NOT RESTART AFTER MAINT	BLOWN FUSE NO FAULT FOUND IN CKT
B	CR3	036510	030181	RE	XS	IC	B	12	T	R	U		RX BLDG ISO CH B GROUP 2 RELAY FAILED	BURR FOUND ON RELAY SHAFT
B	CR3	038101	071581	CL	FG	SL	A	00	T	R	U		DH PMP DSCHRG THROTTLE VLV WOULD NOT CNTRL FLO IN/	/AUTO. SW IN FLOW CONTROL INSTRUMENT
B	CR3	038474	081581	MO	RR	NN	B	08	N	R	U		ATMOSPHERIC RAD MON RM-A5 INOP FAILD SAMP VAC PUMP	BROKEN CARBON VANES IN PUMP
B	CR3	038794	090581	IN	TG	NN	B	00	T	R	U		RX COOLANT TEMP INSTR RC-4A-T12 WAS INOPERABLE	CAUSE ATTRIBUTED TO A STACK METER
B	CR3	038778	091881	RE	XS	SN	B	12	T	R	T		ES CABINET RELAY FOR R6 3 CHANNEL FAILED	STUCK RELAY DUE TO DIRT
B	CR3	039187A	101381	SE	NG	NN	A	14	T	R	T		COUNT RATE AMP FOR NI-2 OOT	INSTRUMENT DRIFT
B	CR3	039187D	102781	CA	NG	NN	B	00	T	R	U		LOSS OF AUDIBLE COUNTS IN CONTAINMENT	GOUNDED CABLE
B	CR3	171804A	122181	RE	XS	IC	B	13	T	R	U		RELAY 63Z 3D/RB-3(FOR CNTNMNT ISO VLV CFV-27) INOP	COILS & PLUNGER REPLACED
B	CR3	171804B	122181	RE	XS	IC	B	13	T	R	U	2	RELAYS 63Z 4D/RB-1 & 2E/RD-3 FOR CNTNMNT ISO VLVS-	-FAILED. COILS AND PLUNGERS REPLACED
B	CR3	172318	122981	GS	FS	SL	A	00	T	R	U		THROTTLE VLV DHV-110 WOULD NOT CNTRL DECAY HEAT //	REMOVAL FLOW. FLOW SWITCH OOC
B	DB1	019379	101177	IN	NG	PX	B	00	N	R	U		SOURCE RANGE DETECTOR NI-1 INDICATION FAILED LOW	CAUSE UNKNOWN
B	DB1	019526	102777	IN	NG	PX	A	00	N	R	U		SOURCE RANGE NI-1 INDICATION FAILED LOW	EXACT CAUSE UNKNOWN
B	DB1	019528	102877	MO	RR	SN	B	13	T	R	U		SFAS CH 4 RAD MONITOR RIS 2007 FAILED	LOW AMP BOARD WITHIN DETECTOR WAS DEFECTI

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	DB1	019636	110777	MO	RR	SN	B13	N	R	T		RAD MONITOR RIS 2007 SHOWING ERRATIC READINGS	LOW RANGE AMPLIFIER BOARD 847-1-20 FAILED
B	DB1	019817	112977	MO	RR	SN	B13	N	R	T		SFAS CH 3 RE 2006 DECLARED INOPERABLE AFTER TRIP	DETECTOR FAILURE
B	DB1	019814*	120177	IN	NG	PX	A00	N	R	U	2	SOURCE RANGE NI-1 INDICATION DROPPED TO ZERO TWICE	CAUSE UNKNOWN-PROBLEM IS INTERMITTENT
B	DB1	019944*	120477	IN	TG	PX	B09	N	R	T	3	RPS CH 3 LOOP 1 HOT LEG TEMP IND(TI-RC3B4)FAILED H	TERMINAL CONNECTION TO RPS OXIDIZED
B	DB1	019942*	120777	TX	LS	SN	B07	N	R	D	2	SFAS CH 3 BWST LEVEL TRIPPED LOW	TRANSMITTER SENSING LINE FROZEN
B	DB1	019943	120777	PS	FT	PX	B13	N	R	T		RPS CH 3 FLOW LOOP B FAILED LOW	FAULTY CONTACT ON POWER SUPPLY FUSE HOLDE
B	DB1	020451	020278	IN	DG	NN	B00	N	R	U		GROUP 5 ROD 12 API DECLARED INOPERABLE	EXACT CAUSE UNKNOWN-OUTAGE WORK ORDER
B	DB1	020706*	021078	CA	TT	PX	B09	T	R	U	2	RPS CH 3 HOT LEG TEMP STRING TI-RC3B4 INOPERABLE	LOOSE WIRE CONNECTION AT TEMP ELEMENT
B	DB1	020705*	022078	IN	DG	NN	B00	N	R	U	3	GROUP 5 ROD 12 API DECLARED INOPERABLE	CAUSE UNKNOWN
B	DB1	020704	022378	TX	FT	PX	B13	N	R	T		RPS CH 3 LOOP 2 HOT LEG FLOW FTRC1A3 INOPERABLE	DEFECTIVE AMPLIFIER IN FLOW TRANSMITTER
B	DB1	020988	030978	MO	RR	NN	B07	N	R	I		RAD MONITOR RE5029 INOPERABLE DUE TO LOW SAMPLE FL	MOTOR BEARING SEIZURE-HIGH TEMP IN CABINE
B	DB1	020990	031878	TX	LG	NN	B07	T	R	D		STEAM AND FEEDWATER RUPT CONT SYS CH 1 S/G 1-1 LEV	WATER IN CONNECTION BOX TRANSMITTE SP0988
B	DB1	021183*	032278	MO	RR	SN	B13	N	R	D	2	RAD MONITORS RE 2004 AND RE 2006 FAILED REPEATEDLY	REPLACED ENTIRE UNITS-MOVED TRANSFORM WIR
B	DB1	021179	032678	IN	DG	NN	B00	N	R	U		ROD 12 GROUP 5 API DECLARED INOPERABLE	CAUSE UNKNOWN-STILL UNDER INVESTIGATION
B	DB1	021577	051578	MO	RR	SN	B13	T	R	T		RAD MON RE2004 COULD NOT BE CALIBRATED WITHIN TOLE	RAD DETECTOR RE2004 FAILED
B	DB1	021850	060878	MO	RR	NN	B13	N	R	I		PUMP FOR POST ACC RAD MON RE5030 FAILED	CAUSE UNKNOWN
B	DB1	021961	062978	MO	RR	NN	B13	N	R	T		CONTAINMENT RAD MONITOR RE5030 INOPERABLE	MOTOR PULLEY FAILED
B	DB1	022055	072878	MO	RR	NN	B13	T	R	T		CONT VESSEL RAD MONITOR RE5029 INOPERABLE	MOTOR PULLEY FAILURE
B	DB1	022371*	080778	MO	RR	SN	B07	N	R	T	2	RAD MONITORS RE2007 AND RE2004 INOPERABLE	HIGH AMBIENT TEMP CAUSED DETECTOR FAILURE
B	DB1	022368	080978	MO	RR	NN	B13	T	R	D		PUMP MOTOR FAILED FOR RE5030	MOTOR DREW EXCESSIVE CURRENT AND TRIPPED
B	DB1	022363	090278	MO	RR	NN	B07	N	R	D		RAD MON RE5029 HAD ERRATIC FLOW	MOTOR NOT DESIGNED TO OP IN HIGH TEMP.
B	DB1	022364	090678	IN	NG	PX	B00	N	R	U		SOURCE RANGE INSTRUMENT NI-1 FAILED LOW	CAUSE UNKNOWN
B	DB1	022689	092878	TX	FT	PX	B13	N	R	U		RPS CH 1 LOOP 2 FLOW TRANSMITTER FAILED LOW	DEFECTIVE AMPLIFIER
B	DB1	023003	100678	PS	XS	SN	B13	N	R	I		CH 1 STEAM AND FEED RUPT CONT SYSTEM TRIPPED	CHANNEL POWER SUPPLY WAS DEFECTIVE
B	DB1	023241	120478	MO	RR	SN	B13	N	R	T		RAD MONITOR RE2005 DECLARED INOPERABLE	FAILURE OF DETECTOR MODULE
B	DB1	023240	120778	MO	RR	NN	B07	N	R	D		RAD MON RE5030 MOTOR BEARING FAILED	MOTOR OP. ABOVE DESIGN AMBIENT TEMPERATUR
B	DB1	023545	121978	MO	RR	NN	B13	N	R	U		RAD MONITOR RE744 INOPERABLE-LOW FLOW NOT DETECTED	LOW FLOW LIGHT FAILED
B	DB1	025059B	010679	RE	XG	SN	B00	T	R	U		FAILED RELAY K51A DISCOVERED IN SFAS CH 4	NO CAUSE GIVEN
B	DB1	026809A	012279	MO	RR	NN	B08	N	R	T		STATION VENT MON RE 2024 DECLARED INOPERABLE	NORMAL VANE WEAR ON SAMPLE PUMP
B	DB1	026809B	012679	MO	RR	NN	B08	T	R	D		STATION VENT MON RE 2025 DECLARED INOPERABLE	PUMP SEIZED DUE TO EXCESSIVELY LOW FLOW
B	DB1	025524	021779	MO	RR	NN	B08	T	R	T		POST-ACCIDENT RAD MON RE5030 HAD NO FLOW	SAMPLE PUMP BEARINGS SEIZED
B	DB1	025530	031079	MO	RR	NN	B08	N	R	D		POST-ACCIDENT RAD MON RE5029 TAKEN OOS	LOSS OF LUB TO SAMPLE PUMP BEARINGS
B	DB1	025601B	050279	ZZ	XG	SN	B00	M	R	U		NOISY CONSTANT CURRENT POTENTIOMETER DISCOVERED //	IN SFAS CABINENT. NO CAUSE GIVEN
B	DB1	026256A	052179	GS	PG	CT	B13	T	R	T	2	AFW SUCTION PRESS SW'S PSL4928B&PSL4930A INOPERABL	PERMEATING OF FLUID THROUG DIAPHRAM
B	DB1	026571A	070579	RE	PG	CT	B09	T	R	U		CONTROL RELAYS IN AFW PMP TURBINE INLET VLV LP TR/	/IP FAILED. PINS NOT MAKING CONTACT
B	DB1	026592	070879	TX	LG	NN	B13	N	R	U		TRANSMITTER LT-CF3B2 FOR LEVEL IN CORE FLOOD TANK/	/FAILED DUE TO A FAILED AMP IN TX.UNKNOWN
B	DB1	026596	070879	SE	DC	NN	B00	N	R	U		POSITION INDICATION ON ROD 2 GROUP 8 INOPERABLE	FAILED REED SWITCH. CAUSE UNKNOWN
B	DB1	026591B	070979	RE	PG	CT	B09	T	R	U		CONTROL RELAYS IN AFW PMP TURBINE INLET VLV LP TR/	/IP FAILED. PINS NOT MAKING CONTACT
B	DB1	026590*	071079	CA	NG	NN	B12	N	R	T	2	IND FOR SOURCE RANGE NI-1 FAILED LOW. CLEANING &/	/ TIGHTENING CONNECTORS CORRECTED PROBLEM
B	DB1	026681	071279	SE	DC	NN	A12	N	R	T		INDICATION FOR ROD 4 GROUP 8 LOST MOMENTARILY WH//	I'E MOVING PAST CORRODED REED SWITCH.
B	DB1	026682	071679	MO	RR	SN	B13	N	R	U		RAD MON SPIKED IN CNTNMNT CAUSING SFAS CH 2 BISTAB	//LE TO TRIP. APPARENT CAUSE IS DETECTOR
B	DB1	026683	071779	MO	RR	NN	B13	N	R	D		POST-ACCIDENT RAD MON RE5029 TAKEN OOS	PUMP BEARINGS SEIZED DUE TO HIGH TEMP.
B	DB1	026684	072079	MO	RR	NN	B08	N	R	D		POST-ACCIDENT RAD MON'S RE5030&5029 FOUND NOT RUN-	//ING. BYPASS FLOW REQUIRED ADJUSTMENT
B	DB1	026685A	072079	SE	DC	NN	A12	N	R	T		API FOR GROUP 5 ROD 4 FLUCTUATED	OXIDE BUILDUP ON PI TUBE REED SWITCH
B	DB1	026685B	072279	SE	DC	NN	A12	M	R	T		API FOR GROUP 5 ROD 6 FOUND ERRONEOUS	OXIDE BUILDUP ON PI TUBE REED SWITCH
B	DB1	026687	072279	MO	RR	NN	B13	N	R	D		POST-ACCIDENT RAD MON RE5030 DECLARED INOPERABLE	PUMP BEARINGS FAILING DUE TO HIGH TEMP.
B	DB1	026689	073179	PS	XC	NN	B13	N	R	T		ROD DRIVE SEQUENCE FAULT RECEIVED FOR GROUP 6 RODS	FAULTY INT CIRC IN LOGIC MOD PWR SUPPLY
B	DB1	027122*	090879	CA	MC	NN	B12	N	R	T	2	SOURCE RANGE NI-1 AND INTER RANGE NI-3 FAILED LOW	DIRTY CONNECTORS ASSOCIATED WITH CHANNELS
B	DB1	027418	101479	SE	XC	NN	B00	N	R	U		API FOR GROUP 7 ROD 7 INDICATED ASYMMETRIC	REPLACE PI TUBE AND CABLE
B	DB1	027419	101779	MO	RR	SN	B13	N	R	T		SFAS CH 2 RAD DETECTOR RE2005 SPIKED TRIPPING BIS/	/TABLE. LOW RANGE AND AUX BOARD DEFECTIV

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	DB1	027869	112979	SE	DC	NN	B12	N	R	T		POSITION INDICATION LOST FOR GROUP 7 ROD 5	FAILURE OF REED SW DUE TO OXIDE BUILDUP
B	DB1	027915	113079	IN	DG	NN	A13	N	R	T		ROD 8-1(GROUP 8) INDICATED 8% LOWER THAN GROUP AVE	FAULTY METER MOVEMENT
B	DB1	032030A	072080	AM	NG	NN	B09	N	R	T		NI-1 S/U RATE PEG HI THEN LO P SOURCE RNG IND ZERO	WEAK SIGNAL PULSES FROM A PRE-AMPLIFIER
B	DB1	032030B	080980	AM	NG	NN	B09	N	R	T		NI-1 S/U RATE PEG HI THEN LO & SOURCE RNG IND ZERO	WEAK SIGNAL PULSES FROM A PRE-AMPLIFIFR
B	DB1	033273	112880	GS	PS	SN	B13	T	R	T		AFW SYS 1-2 INOP DUE TO INOP PSL1070	NAT'L WEAR OF ACTUATOR & ACTUATION SW
B	DB1	036396	021281	SE	DG	NN	B09	N	R	D		CNTRL ROD 1-3 API FLUCTUATING SIG DECLRD INOP	NOISE PICKED UP IN ELEC PENE MODULE
B	DB1	036729	032381	SE	DG	NN	B00	N	R	U		CNTRL ROD 4-7 API FLUCTUATING S S DECLRD INOP	PROBLM APPEARS TO BE IN ELEC PENE MODULE
B	DB1	037186	050581	PS	FG	NN	B13	N	R	U		FLO IND FYI-HP3A RDG W/ PUMP OFF & VLV CLOSED	BUFFR AMP FAILD DUE TO BAD -24VDC PWR SUP
B	DB1	038180	072781	MO	RR	NN	B13	N	R	T		RE-5030 PUMP TRIPPED DUE TO LOW FLOW	BAD BEARINGS DUE TO NAT'L END-OF-LIFE
B	DB1	038589A	082081	TX	LS	SN	B13	N	R	U		BWST-3 LVL FAILED W/ HIGH INDICATIONS	FAULTY PREAMP BOARD IN XMTR
B	DB1	038589B	082981	TX	LS	SN	B13	N	R	U		BWST-3 LEVEL FAILED W/ HIGH INDICATIONS	FAULTY PREAMP BOARD IN XMTR
B	DB1	038801	090981	MO	RR	NN	B08	N	R	T		POST ACCIDENT CNTNMNT RAD MON INOP DUE TO LO FLOW	PUMP FAILURE--NAT'L END-OF-LIFE
B	DB1	038991A	100381	IN	DC	NN	A00	N	R	U		API ON GROUP 4 ROD 7 FLUCTUATING 5-10% OF FULL RNG	UNKNOWN
B	DB1	039060A	101281	MO	RR	NN	A08	N	R	T		RE-5029 PUMP NOT PUNNING	PUMP VANE WEAR--NORMAL WEAR
B	DB1	039060B	101381	MO	RR	NN	A08	N	R	T		RE-5029,-5030 PUMP NOT RUNNING	PUMP VANE WEAR--NORMAL WEAR
B	DB1	038991B	102081	IN	DC	NN	A00	N	R	U		API ON GROUP 4 ROD 7 FLUCTUATING 5-10% OF FULL RNG	UNKNOWN
B	DB1	039060C	110381	MO	RR	NN	B08	N	R	T		RE-5030 PUMP NOT RUNNING	PUMP VANE WEAR--NORMAL WEAR
B	OE1	016400	112176	MO	RR	NN	B13	T	R	T		RIA-43 PARTICULATE MONITOR INOPERABLE	LOG-RATE METER CARD BAD CAPACITOR
B	OE1	017606A	040977	TX	LG	SN	A11	N	R	U		BORATED WATER STORAGE TANK LEVEL INDICATE FLUCTUAT	CLOGGING BUILDUP OF BORIC ACID RESIDUE
B	OE1	017606B	041277	TX	LG	SN	A11	N	R	U		BWST LEVEL INDICATION FLUCTUATING	ENTRAINMENT OF BUBBLES IN LINE
B	OE1	017606C	041677	TX	LG	SN	A11	N	R	U		BWST LEVEL INDICATION FLUCTUATING	ENTRAINMENT OF BUBBLES IN LINE
B	OE1	017821	050677	IN	LG	SN	A00	N	R	U		BWST LEVEL CH 1 INDICATING LOW	POSSIBLY HEAT TRACE CONTROLLER INTERMITT
B	OE1	020670	122977	TX	PG	SN	A07	T	R	U		CH 1 WR PRESS INDICATING HIGH	STM LEAK AFFECTED CALIBRATION 56PH XMTR
B	OE1	022226	080878	TX	PG	SN	A07	N	R	T		RB NAR RNG PRESS IND CH 1 INDICATING HIGH	DRIFT DUE TO EXTREMES OF TEMP/HUMIDITY
B	OE1	022348*	091478	TX	PG	SN	A07	T	R	U	2	PT 4 & 6 OUT OF CAL HIGH NON- CONSERVATIVE	EXCESSIVE TEMP/HUMIDITY INDUCED DRIFT
B	OE1	022918	102678	TX	PT	PX	A07	T	R	U		RPS CH A TRIP 9.6 HIGHER THAN TS	EXCESS TEMP/HUMIDITY INDUCED DRIFT
B	OE1	025179	012579	MO	RR	NN	B13	N	R	T		FLOW TO 1RIA 47,48 & 49 RAD MONITORS. RIA 47 SAMP	//LE PUMP SEIZED,TRIPING COMMON PMP MOTOR
B	OE1	026397	061579	MO	RR	NN	B11	N	R	D		RB GASEOUS RADITION MONITORS RENDERED INOPERABLE	ISOLATION VALVE FAILED CLOSED
B	OE2	023640	040178	TX	PS	SN	A14	N	R	T		ES ANALOG CH 2 PRESS XMTR TRIP NON-CONSERVATIVE	XMTR AMP DRIFT
B	OE2	022914	102378	TX	PS	SN	A07	T	R	U		ES ANALOG CH 3 PRESS XMTR TRIP NON-CONSERVATIVE	EXCESS TEMP/HUMIDITY INDUCED DRIFT
B	OE2	025175A	011879	TX	PS	IC	A14	T	R	T		ES CHANNEL C RB NARROW RANGE FOUND OUT OF CAL	INSTRUMENT DRIFT
B	OE2	025175B	012379	TX	PS	IC	A14	T	R	T		ES CHANNEL C RB NARROW RANGE FOUND OUT OF CAL	INSTRUMENT DRIFT
B	OE2	025175C	012979	TX	PS	IC	A13	T	R	T		ES CHANNEL C RB NARROW RANGE FOUND OUT OF CAL	AMPLIFIER REPLACED
B	OE2	025338B	020579	TX	PS	IC	A14	N	R	T		CHANNEL C RX BLDG NARROW RANGE PRESS TRANSMITTER//	FOUND OOC. INSTRUMENT DRIFT
B	OE2	027168	092479	MO	RR	NN	B11	N	R	T		RB GASEOUS RAD MON RENDERED INOPERABLE	ISOLATION RETURN VALVE FAILED CLOSED
B	OE3	023379*	112978	TX	PS	SN	A07	T	R	T	2	ES CH A & C TRIPPED DUE TO APPARENT DRIFT NR PRESS	TEMP/HUMIDITY EXTREMES
B	OE3	023399	112978	TX	PS	SN	A07	T	R	T		ES CH B SPURIOUS TRIP, HPI, LPI, BLDG ISOLATION	TEMP/HUMIDITY EXTREMES
B	OE3	026104	042379	MO	RR	NN	B11	N	R	T		RB GASEOUS RAD MONITORS RENDERED INOPERABLE	INLET ISOLATION VALVE FAILED CLOSED
B	TI1	014065	020376	RE	XG	NN	B12	T	R	D		AUTO-ACTUATN RELAY 62X3-RC3B IN RC CHNL 3B FAILD	MECHANICAL BINDING OF ARMATURE & CONTACTS
B	TI1	016831	051076	RE	PG	NN	B12	T	R	D		AUTO-ACT RELAY 63Z2C/RB2B IN RX BLDNG PRESS CH. 2B	FAILD TO GO TO SAFEGUARD POSITION
B	TI1	015971	091676	TX	PT	PX	B13	N	R	U		RC PRESS TRIP SETPTS. CHAN B LESS CONSRVTV THAN TS	DEFECTV TRANSMITTR(WEST. MODEL 59H)
B	TI1	018772	072677	MO	RR	SN	B06	N	R	D		RADIATION MONITOR RM-A2 OOS;R.B. SAMPLE NOT TAKEN	FAILD TO ENSURE O-RING IN PLACE
C	AR2	023289	120678	PS	DC	NN	B13	T	R	U		CEA CALCULATOR #2 DECLARED INOPERABLE	OSCILLATING REED SWITCH PO. XMITTER PS
C	AR2	025157	010279	TX	LG	NN	B11	N	R	D		REFUELING WATER LEVEL TRANSMITTER FAILED HIGH	FROZEN SENSING LINE ON 2LT-5639-3
C	AR2	025510	010379	TX	LG	NN	B11	N	R	D		RWST LEVEL TRANSMITTER 2LT-5639-3 FOUND INOPERABLE	FROZEN SENSING LINE
C	AR2	025219	011479	TX	LG	NN	B11	N	R	D		RWST LEVEL TRANSMITTER 2LT-5639-3 FOUND INOPERABLE	HEAT LAMP WENT OFF,SENSING LINE FROZE
C	AR2	025209A	012879	PS	XT	PX	B00	N	R	U		CHANNEL "D" CPC FAILED	POWER SUPPLY WAS REPLACED,NO CAUSE GIVEN
C	AR2	025209B	012879	ZZ	XT	PX	B00	N	R	U		CHANNEL "C" CPC FAILED	NO CAUSE FOUND
C	AR2	026483*	062779	MO	RR	NN	B07	N	R	T	2	CONDENSER VACUUM RMS MONITORS WERE INOPERABLE	MOISTURE BUILDUP IN SENSORS
C	AR2	026490	071879	MO	RR	NN	B08	N	R	D		RADWASTE AREA RAD MONITOR 2RE-8542 FAILED	SAMPLE PUMP HAD BROKEN COUPLING

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE O&U CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
C	AR2	026694	073079	MO	RR	NN	B13	N	R	T		CONTROL ROOM RAD MONITOR 2RITS-8750-1 FAILED HIGH	POWER SUPPLY FAILED DUE TO CIRCUITRY
C	AR2	026705	080779	CA	TT	PX	A09	N	R	T		COLD LEG TEMPERATURE INDICATION FOUND OSCILLATING	SIGNAL CONNECTORS WERE TIGHTENED
C	AR2	026704	080879	MO	RR	NN	B13	N	R	D		AUX BLDG RADWASTE AREA RAD MON 2RE-8542 FOUND //IN	OPERALE DUE TO A FAILED SAMPLE PUMP
C	AR2	026912	081879	ZZ	XT	PX	B00	N	R	U		"B" CPC FAILED CAUSING DNBR & LPD TRIPS IN "B" PPS	MEMORY FAILURE,MEMORY MODULE REPLACED
C	AR2	026906	082279	AM	DT	PX	A00	N	R	T		DATA LINK FROM CEAC #1 HAD WRONG OUTPUT	FAILED OPTICAL AMPLIFIER,CAUSE UNKNOWN
C	AR2	027126	092179	PS	DG	NN	B13	N	R	T		INDICATION FOR 2CV-5667-2 WAS LOST	FAILED POWER SUPPLY FUSE
C	AR2	027884	120579	IM	XT	PX	A00	N	R	U		SENSOR FAILURE ALARMS RECEIVED ON "C" CPC	SPURIOUS,NO CAUSE FOUND
C	AR2	027807	120779	PS	PT	PX	B00	N	R	T		CH "B" PZR PRESSURE INST OSCILLATE BETWEEN 0&1000	POWER SUPPLY FAILURE ON BISTABLE CARD
C	AR2	027809	121179	ZZ	XT	PX	B00	N	R	U		"C" CPC FAILED CAUSING DNBR & LPD TRIPS IN "C" PPS	DATA LINK FAILURE,NO CAUSE GIVEN
C	AR2	027963	121779	TX	LG	NN	B11	N	R	D		RWT LEVEL INDICATOR 2LI-5636-1 FAILED HIGH	TX SENSING LINES FROZE,PERSONNEL ERROR
C	AR2	027962	122179	ZZ	XT	PX	B00	N	R	T		"C" CPC FAILED CAUSING DNBR & LPR TRIPS IN "C" PPS	FAILED SPEED INPUT,NO CAUSE GIVEN
C	AR2	030208	010780	IM	XT	PX	B00	N	R	U		"B" CORE PROTECTION CALCULATOR FAILED	EXACT CAUSE COULD NOT BE DETERMINED
C	AR2	030226	011080	IM	XT	PX	B00	N	R	U		CHANNEL "C" CPC FAILED	NO FAILURE CAUSE WAS DETERMINED
C	AR2	030206	012380	IM	XT	PX	B00	N	R	U		CPC "B" FAILED	CPC REC'D OFF-NORM INPUT SIG CAUSE UNDET
C	AR2	030384	012880	IM	XT	PX	B00	N	R	U		CPC "B" FAILED	EXACT CAUSE COULD NOT BE DETERMINED
C	AR2	031041	041980	MO	RR	NN	B08	N	R	T		CONDENSER GAS SAMPLE MON 2RITS-0645 INOPERABLE	SEALED OUTBOARD BRG ON SAMPLE PUMP SEIZED
C	AR2	031679	052780	MO	RR	NN	B08	N	R	T		CONDENSER OFF-GAS RAD MON 2RITS-0645 INOPERABLE	BRG FAILURE ON SAMPLE MOTOR
C	AR2	031783A	070280	MO	RR	NN	B07	N	R	T		CONDENSER OFF-GAS RAD MON 2RE-0645 INOPERABLE	MOISTURE BUILDUP IN PIPING
C	AR2	031784	070380	MO	RR	NN	B13	N	R	U		CONT ATMOS RAD MON RITS8231 FOUND INOPERABLE	NO PARTICULATE PAPER
C	AR2	032093	070380	MO	RR	NN	B07	N	R	T		CONT ATMOS RAD MON 2RITS-8271 INOP	HIGH AMBIENT TEMPERATURE
C	AR2	032201A	072480	IM	DT	PX	B00	N	R	U		CEAC #2 INOPERABLE	UNKNOWN VENDOR EVALUATION IN PROGRESS
C	AR2	032203	073080	IM	XT	PX	B00	N	R	U		CPC CHANNEL FAILED	UNKNOWN FAILURE INVESTIGATION IN PROGRESS
C	AR2	031783B	082380	MO	RR	NN	B07	N	R	T		CONDENSER OFF-GAS RAD MON 2RE-0645 INOPERABLE	MOISTURE BUILDUP IN PIPING
C	AR2	032201B	082880	IM	DT	PX	B00	N	R	U		CEAC #2 INOPERABLE	UNKNOWN VENDOR EVALUATION IN PROGRESS
C	AR2	032201C	100880	IM	DT	PX	B00	N	R	U		CEAC #2 INOPERABLE	UNKNOWN VENDOR EVALUATION IN PROGRESS
C	AR2	032894A	101780	AM	DT	PX	B00	T	R	U		CEAC #2 FAILED	OP ISOL FOR BIT 12 DATA LINK CARD FAILED
C	AR2	032894B	102080	AM	DT	PX	B00	T	R	U		CEAC #2 FAILED	OP ISOL FOR BIT 12 DATA LINK CARD FAILED
C	AR2	032894C	102180	AM	DT	PX	B00	T	R	U		CEAC #2 FAILED	OP ISOL FOR BIT 12 DATA LINK CARD FAILED
C	AR2	038555A	080881	CA	XC	NN	B08	N	R	U		PLCEA-22 DROPPED & BECAME INOPERABLE	POOR CONTACT CNNCTN OF COIL DRIVER CARD
C	AR2	038555B	080981	CA	XC	NN	B08	N	R	U		PLCEA-22 DROPPED & BECAME INOPERABLE	POOR CONTACT CNNCTN OF COIL DRIVER CARD
C	AR2	039369	090981	MO	RR	NN	B07	N	R	T		CNDNSR OFF-GAS MON 2RE-0645 INOP ERRATIC BCKGRND//	SIG. MOISTURE BLDUP IN PIPING
C	CC1	017923	020776	CM	PS	SN	B13	T	R	T		CH ZD STEAM GENERATOR LP TRIP POINT TOO LOW	FAILURE OF LOOP INPUT RESISTOR
C	CC1	014466	030576	CA	PS	SN	A09	T	R	T		CH ZD STEAM GENERATOR LP TRIP SETPOINT TOO LOW	POOR ELECTRICAL CONTACTS CAUSED OFFSET
C	CC1	017926	051976	CM	PS	SN	B13	T	R	T		CH ZD STEAM GENERATOR LP TRIP SETPOINT TOO LOW	APPARENT CAUSE FAILURE OF INPUT RESISTOR
C	CC1	015107	060376	TR	PG	SN	B13	T	R	T		PZR PRESS BLOCK B/S SETPOINT TO LOW,CH ZE	FAILURE TRACED TO E/E SIGNAL ISOLATOR
C	CC1	015586	071776	CM	PS	SN	B09	T	R	T		PRESSURIZER PRESSURE CH ZF FAILED HIGH	POOR ELECTRICAL CONTACTS ON INPUT RESISTO
C	CC1	016404	102776	CM	PS	SN	A09	T	R	T		STEAM GENERATOR LP SETPOINT TO LOW	POOR ELE. CONTACTS ON INPUT RESISTOR
C	CC1	017995A	032577	SE	DC	NN	B13	N	R	T		BLOWN FUSES AND ERRATIC IND. FOR CEA20	FAILED REED SWITCH ASSEMBLY
C	CC1	017712	040477	CA	PT	PX	A09	N	R	T		PRESSURIZER PRESSURE INDICATION AT 1C06 READ HIGH	DIRTY SIDE LINK CONNECTIONS AT 1C250
C	CC1	017995B	041477	SE	DC	NN	B13	N	R	T		BLOWN FUSES AND ERRATIC INDICATION FOR CEA20	FAILED REED SWITCH ASSEMBLY
C	CC1	017713	050377	CM	NT	PX	B13	N	R	T		VARIABLE OVERPOWER TRIP,CH D, WHOULD NOT RESET	LOW LEVEL ALARM COMPARATOR HAD FAILED
C	CC1	017907	052377	CM	TT	PX	A09	N	R	U		RPS CH A HIGH POWER TRIPS GAVE SPURIOUS TRIPS	NOISE ON TEMP LOOP SIGNALS
C	CC1	018305	070177	CM	NT	PX	B13	N	R	T		RPS CH A HIGH POWER TRIP UNIT BECAME ERRATIC	COMPARATOR FAILURE
C	CC1	018429	072277	LM	XG	NN	B13	N	R	T		PLANT COMPUTER DISPLAYS BECAME ERRATIC	FAILED CONVERTER (ANALOG TO DIGITAL)
C	CC1	018951A	082677	TX	FT	PX	A07	N	R	D	2	RPS CH D TRIP UNITS BYPASSED,SPURIOUS LOW FLOW TR.	STEAM LEAK IN AREA OF LOW FLOW XMITTER
C	CC1	018951B	082977	TX	FT	PX	A07	N	R	D		RPS CH D TRIP UNITS BYPASSED,SPURIOUS LOW FLOW TR.	STEAM LEAK IN AREA OF LOW FLOW XMITTER
C	CC1	018951C	090777	TX	FT	PX	A07	N	R	D		RPS CH D TRIP UNITS BYPASSED,SPURIOUS LOW FLOW TR.	STEAM LEAK IN AREA OF LOW FLOW XMITTER
C	CC1	019619	102877	CM	NT	PX	B13	N	R	T		RPS CH C ASI INDICATOR DECLARED INOPERABLE	FAILED COMPARATOR MODULE
C	CC1	019983	121077	TR	PS	SN	B13	T	R	T		#11 S/G LP BISTABLE FOR ESFAS CH ZE DRIFTED LOW	ISOLATION TRANSFORMER FOR B/S FAILED
C	CC1	020626A	122377	RC	XG	NN	B12	T	R	T		SEISMIC ACCELERATION RECORDER FOUND INOPERABLE	STICKING TAKE-UP REAL MOTOR

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE DEV	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
C	CC1	0206268	011178	RC	XG	NN	B12	T	R	T		SEISMIC ACCELERATION RECORDER FOUND INOPERABLE	STICKING TAKE-UP REAL MOTOR
C	CC1	0215984	060378	PS	DC	NN	B13	N	R	T	3	CEA 20 DROPPED 3 TIMES IN ONE CAY	POWER SUPPLY FAILED (15 VOLT)
C	CC1	023651A	073078	LM	DG	NN	B13	N	R	T		COMPUTER FAILED CAUSING LOSS OF CEA PULSE COUNT PD	FAILED CIRCUIT BOARD IN CENTRAL PROC UNIT
C	CC1	022467	090678	MO	RR	NN	B07	N	R	T		CONTAINMENT ATMOS PARTICULATE MONITOR FAILED LOW	MOISTURE AND CORROSION IN SCINTIL. TUBE
C	CC1	022601	092678	TR	PS	SN	B13	T	R	T		SGIS CH ZD TRIP SETPOINT FOUND OUT OF CALIBRATION	ISOLATION TRANSFORMER 1-E/E-1013A FAILED
C	CC1	023273	102078	MO	RR	NN	B13	N	R	T		RAD MON DISCOVED INOP DUE TO MALFUNCTIONING PUMP	PUMP SEIZED DUE TO NORMAL END OF LIFE
C	CC1	025181	020879	LM	XG	NN	B12	N	R	T		PLANT COMPUTER FAILED ON 020879 & 021279	DIRTY AND LOOSE POWER SUPPLY CONNECTIONS
C	CC1	026441	070879	MO	RR	NN	B07	N	R	D		CNTNMNT GAS RAD MON 1-RE-5281 INDICATED	FAILED DETECTOR DUE TO PRESENSE OF WATER
C	CC1	026668	071979	PS	DG	NN	B13	T	R	U		METRASCOPE POSITION FOR 4 CEA'S LOST	POWER SUPPLY FAILED DUE TO FAILED CAPAC.
C	CC1	027968	071979	SE	TT	PX	B00	N	R	U		RPS CHANNEL A T-COLD INPUT FOUND FLUCTUATING	BELIEVED TO BE INTERMITTENT DETECTOR FAIL
C	CC1	026783	081179	MO	RR	NN	B12	N	R	T		CONTAINMENT AIR PARTICULATE MONITOR FAILED	DIRT ON DETECTOR SOCKET ASSEMBLY
C	CC1	026865A	081379	AM	DC	NN	B09	T	R	U		CEA MOTION INHIBIT NOT RECEIVED WHEN REQUIRED	FAULTY CEA #4 OPER AMP DUE TO HI CONDUCT.
C	CC1	026865B	081379	ZZ	DC	NN	B09	T	R	U		CEA MOTION INHIBIT NOT RECEIVED WHEN REQUIRED	CEA GR #4 OUT OF SEQ CTR,HI CONDUCTIVITY
C	CC1	027136	090779	CA	PT	PX	A12	N	R	T		#12 SG PRESSURE INDICATOR 1-PI-1023C DEVIATED	DIRTY LUGS IN ITS LOOP RESISTOR
C	CC1	027302	092879	MO	RR	NN	B08	N	R	T		CNTNMNT GAS AND PARTICULATE RAD MON SYS'S FAILED	SAMPLE PUMP SEIZED DUE TO NORMAL WEAR
C	CC1	028091	122579	MO	RR	NN	B13	N	R	U		AIR PARTICULATE AND GAS RAD MON SAMPLE PUMP TRIPPE	//D OFF LINE. CAUSE UNDETERMINED
C	CC1	030215	011080	MO	RR	NN	B07	N	R	T		LO FLO IND FOR CNTNMNT PART & GASEOUS MON SYS	BASKET LEAKAGE AT PARTCLT DET SAMPLE PIG
C	CC1	032466	081680	MO	RR	NN	B13	N	R	U		CNTNMNT GAS & RAD MON FAILED	SAMPLE PUMP FAILED
C	CC1	032465A	082080	LM	XG	NN	A09	N	R	T		PLANT COMPUTER FAILED LOST INCORE NUCLR DET SYSTEM	ERRATIC ELEC CNTCT AT EDGE CNNCTR PINS
C	CC1	032465B	082180	LM	XG	NN	A09	N	R	T		INCORE NUCLEAR DETECTOR SYSTEM FAILED	ERRATIC ELEC CNTCT AT EDGE CNNCTR PINS
C	CC1	032761A	100180	MO	RR	NN	B07	N	R	T		CNTNMNT ATMOS PARTICULATE RMS DET FAILED	WTR IN SAMPLER WETTING DET & ITS CONNECTR
C	CC1	032761B	100880	MO	RR	NN	B07	N	R	T		CNTNMNT ATMOS PARTICULATE RMS DET FAILED	WTR IN SAMPLER WETTING DET & ITS CONNECTR
C	CC1	033156A	110380	PS	PS	SN	A00	N	R	U		REENRGZG "B" ESFAS LOGIC CABNET #12 LPSI PMP TRIP	PS GAVE ERRATIC RECIRC SIG NO FILTER/REG
C	CC1	033156B	110480	PS	PS	SN	A00	N	R	U	2	REENRGZG "B" ESFAS LOGIC CABNT #12 LPSI PMP TRIP	PS GAVE ERRATIC RECIRC SIG NO FILTER/REG
C	CC1	036318	020581	SE	TT	PX	A09	M	R	U		INCREASED RESISTANCE IN TEMP DET 1-TE-112CD	INCREASED CONNECTN RESISTANCE IN CNTNMNT
C	CC1	036714	022681	MO	RR	NN	B13	N	R	T		CR RAD MON SAMPLE PMP OOS HI RAD AUTO RECIRC INOP	SAMPLE PUMP SEIZED NORMAL END OF LIFE
C	CC1	037758	060881	MO	RR	NN	B13	N	R	T		CNTNMNT RMS PUMP SEIZED LOST GAS/PART RAD MON	PUMP VANES BOUND & BROKE OFF--NAT'L EOL
C	CC1	037880	070181	MO	RR	NN	B13	N	R	D		CNTNMNT RMS PUMP TRPD LOST GAS/PART RAD MON	BROKEN RELAY LEAD DUE TO FLEXING FATIGUE
C	CC1	038623	083061	SE	TT	PX	A09	M	R	D		TM/LP TRIP UNIT BYPASSED WHILE TROUBLESHOOTING	HI RESISTNC CNNCTN AT SIG-DEVELP RESISTOR
C	CC1	038977A	100181	ZZ	FT	PX	A00	M	R	U		RPS D LO FLO TRP BYPASSED FOR CORRECTIVE MAINT	LO OUTPUT SIG FOR FLO CHARACTERIZER
C	CC1	038977B	100681	ZZ	FT	PX	A00	M	R	U		RPS D LO FLO TRP BYPASSED FOR CORRECTIVE MAINT	LO OUTPUT SIG FOR FLO CHARACTERIZER
C	CC1	038977C	101681	ZZ	FT	PX	A00	M	R	U		RPS D LO FLO TRP BYPASSED FOR CORRECTIVE MAINT	LO OUTPUT SIG FOR FLO CHARACTERIZER
C	CC1	172083	120981	LM	XG	NN	B13	N	R	U		PLANT COMPUTER FAILD THUS INCORE DET MON SYS INOP	MEMORY TRACK FAILED ON RAPID ACCESS DISK
C	CC1	172082	121581	LM	XG	NN	B13	N	R	U		PLANT COMPUTER FAILD THUS INCORE DET MON SYS INOP	TYPEWRITER DRIVE SYSTEM FAILURE
C	CC1	171533	121681	ZZ	NT	PX	A00	N	R	U		FAILED ASI LOWER SETPT IN CHN B AXL PWR TRIP UNIT	UNKNOWN
C	CC2	017047	010977	ZZ	XT	PX	A09	N	R	U		SPURIOUS TRIPS RECEIVED FROM CH B LOSS OF LOAD TR,	CIRCUIT NOISE CAUSED INDICATION OF TRIP
C	CC2	017987	033177	IN	NG	PX	A00	N	R	U		CH A NARROW RANGE NUC INST DEVELOPED EXCESS SPIKES	SPIKES CAUSED BY NOISE,NOISE CAUSE UNKN.
C	CC2	017709A	041977	LM	XG	NN	B13	N	R	T		PLANT COMPUTER MALFUNCTIONED	FAILED BUFFER LATCH
C	CC2	017709B	042077	LM	XG	NN	B13	N	R	T		PLANT COMPUTER MALFUNCTIONED	FAILED BUFFER LATCH
C	CC2	019620	110477	TR	PT	PX	B13	T	R	T		CONT. PRESS INPUT TO CH B RPS FOUND OCILLATING	FAILED E/E SIGNAL ISOLATOR
C	CC2	021696	060978	TR	PS	SN	B13	T	R	T		DEVIATION BETWEEN 21 S/G ESFAS CH ZF & OTHER CH	E/E ISOL TRANSFORMER Z E/E 1013C FAILED
C	CC2	022171	080178	LM	DG	NN	B13	N	R	T		COMPUTER FAILURE CAUSED LOSS OF ALL CEA POSITIONS	FAILED CIRCUIT BOARD
C	CC2	022304	082878	RE	DC	NN	B13	T	R	T		CMI DISCOVERED NOT OPERABLE FOR CEA POS DEVIATION	BAD K2 RELAY ON THE RELAY CARD
C	CC2	023137A	120378	HS	TT	PX	B13	T	R	D		RPS CH C T-COLD WAS ERRATIC AND DECLARED INOP.	BAD DT-TM/LP CALCULATOR MODE SWITCH
C	CC2	023137B	120978	HS	TT	PX	B13	T	R	D		RPS CH C T-COLD WAS ERRATIC AND DECLARED INOP.	BAD DT-TM/LP CALCULATOR MODE SWITCH
C	CC2	023314A	121378	PS	LG	SN	B13	T	R	T		RWT LEVEL INDICATOR,LIA4142,FOUND OUT OF CAL.	POWER SUPPLY FOR Z-LI-4142 MALFUNCTION
C	CC2	023314B	121378	CM	LG	SN	A14	T	R	T		2-LI-4143,RWT LEVEL INDICATOR SETPOINT SET TOO LOW	SETPOINT DRIFT
C	CC2	025612	032779	LM	XG	NN	B13	N	R	T		PLANT COMPUTER FAILED RENDERING INCORE DETECTOR //	SYS INOP. FAILED CAPACITOR IN PWR MCN
C	CC2	026186	052579	IM	PS	SN	B00	T	R	U		ESFAS MODULE SIAS B-8 FAILED TO ACTUATE	FAILED LOGIC MODULE WAS REPLACED.
C	CC2	026313A	061579	MO	RR	NN	B07	N	R	D		CNTNMNT ATMOS PARTICULATE MONITOR FAILED LOW	MOISTURE IN DETECTOR FROM STEAM LEAK

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	*PROCESS	SYSTEM	MODE &CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
C	CC2	026313B	061679	MO	RR	NN	B07	N	R	D		CNTNMNT ATMOS PARTICULATE MONITOR FAILED LOW	MOISTURE IN DETECTOR FROM STEAM LEAK
C	CC2	026396C	061979	MO	RR	NN	A13	N	R	U		CNTNMNT GASEOUS AND PARTICULATE RAD MON SYS SAMPLE	//PUMP TRIPPED. BELIEVED TO BE SPURIOUS
C	CC2	026442*	071779	GS	DC	NN	A14	T	R	T	2	CEA'S 22 & 62 MI SWITCH'S FAILED TO PRODUCE A CMI	//WHEN DEVIATED MORE THAN 7.5". DRIFT
C	CC2	026676	071879	ZZ	TT	PX	A00	N	R	U		CHANNEL C T-HOT OBSERVED OSCILLATING APPROX 1 DEG.	CAUSED CHANNEL C TRIPS. CAUSE UNKNOWN
C	CC2	026680*	080579	ZZ	DC	NN	A14	T	R	T	5	CEA'S 6,7,49,51 & 58 FAILED TO INITIATE CMI SWITCH	INSTRUMENT DRIFT
C	CC2	027137	090579	CA	NT	PX	A12	N	R	T		CH D NUCLEAR LINEAR POWER RANGE IND ERRATICLLY HI	DRAWER RAILS WERE DIRTY
C	CC2	027171	092279	LM	XG	NN	B13	N	R	U		PLANT COMPUTER FAILED	PRINTED CIRCUIT BOARD FAILED
C	CC2	027943	121279	SE	NT	PX	A00	T	R	U		CH B INDICATOR INDICATED AXIAL OFF-SET OOC	SUSPECTED CAUSE IS CH B LOW SUBCH DETEC.
C	CC2	027945	121479	LM	XG	NN	B13	N	R	U		PLANT COMPUTER TAKEN OUT OF SERVICE	RAPID ACCESS DISC COUNTER MALFUNCTIONED
C	CC2	030393	012280	SE	NT	PX	A09	N	R	D		"B" TRIP UNITS HAD SPURIOUS HIGH POWER LEVELS	NOISE FROM EXCORE NI UPPER SUBCHNNL DET
C	CC2	031028*	041680	PS	XS	SN	B00	T	R	U	2	ESFAS LOGIC B PWR SUP OVERVOLT PROTECTN MOD TRIP	UNKNOWN
C	CC2	031369	050680	CA	NT	PX	A12	T	R	T		"B" AXIAL FLUX OFFSET INDICATING IMPROPERLY	WRNG VOLT SIG DIRTY CNNCTR OF DEVIATN CRD
C	CC2	032910	101480	MO	RR	NN	B13	N	R	T		CNTNMNT RMS PMP FAILED LOST GAS & PART RAD MON	GRAPHITE ON BRG CAUSED PUMP TO SEIZE
C	CC2	032909	101780	MO	RR	NN	B13	N	R	T		CNTNMNT PARTICULATE RADIOACTIVITY DETECTOR FAILED	BROKEN LEAD IN CNNCTR AGE & TIME FACTORS
C	CC2	036191A	011381	ZZ	PS	SN	B00	M	R	U		ESFAS ZD DEVIATION IN PRESS CHNL INDICATIONS	2-E/E-1023A FAILED GIVING A LO OUTPUT
C	CC2	037182A	041981	MO	RR	NN	B13	N	R	T		RMS SAMPLE PUMP FAILED DUE TO BROKEN MOTOR COUPLNG	RESULT OF EXCESSIVE WEAR--NAT'L EOL
C	CC2	037184A	043081	TX	TT	PX	B14	N	R	T	2	T-HOT "B" PROBLEM BYPASSED RPS B TRP #1,3,7,8,10	2-TT-112HB/122HB DRIFTED OOC LOW
C	CC2	037184B	051481	TX	TT	PX	B14	N	R	T	2	DECRS IN "B" T-HOT INDICATION BYPASSED TRP #1,7,10	2-TT-112HB/-122HA DRIFTED OOC LOW
C	CC2	037560	060481	TX	TT	PX	B14	T	R	T		TEMP XMTR 122HB OOC IN NON-CNSRVTV DIRECTION	INSTRUMENT DRIF
C	CC2	038331	080281	MO	RR	NN	B07	N	R	D		CNTNMNT PART MON RDG LO DFCTV DET TUBE SOCKET	HI SAMPLE HUMIDITY CAUSED PIN CORROSION
C	CC2	038522	082081	SE	TT	PX	B07	N	R	D		RESISTANCE TEMP DET FLUCTUATING IN VALUE	VIBRATION INDUCED OPEN ELEMENT
C	CC2	039347	102881	AM	TT	PX	B00	N	R	U		SPURIOUS ASYMMETRIC SG TRP SO BYPS RPS B TM/LP TRP	SIG ISOLATR FAILD TO A LO SIG OUTPT STATE
C	CC2	039424	110981	TX	PG	NN	B11	N	R	D		22A RCP MIDDLE SEAL PRESS XMTR SENSG LINE LEAKING	ADAPTER WELD CRACKED DUE TO VIBRATIONS
C	FC1	014507*	032676	IM	NT	PX	B13	N	R	U	2	B&H 19-301A ADD-SUB MODULE WENT INTO OSCILLATION	POSITIVE LIMIT MODULE DEFECTIVE REPLACED
C	FC1	014509	032776	IM	NT	PX	B04	N	R	U		B&H 19-301A ADD-SUB MODULE WENT INTO OSCILLATION	CIRCUIT MODIFIED PER LATER LER
C	FC1	014510	040576	IM	NT	PX	B04	N	R	U		CH B APD POS LIMIT HIGH	B&H 19-301A ADD-SUB MODULE OSCILLATING
C	FC1	014558	041376	IM	NT	PX	B04	N	R	U		CH A APD POS LIMIT HIGH	B&H 19-301A MOD OSCILLATES, RANDOM NOISE
C	FC1	019399	090877	RE	XS	SN	B12	T	R	D		LOCKOUT RELAY 86B-CPHS FAILED TO ACTUATE 86B-SIAS	86B-CPHS MISALIGNED RELAY CONTACT
C	FC1	019402	092677	TI	XG	SN	B12	N	R	D		SEQUENCER TIMER AC-10A ON TIMER SI-2 NO TIME OUT	HA-41A6-L-08 TIMER MECHANISM STICKING
C	FC1	019403	100277	RE	XG	NN	B13	N	R	T		LOCKOUT RELAY 86A1-CRHS FAIL TO ACTUATE	#12-HEA61C244 COIL FAILURE
C	FC1	019563	103177	PS	NT	PX	B13	N	R	T		SETPOINTS FOR APD "D" OF RPS INCORRECT	LAMBDA PS LCD-A-22 LOW OUTPUT, REPLACED
C	FC1	019822	112277	PS	NC	SN	B13	N	R	T		APD "D" CALCULATIONS DISPLAY INCORRECT	LAMBDA PS LCD-A-22 LOW OUTPUT, REPLACED
C	FC1	020487	021078	RE	XG	NN	B12	N	R	T		RELAY 86A1-CRHS FAILED TO ACTUATE	12HEA61C244 OPER MECH BIND INTERMITTENTLY
C	FC1	020848	032178	IM	NS	SN	B13	T	R	T		SIMULATED PVAR "A"OUT OF TOLERANCE	B&H 19-502 AMP SELECT MODULE FAILED
C	FC1	020849	032778	IM	XT	PX	B13	N	R	T		VAR HP TRIP "B" NOT INDICATING PROPERLY	B&H 19-309 MULTIPLIER MODULE FAILED
C	FC1	021691*	061378	TI	XG	SN	B12	T	R	D	2	TIMERS SI-1B & CH-1B OF SEQ S2-2 FAIL TO TIME OUT	STICKING OPERATING MECHANISM
C	FC1	021697	061978	IM	NT	PX	B13	N	R	T		VAR HP TRIP NOT INDICATING PROPERLY	B&H 19-502 AMP SELECT MODULE FAILED
C	FC1	021698	061978	SE	TG	SN	B13	N	R	T		TEMP IND B/122C HIGH OFFSCALE	RTD OPEN CIRCUITED AND WAS REPLACED
C	FC1	021801	071278	PS	PT	PX	B13	T	R	T		STM GEN PRESS TRIP OUT OF TOLERANCE	PWR MATE PS DRA 15-750 FAILED
C	FC1	022303	081478	PS	NT	PX	B13	T	R	T		"C" LIN PWR METERS READING LOW	PS MC-14.5-1.0 LOST REGULATION
C	FC1	022345	082878	TI	XG	SN	B12	T	R	D		TIMER SI-1B OF SEQ S2-2 FAIL TO TIME OUT	STICKING OPERATING MECHANISM
C	FC1	022230	083078	PS	NT	PX	B13	N	R	T		"B"RPS VAR OVER POWER TRIP RESET DEM ALARM ACTUATD	PS 19-601A 18VOLT FAILED UP TO 27VOLT
C	FC1	022638*	100278	TI	XG	SN	B12	T	R	D	2	TIMERS SI-1B & CH-1B OF SEQ S2-2 FAIL TO TIME OUT	STICKING OPERATING MECHANISM
C	FC1	022787	101478	SE	TT	PX	B13	N	R	T		COLD LEG IND B/122C HIGH OFFSCALE	RTD 104VC OPEN CIRCUITED
C	FC1	023026	111378	RE	XG	NN	B13	T	R	T		LOCKOUT 86B1/VIAS FAILED TO TRIP	12HEA61C239 FAILED DURING TESTING
C	FC1	025105	011779	IM	NT	PX	B13	N	R	U		'A' CHANNEL OF RPS FOR APD SETPOINTS FOUND FLUCTU/	/ATING.FAILED POTENTIOMETER MODULE
C	FC1	031387	051580	RE	XT	PX	B12	N	R	T		AB-1 MATRIX RELAY OF RPS FAILD TO TRP CLUTCH PWR//	SUP. MERCURY WETTD RELAY DIRTY CONTACTS
C	FC1	032563	091180	RE	XS	SN	B13	T	R	D		86B/VENT ISOL ACTUATN SIG LOCKOUT FAILED TO TRIP	86B/VIAS RELAY HAD A BURNED COIL
C	FC1	033061	102780	TI	XG	CT	B12	T	R	T		SEQUENCER SI-2 TIMER FW-6 TIMED OUT OOT	STICKY OPERATING MECHANISM
C	FC1	033717	122780	PS	PT	PX	B13	N	R	U		CURRNT LOOP IND PZR PRESS & INPT TO TM/LP OF RPS//	& SIAS FAILD LO. BLWN PS CRRNT LOOP FUSE

RECURRING FAILURE

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                                  A
                        P         C
                        R  S      T
   P                    O  Y  C   I   C F
N  L                    C  S M A  V T L A
S  A                 C  E  T O&U  I Y A I
S  N  CONTROL EVENT  O  S  E D S  T P S L
S  T  NUMBER  DATE   M  S  M E E  Y E S #        FAULT MODE DESCRIPTION                       FAULT CAUSE DESCRIPTION
-  --- ------- ------ -- -- -- --- - - - --       ----------------------                       -----------------------

C MI2 015340  072476 TX PS SN A14 T R T     PZR PRESS XMTR OUTPUT TRIP POINT HIGH             E11GM TRANSMITTER DRIFT
C MI2 017489  031377 AM NT PX B13 N R T     CH 8 RPS LIN PWR RNG LOWER DET CH FAIL FULL SCALE ELC-179-2110 LIN CURRENT AMP FAILURE
C MI2 019601  101477 AM NT PX B13 N R T     RPS CH D LIN PWR UPPER FAILED HIGH                FAILED AMP ELC-179-2110
C MI2 021642  052078 PS DC NN B13 T R T     CEA 8 FAILS TO MOVE DUE TO DAMAGED TIMER PWR SUPPL LCD-A-22 PS OUTPUT VERY HIGH TO TIMER
C MI2 025578A 032479 TX LT PX A14 T R T     S/G LEVEL TRANSMITTER FOUND OUT OF CAL LOW        ZERO SHIFT

C MI2 025578B 032479 TX PT PX A14 T R T   2 S/G PRESSURE TRANSMITTERS FOUND OUT OF CAL HIGH   ZERO SHIFT
C MI2 026023* 052279 CA NT PX B13 N R D   2 CHANNEL A AND D LINEAR POWER RANGE CHANNELS FOUND/ /INOPERABL.  PINS WHERE PUSHED IN
C MI2 026503  071279 LM NG NN B13 N R U     PLANT COMPUTER FAILED RENDERING IN CORE DETECTOR// MON SYS INOP.  FAILED CIRCUIT CARD
C MI2 027206  093079 AM DC NN B13 N R U     CEA MOTION INHIBIT DECLARED INOPERABLE.  FAILED// CEA POSITION DUE TO FAILED AMPLIFIER CARD
C MI2 027292* 100279 AM DG NN B00 M R U   2 CEA'S 6 6 7 S/D GROUP 8 INDICATED LOW            FAULTY INPUT OPERATION AMPLIFIER

C MI2 036794  031281 TX LS SN B13 N R U     "A" SAFETY INJ TANK LEVEL TRANSMITTER REPLACED    BAD AMPLIFIER CARD
C MI2 036910* 040181 SE NT PX A14 N R T   2 RPS CH D TRIPS ASSOCIATED WITH CORE FLUX BYPASSED DRIFT OF DETECTORS OR CABLE CONNECTORS
C MI2 037148  042781 TX LS SN A14 N R T     "A" SAFETY INJ TANK LEVEL TRANSMITTER FOUND OOC   INSTRUMENT DRIFT
C MI2 039414  111981 PS DG NN B13 N R U     CEA PULSE COUNTING POSITION INDICATION WAS LOST   BLOWN RESISTOR IN PLANT COMPUTER PS
C MY1 014009  011676 IM NT PX B13 T R D     RPS VAR OVER-POWER HIGH TRIP NON-CONSERVATIVE     FEEDBACK LIMITER MODULE WORN POTENTIOMETR

C MY1 014123  011676 PS FT PX B13 T R T     REACTOR LOW FLOW TRIP NON-CONSERVATIVE            PS DRA 15-750/15-7508 IMPROPER OUTPUT
C MY1 014010  012376 IM TI PX B13 N R D     DELTA-T INPUT TO TM/LP TRIP CALCULATOR LOW/ERRATIC B&H 10 TURN POTENTIOMETER WORN/DIRTY
C MY1 014262  021976 PS PT PX B13 T R T     RPS PZR PRESS HIGH TRIP POINT NON-CONSERVATIVE    DRA 15-750/15-7508 PS INCORRECT OUTPUT
C MY1 015074  061576 PS PT PX B13 T R T     RPS HIGH PRESS PZR TRIP NON-CONSERVATIVE          DRA 15-750/15-7508 PS INCORRECT VOLTAGE
C MY1 015276  072676 IM TT PX B13 T R T     CH 8 TM/LP TRIP LOWER THAN OTHER 3 CHANNELS       B&H 19-301A ADD/SUB MODULE FAILED

C MY1 015275  080376 IM TI PX B13 N P T     SPURIOUS TRIP CH D TM/LP                          B&H 19-502 AMPLITUDE SELECTOR FAILED
C MY1 016754  011877 PS FT PX B13 T R T     RPS LOW REACTOR COOLANT FLOW TRIP NON-CONSERVATIVE DRA 15-750/15-7508 PS INCORRECT VOLTAGE
C MY1 019260  092877 RE XT PX B13 T R T     RPS TRIP RELAY CONTACTS FAIL TO OPEN RELIABLY     GH2X1011 SEALED MERC WET RELAY FAILURE
C MY1 020759  022778 RE XT PX B13 T R T     RPS TRIP RELAY CONTACTS FAIL TO OPEN RELIABLY     GH2X1011 SEALED MERC WET RELAY FAILURE
C MY1 021040  033178 RE XT PX B13 T R T     RPS TRIP RELAY CONTACTS FAIL TO OPEN RELIABLY     GH2X1011 SEALED MERC WET RELAY FAILURE

C MY1 023219  112978 RE XT PX A00 T R U     RPS TRIP RELAY CONTACTS FAIL TO OPEN RELIABLY     GH2X1011 TESTED & BECAME OPERABLE
C MY1 025492  022679 RE XT PX B00 T R U     RELAY NOT OPERATING PROPERLY IN RPS RX TRIP MATRIX NO CAUSE COULD BE FOUND
C MY1 027209  092879 RE XT PX B00 T R U     RPS RELAY IN REACTOR TRIP MATRIX FAILED OPEN      NO CAUSE FOUND
C MY1 027529* 103179 RE XT PX B00 T R U   3 THREE RELAYS IN REACTOR TRIP MATRIX DID NOT OPEN  NO CAUSE FOUND
C MY1 028043* 122779 RE XT PX B00 T R U   2 TWO RELAYS IN REACTOR TRIP MATRIX DID NOT OPEN    NO CAUSE FOUND

C MY1 030805  032180 RE XT PX A08 T R D     RELAY CNTCT OF MATRIX RELAY WOULD NOT OPEN RELIA// BLY ON RELAY DE-ENERGIZATION
C MY1 031388  042280 RE XT PX A08 T R D     MATRIX RELAY CNTCTS WOULD NOT OPEN RELIABLY ON D// E-ENERGIZATION
C MY1 038214  081281 IM NT PX B13 N R T     PPS CH A WIDE RANGE LOG FOUND NOT OPERATING       FAILED LOW AMP SUMMER CIRCUIT BOARD
C PA1 014041A 011676 GS PS SN A00 T R U     RPS SW PS1604 OUT OF CAL BY PLUS 0.2 PSI          CAUSE UNKNOWN-SERIES 300-MOD J 302-553
C PA1 014041B 011676 GS PS SN A00 T R U   2 SIS SWCHS PS1801A(RT) & PS1803A(LFT&RT) OOC BY .05 CAUSE UNKNOWN-SERIES 300-MOD J 302-553

C PA1 014395  030676 ZZ NI PX A00 T R U     PWR RNG SAFTY CHNL NI006 TRIPPED AT 107.1 PRCNT   LINR CH PT NO-ELJ 147-000-1A,SN-NP-6-105
C PA1 015845  052076 RE XT PX B00 T R U     1 OF 24 RPS MATRIX RELAYS FAILD TO OPERATE        POSSIBLE DUE TO MERCURY WETTED CONTACTS
C PA1 018423  070177 RE XT PX B00 T R U     ONE MATRIX RELAY FAILED TO OPEN PROPERLY          MERCURY WETTED CONTACTS POSSIBLE CAUSE
C PA1 019462* 081677 TX FT PX B13 T R T   2 LO FLO DET CHNLS FOR 364 PUMP OPER MODES EXCEED TS ZERO&SPAN DRIFT-MOD 246 W MOD 199 BELLOWS
C PA1 020550A 013178 CM PG SN A14 T R T     SET PT OF PIC 0752B(MSIV) WAS 493 PSIA-OUT OF TS L IMIT-SETPOINT DRIFT-FOUND AS REASONABLE

C PA1 020550B 013178 CM PG SN A14 T R T     SET PT OF PIC 0751(MSIV BYPASS) 552.5- OUT OF TS L IMIT-SETPOINT DRIFT-FOUND AS REASONABLE
C SL1 019573  101877 LM DG NN B09 N R D     DDPS MALFUNCTION CAUSN LOSS OF B/U POSITION IND.  LOST REFERENCE POINT DURIN TRANSFR DDPS
C SL1 019574  102477 PS DC NN B13 N R D     DDPS MALFUNCT. CAUSN LOSS OF B/U POSITION IND.    POWER SUPPLY FAILD IN CENTRAL PROC. UNIT
C SL1 019575  102777 LM DG NN B09 N R D     DDPS MALFUNCT.-LOSS OF CEA B/U POSITION INDICATION LOST REF. POINT DURING TRANSFER OF DDPS
C SL1 019577  102877 CM LG SN A14 T R T     1OF4 CHANNLS RWT LEVEL SETPOINT SLIGHTLY ABOVE TOL 2ND OCCURNCE OF CHAN."A"..UPWARD B/S DRIF

C SL1 019589  102977 LM DG NN B13 N R D     DDPS OOS-LOSS OF CEA B/U POS.IND.--CIRCUITS REPLCD INTEGRTD CKT OUTPUT VARIED WITH TEMPERATR
C SL1 020308  010378 CM LG SN A14 T R T     1OF4 CHAN.(A) OF RWT LEVEL SETPOINT ABOVE TOLERNCE CAUSE OF DRIFT UNDETERMND
C SL1 021834  061578 LM DG NN B13 N R D     DDPS MALFUNCT..LOSS OF CEA B/U IND.               MALFUNCTIONING MULTIPLEXER CARD
C SL1 022175  073078 LM DG NN B09 N R D     DDPS MALFUNCTION--REPAIRED&BACK WITHIN ONE HOUR   MOMENTARY MEMORY LOSS--3RD OCCURRENCE
C SL1 022300  081378 LM DG NN B09 N R D     DDPS MALFUNCT DURIN TRANSFR FROM DISC TO ACTIVE   MOMENTARY LOST REFERENCE POINT--2HRS44MIN
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RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPES	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
C	SL1	022547	093078	LM	DG	NN	B09	N	R	D		DDPS MALFUNCTI REPAIRED & RETURND TO SERVICE 70MIN	MOMENTARY MEMORY FAILURE
C	SL1	0[illegible]3[illegible]94	120478	LM	DG	NN	B04	N	R	D		DDPS MALFUNCTIONED	ERROR IN INSTALLED PROGRAM
C	SL1	025365*	020579	SE	DC	NN	B00	N	R	U	2	UPPER LIMIT REED SWITCH FOR CEA 57 AND 20 DISCOVER	7/ED INOPERABLE. NO CAUSE GIVEN
C	SL1	025691	030579	SE	DC	NN	B00	N	R	U		UPPER LIMIT REED SWITCH FOR CEA 2 FOUND INOPERABLE	NO CAUSE GIVEN
C	SL1	025596	031179	TI	XC	NN	B00	N	R	U		TIMING MODULE FOR CEA 62 REPLACED	NO CAUSE GIVEN
C	SL1	026435	060579	TI	XC	NN	B00	N	R	U		CEA 19 DROPPED APPARENTLY DUE TO FAILED COIL POW//	ER PROGRAMMER TIMING MODULE. NO CAUSE
C	SL1	026538	070279	SE	DC	NN	B00	N	R	U		CEA 33 UPPER LIMIT REED SWITCH FAILED	NO CAUSE GIVEN
C	SL1	026533	070579	TI	DC	NN	B00	N	R	U		TIMER MODULE FOR CEA 62 FAILED	NO CAUSE GIVEN
C	SL1	026677	072079	PS	NT	PX	B13	N	R	T		POWER SUPPLY FOR VARIABLE HI POWER TRIP SETPOINT//	FAILED. FAILED CAPACITOR
C	SL1	026867	080179	PS	NT	PX	B13	T	R	T		POWER SUPPLY FOR CH A RPS CPC-2 FOUND FAILED	NORMAL EOL OF ELECTRONIC COMPONENT
C	SL1	027971	112379	MO	RR	IC	B13	T	R	T		MB CIS CHANNEL WOULD NOT TRIP ON HIGH RADIATION	FAILED MV/I CONVERTER
C	SL1	027973	112679	ZZ	LG	SN	A14	T	R	T		RWST CH C LEVEL INSTRUMENT FOUND OUT OF CAL	INSTRUMENT DRIFT
C	SL1	033187	081280	MO	RS	SN	B13	N	R	U		CNTNMNT RAD CHNL "MD" FAILED LOW	2 CAPACITORS IN -6.8V PWR SUPPLY FAILED
C	SL1	033148	102480	LM	DG	NN	B04	N	R	D		PRIMARY DDPS COMPUTER FAILD LOST PULSE COUNTG CEA/	/ POS IND. PROGRAM SOFTWARE ERROR
C	SL1	033731	120380	MO	RR	SN	B13	N	R	U		CNTNMNT RADIATION CHNL MD FAILED HIGH	FAILED RADIATION DETECTOR
C	SL1	036618	022681	MO	RR	NN	A14	T	R	T		CNTNMNT RAD MON CH "A" ALARM SETPOINT FOUND OOC	BISTABLE SETPOINT DRIFT
C	SL1	036801	031981	MO	RR	IC	B13	N	R	U		HIGH CNTNMT RAD MON CH "B" FOR CNTNMNT ISO FAILED	MODULE POWER SUPPLIES FAILED
C	SL1	166628	042181	MO	RR	SN	B13	N	R	U		CNTNMNT RAD MONITOR CH MD FAILED LOW	DETECTOR REPLACED
C	SL1	037966	070181	TX	PT	PX	B13	N	R	U		MD CONTAINMNENT PRESSURE TRANSMITTER FAILED	FORCE MOTOR AND OSCILATOR FAILED
C	SL1	037967	070581	TX	PT	PX	B13	N	R	U		MD CONTAINMNENT PRESSURE TRANSMITTER FAILED	FORCE MOTOR AND OSCILATOR FAILED
W	BV1	014911	052276	CN	DC	NN	A14	N	R	D		BANK B IRP IND. DRIFTED LOW	INSTRUMENT DRIFT DUE TO INCREASING TEMP.
W	BV1	015726	082376	AM	TI	PX	B13	N	R	T		LOOP A DT INDICATOR DISCOVERED LESS THAN ZERO	HAGAN SIGNAL ISOLATOR FAILURE
W	BV1	017350	030777	CN	DC	NN	A14	N	R	D		ALL BANK C RODS DIFFERED FROM DEMAND.POSITION,125T	INSTRUMENT DRIFT DUE TO TEMP. CHANGES
W	BV1	017624*	041677	IN	DG	NN	A14	N	R	T	5	5 CONTROL BANK D RODS DIFFERED FROM DEMAND POSITIO	INSTRUMENT DRIFT
W	BV1	017884	051677	CA	DC	NN	B12	N	R	T		RPI FOR ROD P-6 FLUCTUATED BETWEEN 228 STEPS AND 0	DIRTY CONNECTOR IN CONTAINMENT
W	BV1	018346	062577	IN	DG	NN	A00	N	R	U		RPI FOR ROD P-6 FLUCTUATED BETWEEN 228 STEPS AND 0	UNKNOWN CAUSE,DEFICIENCY CLEARED ITSELF
W	BV1	018822	071177	IN	DG	NN	B00	N	R	U		RPI FOR ROD P-6 FLUCTUATING,DECLARED INOPERABLE	UNKNOWN CAUSE,MALFUNCTION CLEARED ITSELF
W	BV1	018826	071577	IN	DG	NN	B00	N	R	U		RPI FOR ROD P-6 FLUCTUATING,DECLARED INOPERABLE	UNKNOWN CAUSE,MALFUNCTION CLEARED ITSELF
W	BV1	018827	071677	IN	DG	NN	B00	N	R	U		RPI FOR ROD P-6 FLUCTUATING,DECLARED INOPERABLE	UNKNOWN CAUSE,MALFUNCTION CLEARED ITSELF
W	BV1	018832	072277	IN	DG	NN	B00	N	R	U		RPI FOR ROD P-6 FLUCTUATING,DECLARED INOPERABLE	UNKNOWN CAUSE,MALFUNCTION CLEARED ITSELF
W	BV1	018834	072477	CA	DC	NN	B09	N	R	T		RPI FOR ROD P-6 FLUCTUATING,DECLARED INOPERABLE	FAULTY RPI CONNECTOR
W	BV1	020755*	021178	CM	NT	PX	A14	N	R	T	2	ON TWO SEPARAT DAYS,OVERPOWER DT SETPOINT READ HI	MODULE OUTPUT DRIFT,MODULE REPLACED
W	BV1	026843	042478	AM	TT	PX	B13	N	R	T		LOOP B DT-TAVE INDICATION FAILED LOW	FAILED CAPACITOR IN LOW-LEVEL AMPLIFIER
W	BV1	033486	120480	IM	FT	PX	A14	N	R	T		F-476 FLO PROT CHNL FOR 1A SG FAILED SURV TEST	BAD CLOCK BRD ALLOWED LOOP VOLTAGE DRIFT
W	BV1	033536	121380	MO	RR	NN	B08	N	R	D		CONT ATMOS GAS/PART RAD MON SMPLE PUMP FAILED	FAILED MOTOR & BROKEN DRIVE PULLEY
W	BV1	036383	020481	TX	FT	PX	B13	N	R	T		RCS-1 LO FLO ANNUNC FLASH ALRM FLO CH-414 INOP	LEAKING DIAPHRAGM IN TRANSMITTER
W	BV1	036710	021881	TX	FT	PX	B13	N	R	T		RCS-1 FLO CH IND FI-RC-414 FAILD TO HAVE MIN FLOW	LEAKG DIAPHRAGM IN XMTR DELTA-P TRANSDUCR
W	BV1	039320	103081	GS	TS	SN	A00	N	R	U		LO TEMP ALRM ON BIT INLET ISOL VLV MOV-SI867A RECD	BIT FLO PATH TEMP ALRM SW IMPROPER IND
W	DC1	016482	113076	MO	RR	NN	B13	N	R	T		CONT AIR PART & RADIO GAS MON (R-11 & R-12) PUMP	FAILED TO RUN,SEIZED FROM NORM DETERIORAT
W	DC1	016646	120276	CA	DC	NN	B12	T	R	U		ROD POSITION INDICATION INDICATING IN EXCESS OF LI	DIRTY AND CORRODED CABLE CONNECTOR
W	DC1	019141	091377	AM	DC	NN	B13	T	R	T		POSITION INDICATION IN EXCESS OF STEP LIMIT(B-10)	LOW VOLTAGE-AMPLIFIER REPLACED
W	DC1	019455	102177	MO	RR	NN	B13	N	R	T		CAP&RM, CH R-11 & R-12 INOPER DUE TO PUMP FAILURE	SEIZED INTERN DUE TO NORMAL DETERIORATION
W	DC1	020312	011478	CN	DC	NN	A14	N	R	T		POSITION INDICATION EXCEEDED STEP LIMIT (K-6)	SIGNAL CONDITIONING MODULE DRIFTED
W	DC1	023529*	012978	TX	LT	PX	B11	T	R	U	2	PRESSURIZER LEVEL INDICATION READING HIGH (CH-1)	GAS POCKET IN REFERENCE SENSING LEGS
W	DC1	021215*	042078	SE	NT	PX	B13	T	R	U	6	SOURCE RANGE DETECTOR FAILED SIX TIMES (N-32)	EXACT CAUSE OF FAILURES UNKNOWN
W	DC1	021770*	062378	CN	DC	NN	A14	N	R	T	6	INDICATED POSITION FOR 6 RODS EXCEEDED STEP LIMITS	SIGNAL CONDITIONER MODULE DRIFTED
W	DC1	021927	070578	CN	DC	NN	A14	T	R	T		POSITION INDICATION EXCEEDED STEP LIMIT (D-4)	SIGNAL CONDITIONING MODULE DRIFTED
W	DC1	021949	070978	TX	LT	PX	B11	T	R	T		PRESSURIZER LEVEL INDICATION CHANNEL VARIATION	GAS POCKET IN REFERENCE SENSING LINE(CH-3
W	DC1	021948*	071978	CN	DC	NN	A14	N	R	T	6	POSITION INDICATION EXCEEDED STEP LIMIT	SIGNAL CONDITIONING MODULE DRIFTED HIGH
W	DC1	022333*	082878	CM	LT	PX	B13	T	R	U	2	S/G LEVEL BISTABLE EXCEEDED MINIMUM SETPOINT	BAD SOLDER JOINT ON RESISTOR

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	DC1	022349	090778	MO	RR	NN	B13	N	R	T		CONT ATMOS GAS AND PART MON PUMP DISCOVER INOP.	NORMAL END OF LIFE OF THE PUMP
W	DC1	022695	102378	TX	LT	PX	B11	T	R	T		PRESSURIZER LEVEL CHANNEL DEVIATION TOO GREAT(CH-3	GAS POCKET IN SENSING LINE
W	DC1	023361	122978	TX	LT	PX	B11	N	R	T		PRESSURIZER LEVEL INDICATION READING LOW (CH ONE)	GAS POCKET IN SENSING LINE
W	DC1	023362*	122978	CN	DC	NN	A14	N	R	T	3	POSITION INDICATION EXCEEDED STEP LIMIT	SIGNAL CONDITIONING MODULES DRIFTED
W	DC1	025379	022679	MO	RR	NN	B08	N	R	T		CNTNMNT AIR MONITOR TAKEN OUT OF SERVICE	SAMPLE PUMP COUPLING FAILED
W	DC1	025444	030179	CA	DG	NN	B12	N	R	T		INDICATING POSITION OF ROD F-6 OSCILLATING	SIGNAL CONDITIONER MODULE CONNECTOR DIRTY
W	DC1	025644	032679	CA	DG	NN	B00	N	R	U		INDICATION POSITION OF ROD F-6 DECLARED INOPERABLE	WIRE AT A CONN TO COIL STACK BROKEN
W	DC1	028103*	070979	CN	DG	NN	A14	N	R	T	5	RODS C-3,C-13,N-13,N-3, & H-6 POS IND DISCOVER OOC	EACH RODS' SIG CONDITIONER HAD DRIFTED
W	DC1	026505*	071779	CN	DG	NN	A14	N	R	T	2	POSITION IND FOR N-13 & H-6 DISCOVERED OOC	SIG CONDITIONER MODULES HAD DRIFTED
W	DC1	026818*	081479	TX	PT	PX	A14	N	R	T	4	ALL PZR PRESSURE TRANSMITTERS DISCOVERED OOC LOW	INST DRIFT POSSIBLY FROM PS PROBLEMS
W	DC1	027058	091779	MO	RR	NN	B08	N	R	T		RAD MONITORS R-11 & R-12 WERE DISOVERED INOPERABLE	SAMPLE PUMP FAILED DUE TO FAIL COUPLING
W	DC1	027193A	092379	RE	XG	NN	B12	N	R	T		APDMS FAILED TO PREFORM SURVEILLANCE AUTOMATICALLY	RELAY ON #4 DETECTOR DRIVE WAS STICKING
W	DC1	027193C	092479	RE	XG	NN	B12	N	R	T		APDMS FAILED TO PREFORM SURVEILLANCE AUTOMATICALLY	RELAY ON #4 DETECTOR DRIVE WAS STICKING
W	DC1	030453	021980	MO	RR	NN	B13	N	R	T		SPENT FUEL PIT AREA MON ERRATIC HI RAD ALARM ON	NORMAL END OF LIFE OF DETECTOR TUBE
W	DC1	031051	041880	MO	RR	NN	B13	M	R	T		CNTNMNT ATMOSPHERE PARTICULATE RAD MON R-11 INOP	NORMAL END OF LIFE DET TUBE FAILURE
W	DC1	036642	031881	SE	TT	PX	B00	N	R	U		LOOP 2 T-AVG/DELTA-T LOW INDICATION MADE INOP	RTD ERRONEOUS TEMPERATURE READINGS
W	DC1	037074	042881	TX	LS	SN	A11	N	R	U		SG 2 CH 4 LVL INDICATION RDG HIGH	REF LINE LEAK OF XMTR BLP-120
W	DC1	037498A	053181	SE	NT	PX	B00	N	R	U		ERRATIC OPERATN OF SOURCE RNG NI CHANNEL	SOURCE RNG DET N-32 WAS DEFECTIVE
W	DC1	037498B	053181	SE	NT	PX	B07	N	R	T		ERRATIC OPERATION OF SOURCE RNG NI CHANNEL	MOISTURE AT CNNCTRS OF NI-31
W	DC1	171636A	111781	CN	TT	PX	B14	N	R	T		ALARM FOR LOOP 3 OVERPWR OVERTEMP DELTA T	T HOT R/E MODULE FOR LOOP 3 WAS DRIFTING
W	DC2	020830	031978	CN	DC	NN	A14	N	R	T		POSITION INDICATION EXCEEDED STEP LIMIT (F-14)	SIGNAL CONDITIONING MODULE ADJUSTED
W	DC2	021105	032278	CN	DC	NN	A14	N	R	T		POSITION INDICATION EXCEEDED STEP LIMIT (D-12)	SIGNAL CONDITIONING MODULE ADJUSTED
W	DC2	020979A	032478	TX	FT	PX	B11	N	R	D		STEAM FLOW-FEED FLOW MISMATCH (S/G 4 CH 1)	TRANSMITTER AND SENSING LINES AIRBOUND
W	DC2	020979B	032478	TX	FT	PX	B11	N	R	D		STEAM FLOW-FEED FLOW MISMATCH (S/G 4 CH 2)	TRANSMITTER AND SENSING LINES AIRBOUND
W	DC2	020933	040178	TX	FT	PX	B11	N	R	D		S/G 4 FEED FLOW CHANNEL 2 FAILED	TRANSMITTER SENSING LINES AIRBOUND
W	DC2	021101*	040778	AM	DC	NN	A09	N	R	U	2	POSITION INDICATION EXCEEDED STEP LIMIT(D-12&H- [illegible]	AMPLIFIER OUTPUT INCORRECT
W	DC2	021426A	051578	RE	XG	NN	A04	T	R	D	2	H2 SKIMMER FANS STARTING TIMES FOUND EXCESSIVE	WRONG STARTING RELAY RANGE,2HV-CEQ2,Q1
W	DC2	021630	060278	CN	DC	NN	A00	N	R	U		ROD D-8 RPI EXCEEDED STEP LIMIT	SIGNAL CONDITIONING MODULE OUTPUT VOLTAGE
W	DC2	021677	061878	TX	LT	PX	B11	N	R	U		PRESSURIZER LEVEL CHANNEL 3 INDICATING HIGH	LEAK IN REFERENCE LEG TEE FITTING
W	DC2	021426B	062078	RE	XG	NN	A04	T	R	D	2	H2 SKIMMER FANS STARTING TIMES FOUND EXCESSIVE	WRONG STARTING RELAY RANGE,2HV-CEQ2,Q1
W	DC2	021925*	070678	IN	DG	NN	A00	N	R	U	5	ROD H-8 RPI INDICATED IMPROPER POSITION	CAUSE UNKNOWN
W	DC2	022233	080278	TX	LT	PX	B11	T	R	T		PRESSURIZER LEVEL CHANNEL 3 INDICATING MALFUNCTION	GAS POCKET IN SENSING LINE
W	DC2	022501	090578	CN	DC	NN	A14	T	R	T		ROD C-9 RPI EXCEEDED STEP LIMIT	SIGNAL CONDITIONING MODULE DRIFTED HIGH
W	DC2	022891	110178	CN	DC	NN	A14	N	R	T		ROD H-8 RPI EXCEEDED STEP LIMIT	SIGNAL CONDITIONING MODULE DRIFTED
W	DC2	023110	112578	CN	DC	NN	A14	N	R	T		ROD H-8 EXCEEDED STEP LIMIT	SIGNAL CONDITIONING MODULE DRIFTED
W	DC2	025446	030379	LS	DI	PX	B00	T	R	U		MAIN TURBINE STOP VLV "C" CLOSED LIMIT SWITCH //	FOUND FAILED. NO CAUSE COULD BE FOUND
W	DC2	025582A	040479	CN	DG	NN	A14	N	R	T		RPI FOR CONTROL ROD H-8 INDICATED IMPROPERLY	SIGNAL CONDITION MODULE HAD DRIFTED
W	DC2	025582B	040879	CN	DG	NN	A14	N	R	T	4	RPI FOR CONTROL RODS H-10,B-8,F-10,K-6 NOT IND //	PROPERLY. SIG CONDITIONING MODULES DRIFI
W	DC2	027189*	092679	MO	RR	NN	B13	N	R	U	2	SAMPLE PUMPS FOR R-11 & R-12 TRIPPED ON TWO DIFF//	ERENT OCCASIONS. PUMPS REPLACED
W	DC2	030284	020280	IN	DG	PX	B08	N	R	D		"B" MAIN TURB STOP VLV PROXIMITY SW BRACKET FAILED	MOUNTING ASSEMBLY VIBRATED LOOSE
W	DC2	030556	020880	TX	LT	PX	A00	N	R	U		SG #3 LVL IND INOP XMITTR CAUSING ERRATIC INDICATN	FOXBORO 610A PWR SUP CAUSED ERRATIC XMITR
W	DC2	030610	021680	IN	DG	PX	B08	N	R	D		"D" MAIN TURB STOP VLV PROXIMITY SW FELL OFF MOUN/	/TG BRACKT. STRPPD THRDS IN BRACKET
W	DC2	030507	030580	CM	LT	PX	B00	T	R	U		SG WTR LVL LO-LO RX TRP B/S TRIPPED HIGH	NO CAUSE GIVEN
W	DC2	030858	033180	MO	RR	NN	B08	N	R	D		SAMPLE PMP FOR R-11/12 INSUFFICIENT FLOW	FAILURE DUE TO WEAR OF PUMP
W	DC2	031083A	042980	CM	LS	SN	A14	N	R	T		SG WTR LVL HI-HI ESF B/S SETPOINT DRIFTED HIGH	INSTRUMENT DRIFT
W	DC2	031083B	043080	CM	LS	SN	A14	N	R	T		SG WTR LVL HI-HI ESF B/S SETPOINT DRIFTED HIGH	INSTRUMENT DRIFT
W	DC2	031244	050380	MO	RR	NN	B08	N	R	T		SAMPLE PMP FOR RAD MON-11/12 INOPERABLE	DUE TO NORMAL WEAR OF THE PUMP
W	DC2	032109	072180	MO	RR	NN	B08	N	R	D		R-11 INOP FILTR PAPER MTR BOUND-UP STOPPING PAPER	BAD BRG IN FILTER PAPER DRIVE MOTOR
W	DC2	032626	081480	MO	RR	NN	B08	N	R	T		R-11/12 SAMPLE PUMP SEIZED	NORMAL WEAR
W	DC2	032627A	090280	CM	PS	SN	A14	T	R	T		CNTNMNT PRESS HI-HI PROTECTN SET II B/S TRP HIGH	INSTRUMENT DRIFT

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE&CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	DC2	032627B	090280	CM	PS	SN	A14	I	R	T		CNTNMNT PRESS HI-HI PROTECTN SET II B/S TRP HIGH	INSTRUMENT DRIFT
W	DC2	032627C	092380	CM	PS	SN	A14	I	R	T		CNTNMNT PRESS HI-HI PROTECTN SET II B/S TRP LOW	INSTRUMENT DRIFT
W	DC2	037502	053081	IN	DG	PX	B08	N	R	U		B MAIN STOP VLV PROXIMITY SW FELL OFF MOUNTING	1 SCREW BROKE OTHER LOST DUE TO VIBRATION
W	DC2	037428	060481	IN	FG	NN	B12	N	R	T		LOST FLO TO R-19 FROM ALL 4 STEAM GENERATORS	CRUD AT ROTOMETER FLOW REGULATOR
W	DC2	172101	072181	CM	LT	PX	A14	T	R	T		SET POINT DRIFT OF S/G LEVEL TRIPS	INSTRUMENT DRIFT
W	DC2	038109	072381	SE	TT	PX	B00	N	R	U		LOOP 4 T-AVG & DELTA-T INDICATION WAS HIGH	RTD FOR LOOP 4 T-COLD HAD FAILED
W	DC2	038175A	072881	CM	PS	SN	A14	T	R	T		CNTNMNT PRESS HI B/S TRPD OOC (HIGH)	INSTRUMENT DRIFT
W	DC2	038175B	072981	CM	PS	SN	A14	T	R	T		CNTNMNT PRESS HI B/S TRPD OOC (HIGH)	INSTRUMENT DRIFT
W	DC2	038175C	081981	CM	PS	SN	B14	T	R	T		CNTNMNT PRESS HI B/S TRPD OOC (HIGH)	REPLCD AFTER DRIFTED OUT-OF-LIMITS
W	DC2	170258	102081	HS	TS	SN	A03	T	R	D		A SFTY INJCT OCCURED DURING A SURV TEST SSPS TRN B	PROC STEP WAS MISSED TO TURN OFF MEM TEST
W	DC2	039198	103081	TX	FT	PX	B11	N	R	D		#3 SG STM FLO CHNL 1 MFC-131 FAILED LOW	AIR TRAPPED IN XMTR SENSING LINES
W	DC2	039215*	103181	IN	DG	PX	B00	N	R	U	2	STOP VLV A,D PROXIMITY SWITCHES FAILED	UNKNOWN
W	DC2	172092	121581	IM	XS	SN	B00	T	R	U		CNTNMNT HI PRESS LOGIC CHNL FAILS	LOGIC CARD FAILURE
W	HN1	030139	020480	CL	PG	NN	A00	N	R	U		PZR RELIEF VLV 570 & ISOL VLV MOV-569 OPENED	SPURIOUS SIG FROM PZR PRESS CNTRL CHNL 1
W	IP2	014255	020976	MO	RR	NN	B13	N	R	U		PROCESS RAD MONITORS R-11 & R-12 INOPERABLE	DRY AIR PUMP SEIZED - MODEL 6SFCW
W	IP2	014448	031576	MO	RR	NN	B13	N	R	U		PROCESS RAD MONITORS R-11 & R-12 INOPERABLE	DRY AIR PUMP SEIZED - MODEL 6SFCW
W	IP2	016642	121276	TX	LT	PX	B11	N	R	U		LEVEL XMTR OUTPUT DRIFTED HIGH	BLOCKED SENSING LINE TO XMTR
W	IP2	017783	051677	IN	LG	SN	A00	N	R	U		OUTLEAKAGE & IND ERROR ALLOWED RWST LEVEL TO BE LO	611GL-FS LEVEL INDICATOR HIGH
W	IP2	019251	092277	MO	RR	NN	B13	N	R	U		PROCESS RAD MONITORS R-11 & R-12 INOPERABLE	DRY AIR PUMP, MOD 6SCW SEIZED
W	IP2	025237	012679	MO	RR	NN	B08	N	R	T		RAD MONITORS R-11 AND R-12 BECAME INOPERABLE	SEIZED SAMPLE PUMP
W	IP3	014710	050576	RE	XG	SN	A08	T	R	T		CONTAINMENT VENTILATION ISOL RELAY V-1 INTERMITTEN	TYPE MG-6 RELAY PIVOT PT MISALIGNED
W	IP3	015131	052576	CM	PT	PX	A14	T	R	T		BISTABLE 63U-AC-OHAA-F SETPOINT DRIFT	PC-457A READJUSTED
W	IP3	015210	062376	MO	RR	NN	B13	N	R	U		PROCESS RAD MONITORS R-11 & R-12 BECAME INOPERABLE	CONDE DRY AIR PUMP, MOD NO. 6 - SEIZED
W	IP3	016340	102976	AM	TT	PX	A14	T	R	T		CH II OVERPOWER-DELTA-T SETPOINT NONCONSERVATIVE	STATIC GAIN UNIT MODEL DQ OUT OF ADJUST
W	IP3	017123	112576	AM	TT	PX	A14	T	R	T		CH II OVERPOWER-DELTA-T SETPOINT NONCONSERVATIVE	DQ STATIC GAIN UNIT OUT OF ADJUSTMENT
W	IP3	016468	113076	AM	TT	PX	A14	T	R	T		CH II OVERPOWER-DELTA-T SETPOINTS NONCONSERVATIVE	DQ STATIC GAIN UNIT OUT OF ADJUSTMENT
W	IP3	016634	113076	AM	TT	PX	A14	T	R	T		CH II OVERPOWER-DELTA-T SETPOINTS NONCONSERVATIVE	DQ STATIC GAIN UNIT OUT OF ADJUSTMENT
W	IP3	016633	120776	MO	RR	NN	B13	N	R	U		PROCESS RAD MONITORS R-11 & R-12 BECAME INOPERABLE	CONDE DRY AIR PUMP MOD 6SFCW SEIZED
W	IP3	017121	012777	AM	TT	PX	A14	T	R	T		CH II OVERPOWER-DELTA-T SETPOINTS NONCONSERVATIVE	DQ STATIC GAIN UNIT OUT OF ADJUSTMENT
W	IP3	019970	072077	MO	RR	NN	B13	N	R	T		LO FLO ALARM FOR PROCESS RAD MON R-11 & R-12	INTERNALS HAD DET TO A PT WHERE ALARM ANN
W	IP3	019263	092877	AM	TT	PX	A14	T	R	T		CH IV OVERPOWER-DELTA-T SETPOINTS NONCONSERVATIVE	DQ STATIC GAIN UNIT OUT OF ADJUSTMENT
W	IP3	021652	060278	AM	MT	PX	A14	T	R	T		F(DQ) NO. 41 SETPOINTS NONCONSERVATIVE	DQ STATIC GAIN UNIT OUT OF ADJUSTMENT
W	IP3	022407	090378	TX	LS	SN	B11	N	R	T		ACCUMULATOR NO. 31 LEVEL ALARM ACTUATED	LEAKING BYPASS VALVE ON XMITTER LI-935A
W	IP3	022405	091278	TX	LS	SN	B11	N	R	T		ACCUMULATOR NO. 32 LEVEL ALARM ACTUATED	LEAKING BYPASS VALVE ON XMITTER LI-935B
W	IP3	023223	112178	TX	LT	PX	B11	N	R	T		PRESSURIZER LEVEL,CH 3,SHOWED LEVEL FAILING HIGH	BLOWDOWN VALVE LEAKING
W	IP3	028042	121079	ZZ	LG	SN	A14	T	R	T		RWST LOW LEVEL LIMIT ON OP AUX LEVEL ALARM OOC LOW	INSTRUMENT DRIFT
W	IP3	033751*	110980	RE	XS	SN	A08	N	R	T	2	RELAYS CB-1/V-1 IN TRAIN "A" DIDN'T LATCH MECHANI/	/CALLY. LATCH MECHANISMS OUT OF ADJSTMNT
W	JF1	019371	100877	IM	TT	PX	B13	T	R	T		DELTA-T/TAVG CH II OUT OF TOLERANCE	LEAD/LAG CARD TY-422E FAILED
W	JF1	019533	102677	MO	RR	NN	B13	N	R	U		CONTAIN APD'S R-11 & R-12 DECLARED INOPERABLE	VACUUM PUMP FAILED - GRAPHITAR VANES BNDG
W	JF1	019849	112977	CM	PT	PX	B13	N	R	T		PZR HIGH PRESS PB-4571 TRIPPED ABOVE SETPOINT	NAL CARD PB-457A DEFECTIVE
W	JF1	019846	120577	CM	PT	PX	B13	N	R	T		PZR HIGH PRESS PB-457A TRIPPED	DEFECTIVE BISTABLE CARD
W	JF1	021184	033178	PS	PS	SN	B13	N	R	T		LOOP PT-485 FAILED LOW	LOOP PS CARD PQY-485 FAILURE
W	JF1	021875	052678	MO	RR	NN	B13	N	R	U		VACUUM PUMP FOR RAD MON R11 AND R12 WOULD'NT START	UNKNOWN CAUSE,PUMP REPLACED
W	JF1	021868	061378	MO	RR	NN	B13	N	R	U		PUMP FOR RAD MON R11 AND R12 TRIPPED ON LOW FLOW	PUMP REPLACED,CAUSE NOT STATED
W	JF1	021978*	070478	MO	RR	NN	B13	N	R	T	3	PUMP FOR R11 AND R12 TRIPPED 3 TIMES IN 15 HOURS	FAILED COUPLING,VIBRATIONS FAILED RELAYS
W	JF1	022378	072678	PS	PS	SN	B13	N	R	T		STM PRESS IND PI-496 & FLOW FI-495 FAILED LOW	PS CARD PQY-496 FAILED IN STM PRESS LOOP3
W	JF1	022986	100378	GS	LG	NN	B07	N	R	U		RIVER WATER PUMP TRIP NO REMOTE START TRAIN A	MOISTURE IN LS-511 POND LEVEL LOW SW
W	JF1	022995	102778	PS	PS	SN	B13	N	R	T		PI-484 FAILED LOW AND INOPERABLE	LOOP PS CARD PQY-484 (2837A12G02) FAILED
W	JF1	023285	112578	GS	LG	NN	B07	N	R	U		RIVER WATER PUMP TRIP NO REMOTE START TRAIN A	LEVEL SW LS-511 MOISTURE IN SWITCH
W	JF1	023281	121278	GS	LG	NN	B00	N	R	U		RIVER WATER TRIP NO REMOTE START TRAIN A	CAUSE UNDETERMINED WILL BE INVESTIGATED

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	JF1	027448	103079	GS	LG	NN	B07	N	R	T		LEVEL SWITCH LS 510 FAILED(RIVER WATER TRAIN B)	MOISTURE ACCUMULATION IN SWITCH
W	JF1	030107A	010980	MO	RR	NN	B00	N	R	U		RAD MON R25B FAILED	DRIVE BELT CAME OFF PUMP
W	JF1	030107B	011180	MO	RR	NN	B00	N	R	U		RAD MON R25B FAILED	DRIVE BELT CAME OFF PUMP
W	JF1	032183	072780	MO	RR	NN	608	N	R	D		RAD MON-11/12 INOP VACUUM PMP TRIPD ON LO FLOW	PUMP TRIPPED DUE TO FOULED FILTER PAPER
W	JF1	032416A	081780	MO	RR	NN	B13	N	R	U		RAD MON R-11/12 FAILED	PUMP FAILED
W	JF1	032416B	081780	MO	RR	NN	B13	N	R	U		RAD MON R-11/12 FAILED	PUMP FAILED
W	JF1	032416C	081880	MO	RR	NN	A13	N	R	U		RAD MON R-11/12 FAILED	PUMP TRIPPED ON LOW FLOW
W	JF1	033160A	102680	MO	RR	NN	808	N	R	D		R-11,12 INOP PUMP TRIP ON [illegible] LOW	CLOGGD FILT" PAPER FROM STUCK TAKEUP REEL
W	JF1	033164A	102780	MO	RR	NN	808	N	R	U		RAD MON-11,12 INOP DUE TO L[illegible]W PUMP TRIPS	FAILING BRG ON INBOARD PUMP
W	JF1	033160B	110680	MO	RR	NN	808	N	R	D		R-11,12 INOP PUMP TRIP ON L[illegible]OW	CLOGGD FILTR PAPER FROM STUCK TAKEUP REEL
W	JF1	037514	061081	MO	RR	NN	B13	N	R	U		RAD MON R11/12 INOP/PUMP INOP .ILTR PAPER NOT ADV/	/ANCING. PAPER DRIVE NOT FUNC PROPERLY
W	JF1	038364	081281	IM	TT	PX	B13	N	R	U		"A" LOOP TAVG PROTECTN CHNL TEMP IND-412D OOC (LO)	LEAD-LAG CARD FAILED
W	JF2	038531	073181	MO	RR	NN	808	N	R	U		CNTNMNT ATMOS RAD MON SYS R-11 INOP	FILTER PAPER SPOOL PLATES SLIPPING
W	JF2	038368A	080681	TX	LG	NN	A14	N	R	T		RWST LT-501 INOP WHEN LI-407A FAILED HIGH	COMPONENT DRIFT IN LVL XMTR
W	JF2	038368B	081681	TX	LG	NN	A14	N	R	T		RWST LT-501 INOP WHEN LI-407A FAILED HIGH	COMPONENT DRIFT IN LVL XMTR
W	JF2	038853A	093081	TX	LT	PX	A14	T	R	T		LT-461 INSTR LOOP INOP	COMPONENT DRIFT ON COMPARATOR CARD
W	JF2	038853B	102981	TX	LT	PX	A14	T	R	T		LT-461 INSTR LOOP INOP	COMPONENT DRIFT ON COMPARATOR CARD
W	KE1	014300	022376	TX	LT	PX	A14	T	R	T		PZR LEVEL LT-427 FOUND OUT OF SPECIFICATION LOW	ZERO DRIFT LOW
W	KE1	014521	041976	RE	XT	PX	A14	R	R	T		MGT REVIEW OF SURV PROC UV TRIPS LESS CONSERVATIVE	BUS 1-1A INST DRIFT 2%
W	KE1	015027	060176	RE	XT	PX	A06	R	R	T		MGT REVIEW OF PROC UV TRIPS LESS CONSERVATIVE	BUS 1-1A TRIP SAME AS T.S. NO TOLERANCE
W	KE1	021421	052278	GS	PS	SN	B13	T	R	T		TRAIN "A" SBV WOULD NOT DRAW VACUUM	PHOTOELECTRIC SWITCH/LAMP FAILURE
W	KE1	030857	032680	CL	DG	SN	A14	T	R	T		CHECK DAMPER SBV-10A THROTTLED IN MID-CYCLE	DAMPER CONTROLLER SETPOINT DRIFTED LOW
W	KE1	033334	061180	CL	DG	SN	A14	T	R	T		CHECK DAMPER SBV-10A THROTTLED IN MID-CYCLE	DAMPER CONTROLLER SETPOINT DRIFTED LOW
W	KE1	037306	050781	TX	LT	PX	B14	T	R	T		PZR LEVEL CHANNEL LT 427 FOUND OOC LOW	INSTRUMENT DRIFT
W	MG1	039370A	100681	SE	DG	NN	B13	N	R	T		ERRATIC INDICATION RECEIVED FOR ROD K-8	FAILURE OF POSITION DETECTOR COILS
W	MG1	039228	101681	MO	RR	NN	B13	N	R	T		LOSS OF SAMPLE FLOW OCCURRED ON EMF'S 35,36 & 37	MOTOR COIL FOR SAMPLE PUMP BURNED UP
W	MG1	039370B	10[illegible]181	SE	DG	NN	B13	N	R	T		ERRATIC INDICATION RECEIVED FOR ROD H-6	FAILURE OF POSITION DETECTOR COILS
W	NA1	021889	06[illegible]78	CM	PS	SN	B13	T	R	T		STM LINE DP LOGIC COMP NONCONSERVATIVE	FAULTY COMPARATOR CARD
W	NA1	022040	0802[illegible]9	SE	NC	NN	B00	N	R	U		INDICATED QUADRANT POWER TILT GREATER THAN 1.02	BELIEVED TO BE FAULTY PWR RNG DETECTOR
W	NA1	022268	08097[illegible]	SE	NC	NN	B13	N	R	T		INDICATED QUADRANT POWER TILT GREATER THAN 1.02	N-44 PWR RNG DETECTOR FAULTY
W	NA1	022557	033178	PS	PT	PX	B13	N	R	T		PZR PRESS CH P-455 SPIKE INTERMITTENTLY	FAULTY PZR PRESS LOOP POWER SUPPLY
W	NA1	022554	090578	CM	FG	SN	B13	T	R	T		FC-1485 CH IV FAIL TO TRIP AS EXPECTED	BISTABLE CARD DEFECTIVE
W	NA1	022555A	090578	PS	PS	SN	B13	N	R	T		STM LINE C HI STM LINE DP BISTABLE ALARM	FAULTY INST LOOP PWR SUPPLY
W	NA1	022559	091578	CM	FS	SN	B13	T	R	T		HI STM LINE FLOW SI ACT CH IV FAILED TO TRIP	DEFECTIVE BISTABLE CARD
W	NA1	022566	092678	TX	LS	SN	A14	T	R	T		LEVEL XMTR DID NOT ACTUATE HI-HI TURBINE TRIP	LT-1475 XMTR OUTPUT DRIFT
W	NA1	022570	092778	TX	LS	SN	A14	T	R	T		SG1B LEVEL CH III HI-HI LEVEL TRIP SETPOINT HIGH	LT-1486 XMTR OUTPUT DRIFT
W	NA1	022568	092878	TX	PT	PX	A14	T	R	T		CH III PZR PRESS PI-1457 TRIP HIGH NON-CONSERVATIV	XMTR OUTPUT DRIFT
W	NA1	022937	101278	PS	FT	PX	B13	N	R	T		FEEDWATER FLOW FT-1496 LOOP C FAILED LOW	POWER FUSE BLOWN
W	NA1	022931	111078	PS	PS	SN	B13	N	R	T		HIGH STM LINE DP ALARM CH B	FAULTY INST LOOP POWER SUPPLY
W	NA1	023331	122878	PS	PS	SN	B13	N	R	T		PT-1494 PRESS XMTR INDICATION FAILED HIGH	FAULTY PS CARD NLP-C2-345
W	NA1	025131	010179	MO	RR	NN	B08	N	R	D		1-RM-P-159A TRIPPED SAMPLE PUMP TRIPPED	DESIGN DEFICIENCY IN PUMP
W	NA1	025410	030379	CN	DG	NN	A14	N	R	T		12 STEP DISAGREEMENT BETWEEN IRPI AND GRPI FOR //	ROD D-10. VOLTAGE DRIFT IN CONDITIONER
W	NA1	025764	032179	TX	LG	NN	B11	N	R	D		"C" S/G NARROW RANGE LEVEL INDICATED 20% OFF	LEAKING VALVE IN SENSING LINE
W	NA1	025896*	050179	ZZ	DG	NN	A14	N	R	T	8	RPI'S FOR H06,F08,K08,H10,C07,C09,E05,&L11 OOC	DRIFT IN ELECTRONIC CIRCUITRY
W	NA1	025973	050679	TX	LG	NN	B11	N	R	T		'C' S/G NARROW RANGE LEVEL INDICATED ERRATIC	LEAKING SENSING LINES FOR LT-496
W	NA1	025976	050879	MO	RR	NN	B09	N	R	D		SAMPLE PUMPS FOR RM-RMS-159 & 160 FOUND INOPERABLE	FAILED SOLENOID VALVE
W	NA1	026662	080179	PS	FG	NN	B13	N	R	U		FEEDWATER FLOW INDICATOR FI-1487 FAILED	FUSE REPLACED
W	NA1	026655	080379	ZZ	DC	NN	A14	N	R	T		IRPI VARIED GREATER THAN 12 STEPS BETWEEN INDIVID/	/UAL AND GROUP IND FOR ROD D-10. DRIFT
W	NA1	027089	080979	CM	PS	IC	B13	N	R	D		CONTAINMENT HI-HI PRESS CH II BECAME INOPERABLE	CARD COMPONENT W-39-1-J WAS HEAT SENSITIV
W	NA1	027087	081479	CM	PS	IC	B13	N	R	U		CNTNMNT INTERMEDIATE HI HI PRESS CH II BISTABLE //	FAILED IN TRIP POS. FAILED CAPACITOR

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	NA1	027083	082879	MO	RR	NN	B09	N	R	D		CNTNMNT PARTICULATE MON AND GAS MONITOR INOPERABLE	SOLENOID VALVE COIL SHORTED
W	NA1	027088	090379	CN	DC	NN	A14	N	R	T		GREATER THAN 12 STEP DISAGREEMENT BETWEEN RPI FOR/	/D-10 AND GROUP DEMAND. DRIFT OF CONDIT.
W	NA1	027086	091179	CM	PS	IC	B13	N	R	U		CNTNMNT HI-HI PRESS CH I BISTABLE FAILED	BAD SIGNAL COMPARATOR CARD
W	NA1	027072A	091379	ZZ	DC	NN	A14	N	R	T		ROD H02 DISAGREED GREATER THAN 12 STEPS FROM GROUP	//DEMAND COUNTER. INSTRUMENT DRIFT
W	NA1	027069	091479	CM	PS	SN	B13	T	R	T		HI STEAM LINE DIFFERENTIAL PRESSURE LOOP 2 CH 2 //	FAILED TO TRIP. LOOSE LEAD ON COMPARATOR
W	NA1	027072B	091479	ZZ	DC	NN	A14	N	R	T		ROD B08 DISAGREED GREATER THAN 12 STEPS FROM GROUP	//DEMAND COUNTER. INSTRUMENT DRIFT
W	NA1	031208	051080	MO	RR	NN	B13	N	R	U		CNTRL PWR FUSES FOR RM-RMS-159 BLEW	FUSES HAVE BLOWN REPEATEDLY NO EXACT CAUS
W	NA1	032145	081480	MO	RR	NN	B08	N	R	D		CNTNMNT AIR PARICLT HI FLO ALARM ACTVTD	HI FLO RELAY SW OUT OF ITS SOCKET
W	NA1	036210	011381	TX	PI	PX	A14	T	R	T		PZR PRESSURE TRANSMITTER PT 1457 FOUND OOC HI 10#	INSTRUMENT DRIFT
W	NA1	036115	011781	TX	LS	SN	A14	T	R	T		"A" S/G CH II NARROW RANGE LEVEL TX LT-1475 OOC	INSTRUMENT DRIFT
W	NA1	036880*	040881	IN	DG	NN	B00	N	R	U	2	TWO RODS IN BANK D FOUND TO HAVE INDICATED POSITI-	-ON GREATER THAN 12 STEPS FROM DEMAND
W	NA1	036881	041181	IN	DG	NN	A14	N	R	U		ROD POSITION INDICATION FOR ROD B-08 BAND D FOUND-	-GREATER THAN 12 STEPS FROM DEMAND.
W	NA1	037038	050481	IN	DG	NN	A14	N	R	T		IRPI FOR ROD D-10 FOUND TO BE GREATER THAN 12 STE-	-PS FROM GROUP DEMAND. INSTRUMENT DRIFT
W	NA1	172054	061581	IN	DG	NN	A14	N	R	T		IRPI FOR ROD J-13 OOC	INSTRUMENT DRIFT
W	NA1	037779	070381	PS	FG	CT	B13	N	R	U		FLOW INDICATION FOR 'A AFWP FOUND INOPERABLE	FAILED INST CARD IN POWER SUPPLY
W	NA1	037778	070481	IN	DG	NN	A14	N	R	T		ROD POSITION INDICATION FOR ROD D10 BANK 8 FOUND -	-GREATER THAN 12 STEPS FROM DEMAND, DRIFT
W	NA1	038283	081181	SE	DG	NN	A14	N	R	T		IRPI FOR ROD D-10 DEVIATED FROM GROUP DEMAND BY M-	-ORE THAN 12 STEPS. INSTRUMENT DRIFT
W	NA2	031617	061880	IN	DG	NN	A00	N	R	U		ROD POSITION INDICATOR CHNL DRIFTED 19 STEPS LOW	CAUSE OF DRIFT NOT DETERMINED
W	NA2	032151	081880	IN	DG	NN	A14	N	R	T		IRPI FOR ROD G9 MORE THAN 12 STEP DISAGREEMNT W///	GRP DMND POS. VOLTAGE DRIFT
W	NA2	032610	090880	IN	DG	NN	A14	N	R	T		IRPI FOR ROD G9 IN S/D BANK B MORE THAN 12 STEPS//	FROM GRP DMND POS. INSTRUMENT DRIFT
W	NA2	036118	010681	CN	DG	NN	A14	N	R	T		IRPI FOR ROD B08 BANK D WAS GREATER THAN 12 STEPS-	-FROM DEMAND. SIGNAL CONDITIONER DRIFTED
W	NA2	036120	012181	PS	PS	IC	B13	N	R	U		CNTNMNT PRESSURE PROTECTION CH III FAILED LOW	FAILED POWER SUPPLY CARD
W	NA2	036242	012681	PS	PS	IC	B13	N	R	U		CNTNMNT PRESSURE, CH III, FAILED HIGH	FAILED POWER SUPPLY CARD
W	NA2	037048	050281	IN	DG	NN	A14	N	R	T		IRPI FOR ROD D-6 FOUND GREATER THAN 12 STEPS FROM-	-DEMAND. INSTRUMENT DRIFT
W	NA2	037533	060781	IN	DG	NN	A14	N	R	T		IRPI FOR ROD K02 FOUND GREATER THAN 12 STEPS FROM-	-DEMAND. INSTRUMENT DRIFT
W	NA2	037570A	061381	PS	NT	PX	B00	N	R	U		INTERMEDIATE RANGE CH N-35 FAILED	HIGH VOLTAGE PS FAILED WITH NO CAUSE
W	NA2	037671*	061981	IN	DG	NN	A14	N	R	T	2	IRPI FOR RODS G-7 & J-9(B S/D BANK) FOUND GREATER-	-THAN 12 STEPS FROM DEMAND. INST DRIFT
W	NA2	037673	061981	PS	NT	PX	B00	N	R	U		INTERMEDIATE RANGE CH N-35 FAILED	HIGH VOLTAGE POWER SUPPLY FAILED,NO CAUSE
W	NA2	039221A	102281	MO	RR	NN	B13	N	R	U		CNTNMNT APD RAD MON,RMS 259,FAILED LOW	FAILED DETECTOR
W	NA2	039221B	102381	MO	RR	NN	B13	N	R	U		CNTNMNT APD RAD MON,RMS 259,FAILED LOW	FAILED CONNECTION ON CABLE OF DETECTOR
W	NA2	039221C	103081	MO	RR	NN	B13	N	R	U		CNTNMNT APD RAD MON,RMS 259,FAILED LOW	FAILED CONNECTION ON CABLE OF DETECTOR
W	PR1	015071	061776	SE	NT	PX	B13	N	R	U		NIS SOURCE RNG CH N31 DID NOT RESP PRPRLY ON S/U	FAULTY DETECTOR. DETECTOR REPLACED
W	PR1	019603	101577	SE	NT	PX	B13	N	R	U		NIS INTRMD RNG CH N36 FLD TO PROVD INPUT-PRMSV SIG	COMPNSTN CAPABILITY WAS LOST-DET REPLACED
W	PR1	020431A	011078	SE	NT	PX	B13	N	R	U		IT BCME APPRNT THAT DET FOR SR CH N31 REQD REPLCMT	NO CAUSE WAS GIVEN
W	PR1	022322A	050778	TI	XG	NN	A08	N	R	U		OVR-EXTND CHLORNTN CYCLES OF SERVICE WTR SYS OCCUR	LOOSE STA-STO TRIP ADJSTRS ON CL TIMER
W	PR1	022322B	050878	TI	XG	NN	A08	N	R	U		OVR-EXTND CHLORNTN CYCLES OF SERVICE WTR SYS OCCRD	LOOSE STA-STO TRIP ADJTRS ON CL TIMER
W	PR1	033181	102880	TX	FG	NN	A14	N	R	T		STM FLO XMITTER 1FT-464 RDG LOW	ZERO ADJSTMNT SHIFT IN D/P TRANSMITTER
W	PR2	014275	022976	CM	PI	PX	A09	T	R	U		ONE LO PSZR PRESS SI SIG FOUND 9 PSI BELOW TS LMIT	LOOSE LOOP RESISTOR
W	PR2	015220	070776	IM	PS	SN	A14	T	R	T		ONE LO-LO STM PRESS INPT TO SAFGD ACT LOGIC TRIPED	AT 499 VS 500 PSIG-LEAD/LAG UNIT HAD DRFT
W	PR2	020126A	121277	TX	FT	PX	A14	R	R	T		2FT-464 CH 1 RED LOOP A1 STEAM FLOW FOUND OOC	INSTM! DRIFT - NO SINGLE CAUSE ESTABLISHD
W	PR2	022402B	081578	IM	PS	SN	A14	T	R	T		ONE CH OF LO/LO STM LN PRESS TRPD AT 497 VS 500 TS	INSTRUMENT DRIFT-MOD 66RC-OL LEAD/LAG UNT
W	PR2	023557	122678	TX	FS	SN	A14	R	R	T		LOOP "A" STM FLO XMIR 2FT-464 1.07E06 VS 0.745E06	INSTRUMENT DRIFT-MOD 384 DIFF PRESS XMTR
W	PT1	013946	011076	PS	NT	PX	B13	N	R	U		PWR RNG CH 41 PWR SUP FAILED-41 DETECTOR INOPERATV	MOD UPM-44K POWER SUPPLY REPLACED
W	PT1	016573	113076	PS	NT	PX	B13	N	R	U		PWR RNG CH 42 FAILD TO TRIP POSIIN CAUSNG CUTBACK	MOD UPM-44K -25V PWR SUPPLY FAILED
W	PT1	023304	121978	PS	NT	PX	B13	N	R	U		PWR RNG CH 44 FAILED,CAUSING TURBINE RUNBACK	PWR SUPPLY FAILED - MOD PUMP-X54W
W	PT2	021943A	070578	RE	XT	PX	B00	T	R	U		"B" RX TRIP BRKR FAILD TO TRIP ON TRIP SIGNAL	NO APPARENT PROBLEM WAS FOUND-RES-BFD 31
W	PT2	021943B	071778	RE	XT	PX	B07	T	R	T		"B" RX TRIP BRKR FAILD TO TRIP ON TRIP SIGNAL	HI TEMP DETRIORTD COIL'S NYLOR SLEEVE-RES
W	PT2	025382	022779	RE	XT	PX	A13	T	R	D		REACTOR TRIP RELAY(RT-3)FAILED TO DROP OUT PROMPT/	/LY. SLEEVE DETERIATION DUE TO HI TEMP
W	PT2	030488	022180	PS	NT	PX	B13	N	R	U		NEG SPIKE CAUSED PWR RNG N41 TO FAIL LOW	FAULTY CAPACITOR IN 2DY01 POWER SUPPLY
W	RG1	014203	012976	PS	NT	PX	B13	N	R	U		BOTH CONTROL POWER FUSES BLEW FOR N42 PWR RNG CHNL	CAPACTR IN AUX PWR SUP BD FLD-UPMDX54

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	RG1	014715	041276	PS	NT	PX	B13	N	R	U		N44 PWR RNG HI VLTG PWR SUP FAILED TO 57V DC	MODULAR BLOCK PT NO IV-101 - MOD UPMD-X54
W	R02	014821A	012176	RE	XT	PX	B13	T	R	T		RX TRIP RELAY FAILED TO OPERATE	OPEN COIL WINDING
W	R02	014821B	012176	RE	XT	PX	B13	T	R	T	2	RX TRIP RELAYS DELAYED OPERATION	BRITTLE COIL LINERS
W	R02	030919	040680	TX	PS	SN	A00	N	R	U		PT-495, FEEDS SI INITIATING LOGIC OF "C" HI STM L/	/INE DP FAILD TO FULL OUTPUT. UNKNOWN
W	R02	031917A	072680	RE	XT	PX	B09	N	R	U	2	RX PROTECTION "A" RELAYS RT-5,-6 FAILED	RELAYS DEVELOPED SHORT CIRCUIT
W	R02	031917B	082380	RE	XT	PX	B09	N	R	U		RX PROTECTION "A" RELAYS RT-4 FAILED	RELAY DEVELOPED SHORT CKT
W	R02	032970A	102180	RE	XT	PX	B13	T	R	U		RX PROTCTN "A" RELAY RT-7 FAILED CONTINOUS RX TRI/	/P TO RTGB. DENERGZD RELAY COIL
W	R02	032970B	102280	RE	XT	PX	B13	T	R	U	2	RX PROTCTN "B" RELAYS-1,-3 FAILD CONTINOUS RX TRI/	/P TO RTGB. DENERGZD RELAY COIL
W	R02	033225	112280	RE	XT	PX	B13	T	R	U		CNTNS RX TRIP RX PROTCTN "A" RELAY RT-9 FAILED	RELAY COIL FOUND DE-ENERGIZED
W	SA1	016637	121176	TX	LS	SN	B00	N	R	U		NO 13 S/G LVL XMTR LT-538 FAILED	CAUSE NOT DETERMINED
W	SA1	016731	010477	CM	PS	SN	B13	T	R	T		CONT. PRESS. PROTECTION CH II,PT-948C,FOUND OOC	FAILED DUAL COMPARATOR
W	SA1	017261	021577	IM	TT	PX	A14	T	R	T		#14 RX CLNT LOOP DELTA-T/TAVG TRIP POINT GT TS LMT	SLIGHT COMP VALUE CHGS WITHIN SLO ST CKTY
W	SA1	017423	031477	IM	TT	PX	A14	T	R	T		#14 RX CLNT LOOP DELTA T/TAVG TRIP POINT GT TS LMT	CHANNEL DRIFT - CMN FAILURE CMPNTS UNDET
W	SA1	021367	061777	TX	LS	SN	B13	N	R	U		NO 12 S/G LEVEL CH III DP TRANSMITTER FAILED	FAILURE OF STRAIN GAUGE
W	SA1	018335	062677	TX	LS	SN	A14	T	R	T		NO 12 S/G LVL CH I FAILED TO TRIP DURING RX TRIP	LEVEL SENSOR OUT OF CAL - INSTRUMENT DRFT
W	SA1	018334	070177	CM	LS	SN	A14	T	R	T		NO 11 S/G LVL CH III LVL TRIP POINT ABOVE TS LM	AGING OF ELECTRONIC CMPNTS CSD SETPT DRFT
W	SA1	018793	071877	MO	RR	NN	B13	N	R	U		AIR PART PUMP SEIZED ACT STMNT 3.4.6.1 IMPLMNTD	BRNG FAILR CAUSED OVERHEATNG AND SEIZING
W	SA1	018802	081277	IM	TG	NN	B13	N	R	U		LOOP 13 OP DELTA-T DECLARED INOP-SETPT FLD-24 DEG	FAILED SUMMATOR MODULE - 4111084-004
W	SA1	019923	120577	IM	FT	PX	A14	T	R	T		#14 S/G FLO CH II TRP PT 31MVDC GT ALLOWED BY TS	INST DRIFT IN SQ ROOT EXTRCTR-PN/ 4111511
W	SA1	019922	120677	IM	FT	PX	B13	N	R	U		#11 RC LOOP FLOW CHANNEL II FAILED	SIGNAL ISOLATOR FAILED-CONSOLE IND LOST
W	SA1	020456	010378	IM	FT	PX	A14	T	R	T		NO 14 S/G STM FLO CH II TRIPPED GT TS LIMIT	INST DRIFT IN SQ RT EXTRACTOR-PN/ 4111511
W	SA1	020457	010678	IM	TT	PX	B13	N	R	U		LOOP 13 OVR TEMP DELTA-T CHANNEL FAILED	FAILED CAPCTR IN TYPE 4111513 FNCTN GEN
W	SA1	022159	080878	IM	FS	SN	B13	T	R	U		13 S/G STM FLO CH 1 TRIPPED HIGHER THAN ALLOWD TS	FAILURE OF SIGNAL ISOLATOR
W	SA1	022423	082378	MO	RR	NN	B13	N	R	T		APD PUMP FAILED	FAILED SHEAR PIN
W	SA1	022414	091078	TX	FG	AS	B07	N	R	T		SW FLO CONT XMTR FOR #13 CFCU INOPER DUE TO LO FLO	SILT BUILD-UP IN XMTR LO PRES SNSG LINE
W	SA1	022413	091278	CM	PT	PX	B13	T	R	U		PRESS PROTCTN CH 2 RX TRIP SETPT GT TECH SPEC LIMT	UNSTABLE OUTPT FRM COMPARATOR FDG TRIP BS
W	SA1	022415	091378	IM	FG	NN	B13	N	R	U		NO 12 RX COOLANT FLOW CH 2 WAS NOT INDICATING	FAILURE OF A SIGNAL ISOLATOR
W	SA1	023229	112878	TX	LT	PX	B13	T	R	U		PRESSURIZER LEVEL WAS READING 10 PCT GT OTHER CHLS	STRAIN GAUGE DVLPD HI RES IN OUTPT BRIDGE
W	SA1	023227	120178	TX	LT	PX	B11	N	R	T		NO 12 S/G LVL CH III FOUND TO BE INOPERABLE	PARTIALLY CLOGGED SENSING LINES
W	SA1	028136	022479	MO	RR	NN	B13	N	R	T		1R18 LIQUID RAD MON FAILED LOW	GROUNDED PIN IN ELECTRICAL CONNECTOR
W	SA1	025497A	022579	TX	LT	PX	B13	N	R	T		PZR LEVEL CHANNEL II DECLARED INOPERABLE	STRAIN GAGE IN TRANSMITTER NON-LINEARITY
W	SA1	025496	030279	PS	NT	PX	B00	N	R	U		NUCLEAR INSTRUMENT CHANNEL N41 DECLARED INOPERABLE	POWER SUPPLY FAILED WITH NO CAUSE GIVEN
W	SA1	025497B	030279	TX	LT	PX	B13	N	R	T		PZR LEVEL CHANNEL II DECLARED INOPERABLE	STRAIN GAGE IN TRANSMITTER NON-LINEARITY
W	SA1	025558	032079	PS	NT	PX	B13	T	R	T		POWER RANGE CHANNEL N41 FOUND INOPERABLE	DIODE IN HIGH VOLTAGE POWER SUPPLY FAILED
W	SA1	026007	033179	IM	PS	SN	B00	N	R	T		LOOP 12 SL PRESSURE DISCOVERED INOPERABLE	FAILED COMPUTATION MODULE WITH NO CAUSE
W	SA1	026008	041779	MO	RR	IC	B13	N	R	D		POWER LOST TO CNTNMNT AIR PARTICULATE DETECTOR	GROUND FAULT IN ELECTRICAL DISTRIBUTION
W	SA1	028135	042579	MO	RR	NN	B13	T	R	T		LIQUID WASTE DISPOSAL RMS CHANNEL 1R18 FAILED	FAILED GM TUBE
W	SA1	027980A	122479	IM	XS	SN	B00	N	R	U	5	1A SAFEGUARD EQUIP DRAWER DECLARED INOPERABLE	5 LOGIC BOARDS FOUND FAILED,NO CAUSE
W	SA1	030329	020380	MO	RR	NN	B13	N	R	T		APD PUMP SEIZED CAUSD APD TO BE INOPERABLE	NORMAL DEGRADATION
W	SA1	031053B	042880	TX	FS	IC	B07	N	R	T		SW FLO TO #12 CNTNMNT FAN COIL UNIT DECREASED	XMITTER SENSING LINE CLOGGED
W	SA1	031221	051680	TX	LT	PX	A00	N	R	T		LVL XMITTER FOR #12 SG LVL CH 4 FOR LL TRP OOT	NAT'L END OF LIFE OF CAPACITORS W/IN CKT
W	SA1	036218	012881	CM	FS	SN	B00	T	R	U		HIGH STEAM FLOW CH II COMPARATOR FAILED	NO CAUSE GIVEN
W	SA1	036291	020681	CA	DC	NN	B08	N	R	D		RPI FOR ROD 201 INDICATED ROD HAD DROPPED	SCREW CONNECTOR FOUND LOOSE ON CABLE
W	SA1	036292	020781	CA	DC	NN	B08	N	R	D		RPI FOR ROD 201 INDICATED ROD HAD DROPPED	PINS HAD SPREAD CAUSING INTERMITTENT CONN
W	SA1	167718	062481	TX	FG	AS	B07	N	R	D		SERVICE WATER FLOW FOR #15 CFCU FAILED	SENSING LINES BLOWN DOWN,TX REPLACED
W	SA1	037842A	062881	TX	FG	AS	B00	N	R	U		NO. 13 CNTNMNT FAN COIL UNIT SW FLOW TX 1FA-3541Z-	--1 FAILED. NO CAUSE GIVEN
W	SA1	037842B	062981	TX	FG	AS	B00	N	R	U		NO. 13 CNTNMNT FAN COIL UNIT SW FLOW TX 1FA-3541Z-	--1 FAILED. NO CAUSE GIVEN
W	SA1	038203	072081	TX	FS	IC	B07	N	R	D		SERVICE WATER FLOW THRU NO. 15 CFCU FOUND INSUFFI-	-CIANT. TX FA-3543Z-1 PLUGGED WITH SILT
W	SA1	038387	080981	TX	FG	AS	B07	N	R	D		FLOW TRANSMITTER,FA-3543Z-1,FOR SW FLOW THRU NO. -	-13 CFCU FOUND INOP. SILT FOUND IN TX
W	SA1	038706A	090981	TX	FG	NN	B07	N	R	D		FLOW TRANSMITTER FOR SW FLOW THRU CFCU FAILED	TRANSMITTER PLUGGED WITH SILT

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	SA1	0387068	092581	TX	FG	NN	B07	N	R	D		FLOW TRANSMITTER FOR SW FLOW THRU CFCU FAILED	TRANSMITTER PLUGGED WITH SILT
W	SA1	0389278	100181	TX	LT	PX	B11	N	R	D		PZR LEVEL CH 3 FOUND READING HIGH	AIR WAS TRAPPED IN SENSING LINE
W	SA1	039043	100881	RC	XG	NN	B13	N	R	D		AUXILIARY ALARM ANNUNCIATOR FOUND PRINTING ERRONE-	-OUS READINGS. CIRCUIT CARD FOUND LOOSE
W	SA1	039181	102281	TX	FG	AS	B07	N	R	D		FLOW TX FOR SW FLOW THRU CFCU # 12 FAILED LOW	TRANSMITTER PLUGGED WITH SILT
W	SA2	032518	083080	LS	PG	NN	B00	N	R	U		CHNL 1 POPS RELIEF VALVE FAILED TO OPEN	FAULTY OPEN LIMIT SW ON RELIEF VALVE
W	SA2	037792	062381	AM	DC	NN	B13	N	R	U		IRPI FOR ROD 1SB2 FOUND MORE THAN 12 STEPS FROM G-	-ROUP DEMAND. FAILED AMP IN INDICATOR
W	SA2	037874	062781	MO	RR	NN	B13	N	R	D		RAD MON SYS SAMPLE PUMP TRIPPED,AFFECTED 2R11A & -	-2R12A MONITORS. VACUUM SETTING TOO HIGH
W	SA2	038057	070881	RC	XG	NN	A13	N	R	U		AUXILLIARY ALARM ANNUNCIATOR MALFUNCTIONED	FAILED INPUT CARDS
W	SA2	038060*	071381	AM	DC	NN	B13	N	R	U	2	IRPI FOR RODS 1SB2 & 2SB2 FOUND MORE THAN 12 STEP-	-S FROM DEMAND. FAILED AMP BOARDS
W	SA2	038061	071381	RC	XG	NN	B13	N	R	U		AUXILIARY ALARM ANNUNCIATOR MALFUNCTIONED	FAILED INPUT CARDS
W	SA2	0381658	071481	TX	FT	PX	B11	N	R	U		#24 S/G FEED FLOW CHANNEL 2 FOUND ERRATIC	LOOSE SENSING LINE FITTINGS
W	SA2	038056	071681	TX	FG	AS	B07	N	R	D		FLOW FOR SW THRU CFCU #21 WAS LOST	TRANSMITTER PLUGGED WITH SILT
W	SA2	038217	072081	CN	DC	NN	A14	N	R	T		IRPI FOR ROD 2D3 FOUND MORE THAN 12 STEPS FROM DE-	-MAND. DRIFT OF CONDITIONER
W	SA2	038220	072781	MO	RR	NN	B13	T	R	D		CNTNMNT ATMOS PARTICULATE RAD MON FOUND OOC	DETECTOR BACKED OFF FROM LEAD PIG
W	SA2	038222	072981	TX	FT	PX	B00	N	R	U		#22 REACTOR COOLANT FLOW CH 2 FOUND READING HIGH	TRANSMITTER FAILED,NO CAUSE GIVEN
W	SA2	038322	080781	CN	DC	NN	A14	N	R	T		IRPI FOR ROD 2D2 FOUND MORE THAN 12 STEPS FROM DE-	-MAND. DRIFT OF CONDITIONER
W	SA2	038574	082581	RC	XG	NN	B13	N	R	U		AUXILIARY ALARM ANNUNCIATOR DECLARED INOPERABLE	FAILED CIRCUIT CHIPS
W	SA2	038622	090181	IN	DC	NN	A14	N	R	T		IRPI FOR ROD 2D2 FOUND MORE THAN 12 STEPS FROM DE-	-MAND. DRIFT OF INDICATOR
W	SA2	038680*	090181	IN	DC	NN	A14	N	R	T	4	IRPI FOR RODS 1D4,1D3,2D2,& 2D3 FOUND MORE THAN 1-	-2 STEPS FROM DEMAND. DRIFT ON INDICATOR
W	SA2	038681	090381	TX	FG	AS	B07	N	R	D		NO FLOW FOUND FOR SW THRU CFCU #23	TRANSMITTER PLUGGED WITH SILT
W	SA2	038682	090681	TX	FT	PX	B00	N	R	U		LOW READING DISCOVERED ON RX COOLANT LOOP #22 CH 2	TRANSMITTER FAILED WITH NO CAUSE GIVEN
W	SA2	039157*	102681	TX	FG	AS	B07	N	R	D	2	SERVICE WATER FLOW IND LOST THRU #21 & 23 CFCU	TRANSMITTER PLUGGED WITH SILT
W	SA2	0394068	111081	TX	FG	AS	B11	T	R	D		SERVICE WATER FLOW THRU #22 CFCU FOUND IND LOW	TRANSMITTER SENSING LINES PLUGGED
W	SA2	171646A	111881	IN	DC	NN	B14	N	R	T		IRPI AND CR BANK DEM IND DISAGREED IRPI WAS INOP	METER MOVEMENT OUT OF CALIBRATION
W	SA2	171646B	111981	IN	DG	NN	B14	N	R	T		IRPI AND CR BANK DEM IND DISAGREED IRPI WAS INOP	METER MOVEMENT WAS OUT OF CALIBRATION
W	SE1	032063	071680	MO	RR	NN	B13	N	R	U		SHIELD BLDG VENT 1-RM-90-100R INOP COUNT RATE OOT	DFCTV PHOTOMULTIPLIER TUBE & SCINTILLATOR
W	SE1	032070	071680	MO	RR	NN	B13	N	R	U		SHIELD BLDG VENT 2-RM-90-100B INOP COUNT RATE OOT	DFCTV PHOTOMULTIPLIER TUBE IN DET ASSEMBL
W	SE1	032397A	081580	MO	RR	NN	B09	N	R	D		AUX BLDG VENT 0-RM-90-101B INOP	24V POWER SUPPLY HAD ELECTRICAL SHORT
W	SE1	032397B	081580	MO	RR	NN	B09	N	R	D		AUX BLDG VENT 0-RM-90-101B INOP	DETECTOR PREAMPLIFIER HAD ELECTRIC SHORT.
W	SE1	032621	090480	MO	RR	NN	B0P	N	R	T		SHIELD BLDG VENT MON 1-RE-90-100 INOP LOST SAMPLE/	/ AIR FLOW. WORN SAMPLE PUMP DRIVE BELT
W	SE1	032976	101380	MO	RR	NN	B09	N	R	U		AUX BLDG VENT 0-RM-90-101 INOP DUE TO FLOW LOSS	CKTBRK TRPD ON OVERLOAD LOST SAMPLE PUMP
W	SE1	033298	111980	LS	OG	IC	A12	T	R	T		CNTNMNT SUMP VLV 1-FCV-72-20 FAILED TO OPEN	DIRTY CNTCTS ON CLOSE INTRLCK LIMIT SW
W	SE1	036293	020381	MO	RR	NN	B13	T	R	U		LIQUID RAD WASTE MONITOR 0-RE-90-122 DECLARED INOP	LEAK IN BROOKS ROTAMETER
W	SE1	036542	030781	MO	RR	NN	B08	N	R	T		EFFLUENT RAD MONITORS 0-RM-90-134 & 141 FOUND INOP	BROKEN SAMPLE PUMP/MOTOR COUPLING
W	SE1	036769	032781	MO	RR	NN	B09	N	R	T		RAD MONITOR 1-R-90-101A(AUX BLDG PARTICULATE) INOP	LUG ON WIRE WORKED LOOSE
W	SE1	036839A	033181	MO	RR	NN	B07	T	R	D		LIQUID RADWASTE EFFLUENT MON 0-RM-90-122 FAILED	SAMPLE CHAMBER FOUND CONTAMINATED
W	SE1	036841	040181	TX	LS	IC	A14	N	R	T		CNTNMNT SUMP LEVEL LI-63-178 FOUND OOC 6% HIGH	INSTRUMENT DRIFT
W	SE1	036839B	040981	MO	RR	NN	B07	T	R	D		LIQUID RADWASTE EFFLUENT MON 0-RM-90-122	SAMPLE CHAMBER FOUND CONTAMINATED
W	SE1	036843	040981	MO	RR	NN	B13	N	R	U		TURBINE BLDG SUMP DISCH RAD MON FAILED	SAMPLE PUMP FOUND TRIPPED
W	SE1	037156	042581	MO	RR	NN	B13	N	R	T		AUX BLDG VENT PARTICULATE MON RM-90-101A FAILED	FILTER DRIVE MOTOR FAILED,NORMAL WEAR
W	SE1	037220	050381	MO	RR	NN	B07	N	R	D		LIQUID RAD WASTE EFFLUENT MON 0-RM-90-122 FAILED	HIGH BACKGROUND IN SAMPLE CHAMBER
W	SE1	037327	051981	MO	RR	NN	B07	N	R	D		LIQUID RADWASTE EFFLUENT MON 0-RM-90-122 FAILED	CONTAMINATED SAMPLE CHAMBER
W	SE1	037545	060381	MO	RR	NN	B09	N	R	D		LOWER CNTNMNT RAD MON 1-RM-90-106 DECLARED INOP	SAMPLE PUMP TRIPPED ON OVERCURRENT
W	SE1	037546	060381	MO	RR	NN	B08	N	R	T		TURBINE BLDG SUMP DISCHR MON 0-RM-90-212 FAILED	SAMPLE PUMP/MOTOR COUPLING FAILED
W	SE1	037684A	061581	MO	RR	NN	B08	N	R	T		TURBINE BLDG SUMP DISCHR MON 0-RM-90-212 FAILED	SAMPLE PUMP HOUSING WEAR
W	SE1	037747	061981	MO	RR	NN	B07	N	R	D		LIQUID R/D WASTE EFFLUENT RAD MON FOUND INOPERABLE	CONTAMINATED SAMPLE CHAMBER
W	SE1	037883	061981	HS	XG	IC	B08	T	R	D		HANDSWITCH FOR VLV 1-FCV-90-109 FAILED TO OPEN VL	LOOSE SCREW ON SWITCH 1-HS-90-109
W	SE1	037885	062681	MO	RR	NN	B13	N	R	T		SERVICE BLDG VENT MON 0-RM-90-132 DECLARED INOP	SAMPLE PUMP FAILED DUE TO NORMAL WEAR
W	SE1	037684B	062981	MO	RR	NN	B08	N	R	T		TURBINE BLDG SUMP DISCHR MON 0-RM-90-212 FAILED	SAMPLE PUMP HOUSING WEAR
W	SE1	037958	070881	MO	RR	NN	B07	N	R	D		DISPOSAL SYSTEM EFFLUENT MON 0-RM-90-122 FAILED	CONTAMINATED SAMPLE CHAMBER

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	SE1	038119	071881	HS	XG	CT	B08	N	R	D		CONTROL SW 1-HS-3-164-A FAILED TO CLOSE VLV 1-LCV-	-3-164A. GEARS INSIDE SWITCH STRIPPED
W	SE1	038070	072281	MO	RR	NN	B07	N	R	D		LIQUID RAD WASTE EFFLUENT MON FAILED	SAMPLE CHAMBER CONTAMINATED
W	SE1	039411	111081	MO	RR	NN	B09	N	R	T		AUX BLDG VENT RAD MONITOR 0-RM-90-101 FAILED	PUMP MOTOR BURNED OUT DUE TO NORMAL WEAR
W	SE1	171893	120781	TX	FT	PX	B11	N	R	U		FEEDWATER FLOW LOOP 1-FI-3-358 TX DECLARED INOP	AIR IN SENSING LINES
W	SE1	172048	122181	TX	LS	SN	A14	N	R	T		CNTNMNT SUMP LVL XMTR 1-LT-63-176 HI READINGS	INSTRUMENT DRIFT
W	SE1	172039	122681	LS	DT	PX	A12	N	R	T		#3 TURB STOP THROTTLE VLV SENT WRONG SIG TO RPS	STUCK LIMIT SWITCH
W	SE1	172363	123181	MO	RR	NN	B09	N	R	D		HI RDG FROM ERCW LINE RAD MON 0-RM-90-134/141	UNKNOWN NOISE SOURCE
W	SO1	016581	010576	SE	TG	NN	B13	R	R	T		DISCOVERED SENSOR MALFUNC. FOR TWO WEEKS;REPLACED	INSTRUMENT FAILURE
W	SO1	014328*	020276	SE	TG	NN	B13	R	R	T	2	2 SENSORS MALFUNC. FOR PREVIOUS 2 WEEKS	MECHANICAL MALFUNC.; 2 NEW DIGITAL TEMP
W	SO1	026109	040479	SE	FT	PX	B13	N	R	D		B FEEDWATER FLOW INDICATION INCREASED BY 10%	FLOW STRAIGHTENING DEVICE FAILED
W	SU1	016401	110376	MO	RR	NN	B07	N	R	T		DURN REFUELING CRANE AREA MONITOR FAILD RM-RMS-162	12622 VOLT CABLES TO DETECTOR CORRODED
W	SU1	014872A	020877	MO	RR	NN	B13	N	R	U		INOPERBLE UNIT 1 CONT GASEOUS PART RAD MONITOR	VACUUM PMP BEARING FAILURE
W	SU1	014872B	020877	MO	RR	NN	B08	N	R	T		INOPERBLE UNIT 2 CONT GASEOUS PART RAD MONITOR	CLOGGED IN LINE CHARCOAL FILTER
W	SU1	022184	072978	MO	RR	NN	B13	N	R	U		LIQUID WASTE MONITOR ABOVE ALARM SETPOINT--NO TRIP	FAILD LOG RATEMETER ALARM BOARD
W	SU1	022952	111578	TX	LT	PX	A14	N	R	T		CHAN 1 OF PREZ LEVEL LI-1-459 DRIFTD LOW	DRIFT IS INTERMITTENT;UNKNOWN CAUSE;RECAL
W	SU1	023204	120578	RC	RG	NN	B08	N	R	T		RAD.RECORDER RR-175 STOPPD PRINTING	FROZEN BUSHING; CLEAND & LUBRICATED
W	SU1	025372	022679	RC	RG	NN	B12	N	R	T		RADIATION RECORDER,RR-175,STOPPED PRINTING	GUMMED GEAR SHAFT BUSHING
W	SU1	025698*	032879	MO	RR	NN	B09	N	R	T	2	ON TWO OCCASIONS RAD MONITORS BECAME INOPERABLE	LOOSE LUG CONNECTION ON POWER SUPPLY LEAD
W	SU1	027938	122079	MO	RR	NN	B13	N	R	T		RADIATION RECORDER,RR-175,STOPPED PRINTING	BROKEN DRIVE STRING
W	SU1	031921	071180	MO	RR	NN	B09	T	R	D		RAD MON RM-SV-111 INOP	16V PWR SUP SHRTD BY SPARE LUG ON MONITOR
W	SU1	032071	071780	MO	RR	NN	B08	I	R	D		LO FLO ON PROCESS VENT MONITORING	CRIMP IN LINE FROM VACUUM PUMP
W	SU1	032241	080580	MO	RR	NN	B07	N	R	T		LO FLO ALRM PROCESS VENT MON RM-GW-101 INOP	CNDNSIN MOISTURE CAUSD PUMP TO FREEZE UP
W	SU1	032345	081280	MO	RR	NN	B07	N	R	T		LO FLO ALRM ON RM-GW-101/102	FLOODED GAS STRIPPER FILLD PROC VENT SYS
W	SU1	032526	083180	MO	RR	NN	B08	N	R	D		LO FLO ALRM INDICATED FOR RM-GW-101/102	BROKEN DRIVE BELT
W	SU1	036507	022581	RC	RG	NN	B08	N	R	T		RAD MON RECORDER RR-175 FOUND PRINTING ERRATIC	LOOSE GEAR ON BALANCE MOTOR
W	SU1	036508	030181	RC	RG	NN	B12	N	R	T		RAD MON RECORDER RR-175 FOUND PRINTING ERRATIC	DIRTY SLIDEWIRE RESISTOR
W	SU1	036918*	041081	MO	RR	NN	B08	N	R	U	2	PROCESS VENT RAD MON FAILED TWICE	DRIVE BELT FAILED TWICE
W	SU1	037104*	042681	MO	RR	NN	B08	N	R	D	2	PROCESS VENT RAD MON'S RM-GW-101,102 FAILED	WATER INTRODUCED AND FLOODED SYSTEM
W	SU1	037466	052781	RC	RG	NN	B12	N	R	T		RAD MON RECORDER RR-100 FOUND INDICATING LOW	DIRTY CONTACTS IN POSITIONER
W	SU1	038607	090281	MO	RR	NN	B13	N	R	U		CCW RAD MONITOR RM-CC-105 FOUND INOPERABLE	FAILED LOG RATEMETER CARD
W	SU1	039031	101781	MO	RR	NN	B13	N	R	U		RAD MONITOR RI-CC-105 FAILED	BROKEN WIRE IN DETECTOR
W	SU2	014846*	021776	TX	LT	PX	A14	N	R	T	2	2OF3 PREZ LEV. TRANSMITR SETPOINTS OUT OF SPEC-92%	LT-459-93% & LT-461-92.08% ELECTRONC DRIF
W	SU2	036298	020681	MO	RR	NN	B13	T	R	U		RM-CC-106 FOUND PRODUCING WRONG OUTPUT	REMOTE INDICATING MODULE FAILED
W	SU2	036356	022381	MO	RR	NN	B13	N	R	U		RM-CC-106 ALARM LIGHTS LITT BUT DIDNT ACTUATE AUT-	-D ACTION. FAILED CARD IN ALARM CIRCUIT
W	TR1	017759C	050477	TX	LT	PX	A14	T	R	T		LT-537 EXCEEDED ALLOWABLE SETPOINT LIMIT	INSTRUMENT SETPOINT DRIFT
W	TR1	017759D	050477	TX	LT	PX	A14	T	R	T		LT-461 SETPOINT EXCEEDED ALLOWABLE LIMITS	INSTRUMENT SETPOINT DRIFT
W	TR1	017759E	050477	TX	LT	PX	A14	T	R	T	2	LT-537, LT-461 SETPOINTS EXCEEDED ALLOWABLE LIMITS	INSTR SETPOINT DRIFT
W	TR1	026586	070579	TX	PT	PX	B14	T	R	T		PZR PRESSURE TRANSMITTER FOUND OUT OF CAL	INSTRUMENT DRIFT,LATER REPLACED PT-457
W	TR1	030400	021980	TX	PT	PX	A14	N	R	T		PZR PRESSURE TRANSMITTER PT-457 EXCEEDED T.S.	INSTRUMENT DRIFT
W	TU3	016886	112576	PS	FT	PX	B13	T	R	T		STEAM FLOW COMPRTR FC-3-484 SETPOINT NONCONSERVATV	2 FILTR CAPACTRS ON PRNTD CKT.BD.IN PWR S
W	TU3	022768	092978	PS	FI	PX	B13	T	R	U		STEAM FLOW COMP. FC-3-484 SETPT LESS CONSERVATIVE	FAULTY REG. AMP IN PWR SUPPLY BOARD
W	TU3	027577	100479	MO	RR	NN	B13	N	R	T		RAD MONITORS R11 & R12 DECLARED INOPERABLE	SAMPLE BLOWER FAILED DUE TO NORMAL WEAR
W	TU3	031298	051480	MO	RR	NN	B13	N	R	T		PROCESS RAD MON 11/12 OOS	AIR SAMPLING BLOWER FAILED NORMAL WEAR
W	TU4	025852	032279	MO	RR	NN	B13	N	R	T		RAD MONITORS R11 & R12 DECLARED INOPERABLE	SAMPLE BLOWER FAILED DUE TO NORMAL WEAR
W	YR1	016922	011077	MO	RR	NN	B13	T	R	T		PRIMARY VENT STACK MONITOR PARTICULAT CHANNL FAILD	DRIFTING OF HI VOLTAGE & TEMP. EFFECTS
W	YR1	017130	020477	MO	RR	NN	B08	T	R	T		PVS MONITOR IODINE CHANNEL FAILD TO MEET COUNT RAT	MISALIGNED MECHANICAL STOPS FOR SOURCE
W	YR1	017264	022177	MO	RR	NN	B13	N	R	U		PVS MONITOR ALARMD DUE TO BLOWN FUSE;INOPERATIVE	LEDEX STEPPING MTR FAILD TO ADVANCE PAPER
W	YR1	017366	030877	MO	RR	NN	A14	T	R	T		PVS MONITOR FAILD TO MEET HI LEVL COUNT RATE CRIT.	NORMAL VOLTAGE DRIFT; ADJUSTD TO PROPR ST
W	YR1	017365	031177	MO	RR	NN	A14	T	R	T		LOW READING ON MAIN COOLNT LEAR DETECT APD CHANNEL	HI VOLT & DISCRIMINATR CONTROL DRIFT;AGE
W	YR1	017438	031877	MO	RR	NN	B02	N	R	D		SNOW SHORT CIRCUITED MAIN COOLNT LEAK DETECT MON.	TECHNICIAN DIDNT CLOSE DOOR TIGHT

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	YR1	017603	041577	RC	RG	NN	B13	T	R	T		MAIN COOLNT LEAK APD PAPER DRIVE INOPERATIVE	NORMAL DETERIOATION OF REDUCTION GEARS
W	YR1	017793	042877	MO	RR	NN	A14	N	R	T		LOOP SEAL DISCHARG RAD.GAS MONITOR IND. WENT TO 0	DRIFT IN RM-40 PWR SUPPLY HI VOLT ADJSTMT
W	YR1	017866	051877	ZZ	RR	NN	B01	N	R	D		PVS LOW FLOW ALARM ON APD CHANNL;PLUGGD AIR PATH	USE OF OVERSIZED PAPER BOUND UP DRIVE ASM
W	YR1	018161	060977	PS	RR	NN	A14	N	R	T		LOOP SEAL RAD.MON. PEGGD AT LO END OF SCALE	RM-40 PWR SUPPLY HI VOLTAGE HAD DRIFTED
W	YR1	020072	123077	MO	RR	NN	B13	N	R	T		PVS APD MONITOR ALARMD; FILTR PAPER NOT ADVANCING	FAILD 15 VOLT DC REGULATOR-EXTERNAL OPEN
W	YR1	020073	123077	MO	RR	NN	B13	T	R	T		LOOP SEAL RAD.MONITOR INICATING LT. 0 COUNTS/MIN	FAILD GEIGER-MULLER TUBE--NAT.END OF LIFE
W	YR1	020165	010178	MO	RR	NN	B13	T	R	T		LOOP SEAL RAD MONITOR LT. 0 CPM;DECLARD INOPERABLE	FAILD GM DETECTOR TUBE;INTERNAL SHORT
W	YR1	020106	010478	MO	RR	NN	A09	N	R	T		PVS PARTICUCATE MONITOR FLOW ALARM ENERGIZED	LOOSE PWR.SUPLY PLUG ON PHOTOHELIC SWITCH
W	YR1	020477	012878	MO	RR	NN	B13	T	R	T		LOOP SEAL RAD MONITR LT.0 CPM; GM TUBE FAILD	INTERNAL SHORT DUE TO NATURAL END OF LIFE
W	YR1	020423	022678	MO	RR	NN	B13	T	R	T		LOOP SEAL RAD.MONITR INDICATING LT. 0 CPM	GM DET TUBE FAILD. INTERNAL SHORT
W	YR1	021396	050778	MO	RR	NN	A14	N	R	T		LOOP SEAL RAD GAS MONITR IND. WENT TO ZERO	DRIFT IN HI VOLT SETPOINT OF CHANNEL
W	YR1	021625	053178	MO	RR	NN	B13	N	R	T		PUMP FOR AIR PARTICULATE MONITOR FAILED	BROKEN CARBON VANES IN PUMP
W	YR1	021685	061078	MO	RR	NN	A14	N	R	T		LOOP SEAL RAD MONITR LT. 0 CPM (6 SIMILAR OCCURNC	DRIFT IN HI VOLT; ADJUSTD; PLAN TO REPLAC
W	YR1	021711	061278	MO	RR	NN	A14	N	R	T		LOOP SEAL MONITR LT. 0 CPM; DRIFT OF HI VOLTAGE PS	PLANS TO REPLACE MONITORING SYSTEM
W	YR1	022541	091878	MO	RR	NN	B13	T	R	T		MAIN COOLNT LEAKGE APD MON. SOURCE CHECK WRONG RES	NATURAL END OF LIFE- PHOTOMULTIPLR TUBE
W	YR1	023410	122678	MO	RR	NN	B13	N	R	D		VC APD LOW FLOW ALARM; PUMP MOTOR FAILD	EXCESS CURRENT DUE TO LO SUPPLY VOLTAGE
W	YR1	023411	122878	MO	RR	NN	B04	N	R	D		LO FLOW ALARM ON MAIN COOLNT APD; MOTOR FAILURE	EXCESS CURRENT DUE TO LO VOLTAGE
W	YR1	028102	010379	MO	RR	NN	B13	N	R	D		FILTER ALARM RECIEVED ON CNTNMNT MAIN COOLANT SYS/	/LEAKAGE APD. FILTER PAPER RAN OUT
W	YR1	025452	030379	MO	RR	NN	B07	N	R	D		PRIMARY VENT STACK IODINE MONITOR FAILED	WATER IN DETECTOR HOUSING
W	YR1	026202	060779	MO	RR	NN	B13	N	R	T		S/G BLOWDOWN RAD MON FAILED HIGH(S/G #4)	RATE METER INTERNAL CIRCUITS FAILED
W	YR1	027767	121179	MO	RR	NN	B13	N	R	T		PRIMARY VENT STACK RADIATION MONITOR FAILED	NORMAL EOL OF SAMPLE PUMP BEARING
W	YR1	030061	010380	MO	RR	NN	B13	N	R	U		#2 SG BLOWDOWN RAD MON FAILED	FAILD DIODE IN THE RATE METER
W	YR1	033198	110180	MO	RR	NN	B07	N	R	T		PRIMARY VENT STACK IODINE MON ALRMD DECLRD OOS	SAMP AIR MOISTURE ABOVE AIR DRYER CAPACIT
W	YR1	036155*	012281	RE	FT	PX	B12	T	R	T	2	LOW MAIN COOLANT FLOW SYS "B" UNDERCURRENT RELAYS-	-2A,4C FAILED. RESIDUE BUILDUP
W	YR1	037551	053081	MO	RR	NN	B13	N	R	U		PRIMARY VENT STACK MONITOR RATEMETER FAILED	GROUND CAPACITOR FOUND
W	YR1	037552	060381	MO	RR	NN	B07	N	R	[illegible]		PRIMARY VENT STACK GASEOUS RAD MON FAILED	MOISTURE IN DETECTOR,AIR DRYER PROBLEMS
W	YR1	037754	061781	TX	LT	PX	A14	T	R	T		LOW S/G WATER LEVEL TRIP SETPOINT FOUND OOC LOW 1-	-.03 INCHES. INSTRUMENT DRIFT
W	YR1	038189*	072381	RE	XS	SN	A14	T	R	T	2	SI TIME DELAY RELAYS TDR1 AND TDR2 FOUND OOC	INSTRUMENT DRIFT
W	YR1	038248	080381	MO	RR	NN	B07	N	R	D		PRIMARY VENT STACK GASEOUS RAD MON FAILED	MOISTURE IN DETECTOR,AIR DRYER PROBLEMS
W	YR1	038506	082081	MO	RR	NN	B07	N	R	D		PRIMARY VENT STACK GASEOUS RAD MON FAILED	MOISTURE IN DETECTOR,AIR DRYER PROBLEMS
W	YR1	038656	090281	MO	RR	NN	B07	N	R	D		PRIMARY VENT STACK GASEOUS RAD MON FAILED	MOISTURE IN DETECTOR,AIR DRYER PROBLEMS
W	YR1	038811	091581	MO	RR	NN	B07	N	R	D		PRIMARY VENT STACK IODINE RAD MON FAILED	MOISTURE IN DETECTOR,AIR DRYER PROBLEMS
W	YR1	039200*	110581	RE	FT	PX	B12	T	R	T	3	RELAY 48 SYS "A",RELAYS 2A,4C IN SYS "B" (MAIN CO-	-OLANT FLOW UNDER CURRENT)FAILED-RESIDUE
W	YR1	039431*	111181	MO	RR	NN	B07	N	R	D	2	PRIMARY VENT STACK IODINE & GASEOUS RAD MONS FAIL	MOISTURE IN DETECTOR,AIR DRYER PROBLEMS
W	YR1	171816	111981	RE	FT	PX	B13	T	R	T		RELAY 48 IN RC LOW FLOW SYSTEM FAILED TO DROP OUT	WORN BUSHING
W	YR1	172290	120381	RE	FT	PX	B08	N	R	D		LO MAIN COOLANT FLO SYS B RELAY 4C FAILED	MECH VIBRATION CAUSED RELAY BUSHING WEAR
W	YR1	172289	120981	RE	FT	PX	B08	N	R	D		LO MAIN COOLANT FLO SYS B RELAY 4C FAILED	MECH VIBRATION CAUSED RELAY BUSHING WEAR
W	ZI1	014399	010876	TX	PG	SN	B07	N	R	D		MAX OUTPUT OF STEAM XMTR 1PT-516 CAUSD 1A RELIEF	TO OPEN; FROZEN SENS LINES COLD WEATHER
W	ZI1	015189	061876	IM	TT	PX	B13	T	R	T		SUMMATOR 1TM-411C OVERPWR & DELTA T PROT. RAMBLING	FAILD CAPACITOR C8
W	ZI1	016378	111276	MO	RR	NN	B13	T	R	T		GAS DECAY TANK VENT STACK MONITOR FAILED LOW	G-M PROBE FAILD DUE TO CONSTANT OPERATION
W	ZI1	016481	111776	IM	TT	PX	B13	N	R	U		DELTA T DEVIATION ALARM LOOP D SOUNDED	DEFECTIVE LEAD/LAG MODULE 1TM431J
W	ZI1	016984	120176	PS	FT	PX	B13	T	R	T		COMPARATOR 1FC-416 FOR RX COOLNT FLOW OUT OF TOLRN	BAD CAPACITOR IN POWER SUPPLY FOR COMPRTR
W	ZI1	016680	121076	MO	RR	SN	B13	N	R	T		RAD.MON.1RE0012 FOR CONTNMNT GAS SPIKING HIGH	FAILD LO & HI VOLT PWR SUPPLY
W	ZI1	016679	121276	MO	RR	NN	B13	N	R	T		ORE0014 STACK GAS MON. FAILD LOW	CAPACITR FAILD IN LO VOLT PWR SUPPLY
W	ZI1	017405	022677	TX	FT	PX	B13	N	R	T		1D STEAM GEN FLOW INDICATION LOW -REDUND CHAN AVAL	DEFECTIVE COIL ASMBLY IN FLOW XMTR
W	ZI1	017406	030377	IM	TT	PX	B13	N	R	U		DELTA T IND ERRATIC DROPPD FROM 100 TO 80% LOOP D	GROUNDED SUMMATOR, DEFECTIVE INTEGRTD CKT
W	ZI1	018057	031977	TX	FT	PX	B13	N	R	T		FLOW IND 1FI-533 ON S/G 1D CHAN II LOW READING	FAILD COIL ASMBLY ON XMTR
W	ZI1	019160	040977	MO	RR	SN	B12	N	R	T		CONTAINMNT RAD.MONITR WOULDNT RESPND TO SOURCE CHK	LOSS OF CONTACT BETWEEN PANEL & DRAWER
W	ZI1	018374	041677	TX	FT	PX	B13	N	R	D		LOOP D STEAM FLOW INICATR READING 0 LBS/HR	LOSS OF FLUID IN DP XMTR; REPLACD XMTR
W	ZI1	019161	041977	MO	RR	NN	B13	N	R	D		1RE0012 BEGAN READING DOWNSCALE; REPLACD PLUG CONN	PLUG CONECTR WORN FROM OPENIN & CLOSING

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE&CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	ZII	022112	041977	TX	FT	PX	B13	N	R	D		1FT-533 STEAM FLOW XMTR SPIKING LOW	LOSS OF XMTR FLUID FILL; REPLACED XMTR
W	ZII	017858	051277	TX	FT	PX	B13	N	R	U		1FT-533 STEAM FLOW XMTR FAILD TO ZERO ; REPLACED	APPARENTLY DUE TO INTERMITTNT CONNECTION
W	ZII	019163	052177	MO	RR	NN	B12	N	R	D		CONT PURGE RAD IODINE MONITR FAILD LOW FOR UNIT 1	LOSS OF CONTACT BETWEEN DRAWR & PANEL CNT
W	ZII	019164	061477	MO	RR	NN	B13	N	R	T		PASSIVE GAS FAILURE MONITR 1RTPR15 FAILD HIGH	CAPACITOR FAILD; REPLACD INST. DRAWER
W	ZII	018530	072977	TX	FT	PX	A11	N	R	D		LOOP 1D STEAM FLOW IND. FAILD LOW	DP LINES PLUGGD WITH SEDIMNT; WATR HAMMER
W	ZII	018535	080677	TX	LT	PX	A14	T	R	T		PZR LEVL XMTR 1LT-461 FOUND LOW;RESULT NONCONSERV.	ZERO SHIFT OF THE XMTR
W	ZII	019173	082877	MO	RR	NN	B13	N	R	T		PMP FAILD FOR UNIT 1 CONT PARTICULATE MONITOR	10K HOURS OF CONTINUOUS USE
W	ZII	019167	091477	IM	XT	PX	B13	T	R	T		HIGH OUTPUT FAILURE OF 1PM-5058 SIGNAL SUMMATOR	MALFUNCTIN LIMIT CIRCUITS; REPLACED
W	ZII	019166	092277	MO	RR	NN	B02	N	R	D		RAD MONITR ORTOR05 INOPERBLE DURIN RELEASE OF #2ST	TO DISCHARG CANAL; DETECTR JARRD DURN MNT
W	ZII	019521	102077	TX	LT	PX	A14	T	R	T		1LT-461 PZR LEVEL XMTR FOUND LOW RESULT;NONCONSERV	DRIFT OF BARTON MODEL 386
W	ZII	019520*	102177	TX	LT	PX	A14	T	R	T	3	1LT-537,538 & 539 SG LEVL XMTRS HI (NONCONSERVATV)	ZERO SHIFT TO ALL 3 XMTRS
W	ZII	019516	102877	TX	FT	PX	A14	T	R	T		RX COOLNT FLOW XMTR 1FT-425 HIGH (NONCONSERVATIVE)	ZERO SHIFT OF XMTR
W	ZII	019514	103177	TX	FT	PX	A14	T	R	T		RX COOLNT FLOW XMTR 1FT-444 HIGH (NONCONSERVATIV)	ZERO SHIFT OF XMTR
W	ZII	019777*	103177	TX	FT	PX	A14	T	R	T	2	RC FLOW XMTRS 1FT-435 & 434 HIGH (NONCONSERVATIVE)	DRIFT OF XMTRS BY 4.5% & 3.7% RESPECTVLY
W	ZII	020002	120877	TX	LT	PX	A14	N	R	T		PZR LEVL XMTR 1LT-459 OUT OF TOL LOW (NONCONSERVT)	ZERO SHIFT; PREVIOUS LERS
W	ZII	020001	120977	TX	FT	PX	A14	T	R	T		STEAM FLOW IND 1FI-513 S/G LOOP A LOW (NONCONSERV)	ZERO SHIFT; TRENDING INSTRUMNT DRIFTS
W	ZII	020196	122377	TX	LT	PX	A14	N	R	T		1A S/G LEVL IND. 1LI518 HI (NONCONSERV) (1LT518)	ZERO SHIFT; PRESENTLY TRENDING DRIFTS
W	ZII	020349	011678	TX	FT	PX	A14	N	R	T		STEAM FLOW CHANL 1F523 BEGAN IND LOWR THAN OTHER	ZERO SHIFT OF FISCHER-PORTER XMTR
W	ZII	020257*	012478	TX	FT	PX	A14	T	R	T	2	STEAM FLOW XMTRS 1FT-532 & 533 LOW (NONCONSERV)	DRIFT OF XMTRS; RECALIBRATED
W	ZII	020589	012778	RE	FT	PX	B12	T	R	T		RX PROT. A RELAY 1FC426-XA FOR LOOP C FLOW TRAIN A	FOUND HUNGUP--BINDING PLUNGER PIN ON RLAY
W	ZII	020717	021578	MO	RR	NN	B02	N	R	D		CLASS I PIPE TUNNL RAD. MON. 1RTPR07A ALARMD HIGH	DAMAGD MYLAR WINDOW DUE TO PERSON OPERATN
W	ZII	021710	042778	MO	RR	NN	B12	N	R	D		CLASS I PIPE TUNNL IODINE MON. 1RTPR07B FAILD	DIRTY CONTACTS (CORROSION); REPLACED
W	ZII	021449	050978	IM	FT	PX	A14	T	R	T		FEED FLOW CHANL 1F-511 SQ.RT.EXTRACTR HI (NONCONS)	DRIFT OF CLOCK PULSE FOR SQUARE ROOT EXT.
W	ZII	021546	052078	MO	RR	NN	B12	N	R	T		AREA RAD MON ORTAR09 FAILD LOW	DIRTY CONTACTS ON ALARM/AMP PRINTD BOARD
W	ZII	021971	071278	MO	RR	NN	B13	N	R	T		PIPE TUNNL RAD MON 1RTPR07B FAILD LOW	FAILD GAMMA SCINTILLATN DETECTR ASSEMBLY
W	ZII	021967B	071778	TX	LT	PX	A11	N	R	T		CHNL 537 SG LEVL IND HIGHER THAN CHNL 539	PACKING LEAK FROM ROOT VALVE OF XMTR
W	ZII	022108	072378	MO	RR	NN	B13	N	R	T		AREA RAD MON ORE0005 TAKEN OUT OF SERVICE	FAILD LOW VOLT PWR SUPPLY MODEL PDS-15
W	ZII	022109	072778	MO	RR	NN	B13	N	R	U		RAD MONITORS 1RE0011/12 FAILED ON LOW FLOW	PUMP SEIZURE CAUSE NOT STATED
W	ZII	022221	080278	TX	LT	PX	A14	N	R	T		SG LEVL CHNL 538 HIGHR THAN CHNLS 537&539 (NONCSV)	DRIFTED OUT OF TOLERANCE; REPLACD W/SPARE
W	ZII	022512	082278	TX	FT	PX	B13	T	R	T		XMTR 1FT-446 FAILD HI (NONCONSERVTV) FOR LO RC FLW	FAILD OSCILATR IN XMTR
W	ZII	023441	092578	IM	TT	PX	A14	T	R	T		FUNCTION GENERATOR 1NM-441B OUTPUT OUT OF TOL LOW	SETPTS NONCONSERVTIVE; INSTRUMNT DRIFT
W	ZII	022900	102078	TX	LT	PX	B11	T	R	T		SG 1D LEVL CHNL 1L-538 NONCONSERVTV SETPOINT	INSTRU LINE TO XMTR BLOCKD
W	ZII	022998	110778	MO	RR	NN	B13	N	R	T		FUEL BLDG AREA RAD MON ORE0005 ALARMD HIHG	FAILD GM TUBE; REPLACED & CALIBRATED
W	ZII	023126	112578	TX	FT	PX	A14	T	R	T		1FT-523 READIN LT. OTHR FLOW CHANLS ON "C" S/G	FS DRIFT IS NONCONSERV; XMTR OUT OF TOLER
W	ZII	023354	121178	PS	FS	SN	B13	N	R	U		1FT543 FAILD LOW;NONCONSERV FOR HI STEAM FLOW SI	MECH. FOUND BROKEN FUSEHOLDR IN PWR SUPLY
W	ZII	023439	122478	MO	RR	NN	B13	N	R	T		COMP COOLN LIQ RAD.MON 1RE-0017 FAILD LOW; OOS	BAD HI VOLT PWR.SUP. CAUSD L.V. PWR SUPLY
W	ZII	025151	010879	MO	RR	NN	B13	N	R	T		CNTNMNT VENT PARTICULATE MON,1RE-0011,FAILED	FUSE FAILED IN PS FOR SAMPLE BLOWER FAIL
W	ZII	025300	020679	MO	RR	NN	B13	N	R	T		GAS DECAY TANK RAD MON,ORT-PR02B ALARMED HIGH	FAILED TRANSISTOR IN CIRUIT BOARD
W	ZII	025652	030479	MO	RR	NN	B13	N	R	T		S/G BLOWDOWN LIQUID RAD MON FAILED	NATURAL EOL OF HIGH VOLTAGE POWER SUPPLY
W	ZII	025622	032679	TX	LT	PX	A14	N	R	T		1L-538,S/G LEVEL,DISCOVERED READING 4% HIGH	ZERO SHIFT
W	ZII	025678A	041679	MO	RR	NN	B09	N	R	U		U-1 CNTNMNT PURGE EXHUST IODINE MON DECLARED INOP	POOR SOLDER CONNECTION
W	ZII	025678B	042079	MO	RR	NN	B09	N	R	U		U-1 CNTNMNT PURGE EXHUST IODINE MON DECLARED INOP	HIGH VOLTAGE NEED ADJUSTING
W	ZII	025867	042079	MO	RR	NN	B13	N	R	T		BLOWER TRIPPED ON RE-0011 ON OVERLOAD	DUST BUILDUP ON PUMP VENT
W	ZII	028126	061379	TX	FT	PX	B13	T	R	T		FW FLOW CHANNEL 2L-459 FOUND READING ERRATIC	FAILED ZERO POTENTIOMETER IN TRANSMITTER
W	ZII	026466	070279	MO	RR	NN	B12	N	R	U		AUX BLDG RAD MONITOR ORT-AR08 FAILED	NEEDLE STUCK ON HIGH ALARM POSITION
W	ZII	026450	071879	MO	RR	NN	B12	N	R	T		FAILED FUEL MON,1RT-PR27,FAILED SPORADICALLY	CORRODED CONTACT PINS
W	ZII	027061	090979	TX	FT	PX	B13	N	R	T		STEAM FLOW CHANNEL 1F-523 FOUND INDICATING LOW	FAILED OSCILLATOR CIRCUIT IN TRANSMITTER
W	ZII	027198	092479	TX	LT	PX	A14	N	R	T		PZR LEVEL CHANNEL 1L-459 FOUND INDICATING LOW	INSTRUMENT DRIFT
W	ZII	027286	092779	MO	RR	NN	B08	N	R	D		AIR EJECTOR OFF-GAS RAD MON 1-RT-PR26 FAILED LOW	CAM THAT CONTROLS SOURCE IMPROP CONNECTED
W	ZII	027285	100279	MO	RR	NN	B00	N	R	U		CONTROL ROOM AIR INTAKE MON,ORT-PR01A FAILED	NO CAUSE FOUND

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	Z11	027340	100679	MO	RR	NN	B13	N	R	D		FIRE SUMP RAD MON,ORT-PR25,ALARMED PREMATURELY	TWO PINS HAD BROKEN BETWEEN NIM BIN & MOD
W	Z11	027355	100679	MO	RR	NN	B00	N	R	U		FAILED FUEL LETDOWN RAD MON,1RT-PR27 FAILED LOW	NO CAUSE FOUND
W	Z11	027503	101079	TX	FT	PX	A14	T	R	T		RC FLOW TRANSMITTER 1FT-444 FOUND OOC HIGH BY 3%	INSTRUMENT DRIFT
W	Z11	027402	101679	MO	RR	NN	B07	N	R	T		CNTNMNT PURGE IODINE RAD MON,1RT-PR09B,FAILED LOW	DETECTOR FAILED DUE TO CRUD BUILDUP
W	Z11	027504	102379	MO	RR	NN	B08	N	R	U		AUX BLDG RAD MONITOR FOR 759 ELEVATION FAILED LOW	RESTRAINING CLAMP ON PHOTO TUBE BROKE
W	Z11	027407	102579	MO	RR	NN	B13	N	R	T		CNTNMNT VENT PARTICULATE RAD MON,1RE-0011,FAILED	BLOWER OVERHEATED AND SEIZED
W	Z11	027425	102779	MO	RR	NN	B07	N	R	D		CNTNMNT VENT PARTICULATE RAD MON,1RE-0011,FAILED	CONTACTS ON LOW-FLOW TRIP VIBRATED LOOSE
W	Z11	027825	120679	MO	RR	NN	B08	N	R	T		GAS DECAY TANK RAD MON ORT-PR02B TAKEN OUT OF SER.	NEEDLE BECAME DISLOGED FROM JEWEL BEARING
W	Z11	030167	011080	MO	RR	NN	B12	N	R	T		MISCELLANEOUS VENT GAS RAD MON ORT-PR18A FAILED LO	DIRTY &/OR WORN CONTACTS THRU NORMAL USE
W	Z11	030579	021980	MO	RR	NN	B12	N	R	T		COMP COOLG LIQ RAD MON READ HI ALRM INTERMITTENTLY	DET CNTCT PINS CORRODED CONDNSTN AT TUBE
W	Z11	030750	031480	MO	RR	NN	A14	N	R	U		AUX BLDG AREA MON ORT-AR09 READ LO	DRIFTING OR ERRONEOUS ADJUSTMENT
W	Z11	030940	040380	MO	RR	NN	B02	N	R	D		AIR EJECTR MON 1RT-PR26 FAILED	DET TUBE CRUSHED DURING FILTER CHANGE
W	Z11	031537	051080	IM	IT	PX	A14	T	R	T		FUNC GENERATOR 1NM-441B OUTPUT OOT LOW	INSTRUMENT DRIFT
W	Z11	032243A	062680	MO	RR	NN	B13	N	R	T		CLASS I PIPE TUNNEL IODINE MON 1RT-PR07B FAILD LOW	NAT'L EOL OF PHOTOMULTIPLIER TUBE
W	Z11	032243B	071580	MO	RR	NN	B13	N	R	T		CLASS I PIPE TUNNEL IODINE MON 1RT-PR07B FAILED LO	NAT'L EOL OF PHOTOMULTIPLIER TUBE
W	Z11	032199	071880	MO	RR	NN	A14	N	R	T		AUX BLDG AREA MON ORT-AR09 FAILED LOW	DRIFT IN MON ELECTRICAL ZERO POINT
W	Z11	032243C	071880	MO	RR	NN	B13	N	R	T		CLASS I PIPE TUNNEL IODINE MON 1RT-PR07B FAILED LO	NAT'L EOL OF PHOTOMULTIPLIER TUBE
W	Z11	033230	102980	MO	RR	NN	B09	N	R	U		COMP COOLG LIQ MON 1RE-017 NO RESPONSE TO CHECK //	SOURCE. BAD ELEC CNTCTS BTWN DET & SOCKT
W	Z11	033692	122680	MO	RR	NN	B09	N	R	D		GAS DECAY TANK CUBICLE RAD MON ORT-PR02B INOP	BAD ELEC CNTCTS ON PRINTED CKT BRD
W	Z11	036546	022881	MO	RR	NN	B13	N	R	U		FIRE SUMP RAD MON ORT-PR25 ALARMED HIGH	FAILED SOLDER JOINT IN HIGH VOLT CIRCUIT
W	Z11	036776	031881	MO	RR	NN	B13	N	R	U		FIRE SUMP RAD MON ORT-PR25 FAILED HIGH	FAILED SOLDER JOINT ON READOUT MODULE
W	Z11	037166	041581	GS	XS	SL	B00	T	R	U		RHR MINIFLOW CONTROL VLV SWITCH 1FIC-610A FAILED	NO CAUSE GIVEN,SWITCH RECALIBRATED
W	Z11	037632	052981	MO	RR	NN	B02	N	R	D		ESF CUBICLES RAD MON ORT-PR12AB DISCOVERED INOP	FILTER NOT INSTALLED
W	Z11	037633*	052981	MO	RR	NN	B02	N	R	D	2	VENT RAD MONITORS ORT-PR18A&B FOUND INOPERABLE	FILTER NOT INSTALLED
W	Z11	037862	062481	MO	RR	NN	B13	N	R	T		FIRE SUMP RAD MONITOR ORT-PR25 SPIKED HIGH	DETECTOR FAILED DUE TO NORMAL END OF LIFE
W	Z11	038424	080681	MO	RR	NN	B08	N	R	T		CNTNMNT GAS AND PARTICULATE RAD MON 1RE-0011 & 12-	-FAILED. BLOWER SEIZED
W	Z11	038514	081781	MO	RR	NN	B12	N	R	T		CONDENSER EJECTOR OFF GAS RAD MON 1RE-015 READ HI	DETECTOR CONNECTIONS DIRTY,CAP FOUND OFF
W	Z11	038982	100681	MO	RR	NN	B12	N	R	T		FAILED FUEL LIQUID RAD MON 1RT-PR27 FAILED	STUCK FLOW SWITCH,BORIC ACID BUILD UP
W	Z11	039114	102381	MO	RR	NN	B08	N	R	T		U1 OFF-GAS PART. AND GAS RAD MON 1RT-PR26&1R15 FO-	-UND NOT SAMPLING CORRECTLY. WORN O-RINGS
W	Z11	039430	111181	MO	RR	NN	B08	N	R	T		CNTNMNT PARTICULATE & GAS RAD MON 1RE-0011&12 BLO-	-WER TRIPPED. MECHANICAL SEIZURE
W	Z12	013954	010576	IM	TS	SN	B13	N	R	T		OVERTEMP TRIP FOR LOOP A WAS HI --3 CHNLS OPERABLE	FAILD CAPACITRS IN SIGNAL SUMMATOR
W	Z12	013943	010676	TX	LT	PX	A11	N	R	T		S/G LEVEL INDICATOR 2LI-538 FOUND READING HIGH	INSTRUMENT ROOT VALVE DEVELOPED A LEAK
W	Z12	014921	050976	TX	LS	SN	A14	T	R	T		2LT-461 PZR LEVL XMTR IND.HI (NONCONSERVATIVE)	ZERO SHIFT; RECALIBRATD
W	Z12	022111	051176	TX	LS	SN	A14	N	R	T		PZR LEVL CHNL 2L-461 OUT OF TOL HIGH (NONCONSERV)	ZERO SHIFT OF XMTR; RECALIBRATED
W	Z12	015282	072976	TX	LT	PX	A14	N	R	T		S/G B LEVL XMTR 2LT-549 OUT OF TOL HIGH (NONCONSR)	ZERO SHIFT UNDER INVESTIGATION
W	Z12	015366	080276	TX	FT	PX	A14	H	R	T		STEAMFLOW XMTR 2FT-543 FOR B S/G FOUND LOW	ZERO SHIFT; PLAN MODIFICATIONS BY SUPPLIR
W	Z12	015370	080276	TX	FT	PX	A14	N	R	T		FEED FLOW XMTR 2FT-521 FOR S/G C HIGH	ZERO SHIFT; PLANS TO MODIFY ARE BEING MDE
W	Z12	015371	080276	TX	FT	PX	A14	N	R	T		STEAMFLOW XMTR 2FT-523 FOR S/G C FOUND TO BE LOW	ZERO SHIFT;PLANS TO MODIFY
W	Z12	015841	082176	TX	LT	PX	A11	T	R	T		PZR LEVL CHNL 2LT-461 READING HIGHER THAN OTHER CH	UPPER ROOT VALVE LEAKING THRU BODY TO BNT
W	Z12	016491	112476	IM	FT	PX	B13	N	R	T		LOOP D S/G FLOW IND FAILD TO ZERO THEN NORML 6TIME	BAD MULTIPLIER/DIVIDER MODULE
W	Z12	016698	120376	IM	FT	PX	B13	N	R	T		LOOP D S/G STEAMFLOW IND LOW ; SQUARE ROOT EXTRACT	BAD CAPACITORS C11 & C12 IN SQ.RT.FM-5338
W	Z12	019145	072577	SE	RR	NN	A02	N	R	D		S/G BLOWDOWN MONITR 2REJ019 SPIKING HIGH	INCORRECT GAIN ADJUSTMENTS
W	Z12	019785	112577	TX	PS	SN	B08	N	R	T		S/G 2B PRESS 2PT-546 FAILD HI (NONCONSERV) FOR SI	LOOSE SET SCREW IN LINKAGE TO FORCE MOTOR
W	Z12	020392	122377	RE	FT	PX	B12	T	R	T		2FC416-XB LOOP A RC FLOW TRIP LOGIC TRAIN B HUNGUP	BINDING PLUNGER PIN AGAINST RELAY HOUSING
W	Z12	020564	020178	IM	FT	PX	B13	N	R	T		UNIT 2 D S/G STM.FLOW LOOP 532 OUT OF TOL(NONCONS)	MALFUNCT SQUARE ROOT EXTRACTOR
W	Z12	020976	030978	TX	FT	PX	A14	T	R	T		XMTR 2FT-445 HIGH; NONCONSERV FOR RC FLOW RX TRIP	ZERO SHIFTED; RECALIBRATED
W	Z12	023621	052178	IM	FG	SN	B13	I	R	T		STEAM FLOW PRGRM COMPUTATION MODULE HI AT LO END	NONCONSRV FOR SI; BAD TRANSISTORS Q5, Q7
W	Z12	021708	060978	TX	LT	PX	A14	T	R	T		PZR LEVL CHANL 459 FOUND LO-NONCONSERV FOR HI TRIP	ZERO SHIFT ,READJUSTED
W	Z12	021796	062578	TX	LT	PX	B00	N	R	U		S/G LEVEL IND 2LI547 FAILD HI-NONCONSERV DIRECTION	CHECKD ROOT VALVS FO STEAM LEAKS-NONE
W	Z12	021966	071178	IN	LG	PX	B00	N	R	U		2B S/G LEVEL IND 2LI-547 FAILD HI(NONCONSERVATIVE)	NO CAUSE COULD BE DETERMINED

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	Z12	023526	082678	MO	RR	NN	B13	N	R	U		AIR EJECTOR RAD MON 2RTPR26 PUMP FAILED	CAUSE NOT STATED FOR PUMP FAILURE
W	Z12	022801	091978	TX	LT	PX	B00	N	R	U		2L-547 FAILD HI;NONCONSERV FOR SF/FW MISMATCH	REPLACED XMTR --NO CAUSE FOUND YET
W	Z12	022800	092578	CM	LT	PX	A00	N	R	U		PZR LEVL 2LT-459 LOW;NONCONSERV FOR HI LEVL TRIP	NO CAUSE COULD BE FOUND
W	Z12	022798	100878	TX	LT	PX	A11	N	R	T		S/G LEVL CHNL 2 LI-538 HI;NONCONSERV FOR LOLO S/G	DIRT IN SENSIN LINES, TUNED OSCILATOR
W	Z12	023127*	111478	TX	LS	SN	A14	T	R	T	2	LT-956,957 OUT OF TOL LOW FOR ACCUMULATOR 2B	INSTR DRIFT
W	Z12	023128*	111478	TX	LS	SN	A14	T	R	T	2	LT-950 OUT OF TOL LOW;LT-951 OOS DUE TO WTR IN XMT	INSTR DRIFT; XMTRS ARE F [illegible] ACCUMULATCR 2A
W	Z12	025147	010979	MO	RR	NN	B09	N	R	T		CCW MONITOR,2RE0017,FAILED LOW	FAULTY LOW VOLTAGE POWER SUPPLY
W	Z12	025656C	030379	TX	LS	SN	B11	N	R	T		2LI-460 FOUND OUT OF CALIBRATION	LEAKING ROOT VALVE
W	Z12	025788*	033079	TX	FT	PX	A14	T	R	T	3	RC FLOW LOOP B,2FT-444,445,&446 FOUND OOC HIGH	INSTRUMENT DRIFT OF 4.125% TO 4.7%
W	Z12	025787	041579	TX	LT	PX	A14	T	R	T		2LT-461 FOUND OUT OF CAL BY 7% HIGH	INSTRUMENT DRIFT
W	Z12	025968	050879	MO	RR	NN	B09	N	R	T		CONDENSER AIR EJECTOR RAD MON 2RE015 FAILED LOW	DEFECTIVE LOW VOLTAGE POWER SUPPLY
W	Z12	026745	080379	TX	LT	PX	A14	N	R	T		PZR LEVEL CHANNEL 2L-459 FOUND INDICATING LOW	INSTRUMENT 0 SHIFT
W	Z12	030505A	020280	MO	RR	NN	B13	N	R	T		CNTNMNT VENT PRTCLT RAD MON 2RE0011 INOP	DET TUBE WOULDN'T RESPOND MAT'L EOL
W	Z12	030505B	020280	MO	RR	NN	B13	N	R	T		CNTNMNT VENT PRTCLT RAD MON 2RE0011 INOP	HVPS WOULDN'T ADJST TO PROPER SETG EOL
W	Z12	030429A	020680	TX	PS	SN	A14	T	R	T		2PT526 OOT HIGH	ZERO SHIFT
W	Z12	030429B	020780	TX	PS	SN	A14	T	R	T		2PT526 OOT HIGH	ZERO SHIFT
W	Z12	033231	102980	TX	LT	PX	A11	N	R	T		PZR LVL CH 2L-461 LO ZERO SHIFT ON XMTR 2L-461	GAS POCKETS IN XMTR SENSING LINES
W	Z12	033534A	120880	ZZ	XC	NN	A00	T	R	U		WANTED S/D BANK C MOTION REC'D A ROD URGENT ALARM	SOURCE UNDETERMINED
W	Z12	033534B	122280	ZZ	XC	NN	B00	T	R	U		ROD URGENT ALARM RECEIVED	FAULTY PC CARD
W	Z12	037226	050881	TX	LT	PX	A14	N	R	T		PZR LEVEL CH 2L-461 FOUND READING 6% HIGH	TRANSMITTER DRIFT,POSSIBLE GAS BUBBLES
W	Z12	038211	073081	MO	RR	NN	B13	N	R	U		BLOWER TRIPPED FOR CNTNMNT RAD MON 2RE0011&12	FILTER PAPER JAMMED CAUSING OVERPRESSURE
W	Z12	038806	091881	MO	RR	NN	B08	N	R	T		BLOWER FOR CNTNMNT RAD MON 2RE-0011 & 12 FAILED	MECHANICAL SEIZURE
W	Z12	039433	111581	TX	PS	SN	B08	N	R	U		2C S/G PRESSURE CH 2P-524 FAILED HIGH	LOOSE FERRITE DISC
W	Z12	039379	111781	MO	RR	NN	B13	N	R	D		BLOWER FOR CNTNMNT RAD MON RE-0011&12 TRIPPED	WIRE WORKED LOOSE APPARENTLY DUE TO VIB.
W	Z12	172139	121781	TX	PS	SN	B07	N	R	T		2C S/G PRESSURE CHNL 2P-524 FAILED HIGH	WATER CONDENSATN IN XMTR 2PT-524
G	BF1	016054	100676	GS	PG	SN	B13	T	R	D		RHR PUMP DIS PRESSURE SWICH (PS-74-8A) FAILED	BINDING PLUNGER ,SWITCH REPLACED
G	BF1	016812	122976	GS	PG	SN	A14	T	R	T		PRESS. SWITCH PS-3-74B EXCEED TS SET POINT	DRIFTED BELOW SET POINT
G	BF1	017077*	012677	GS	PT	PX	A14	T	R	T	3	PS-2-1A,1B,8A WERE FOUND OPERATING BELOW TECH SPEC	SETPOINT DRIFT
G	BF1	017286	022877	GS	PG	SN	A14	T	R	T		PS-68-96 EXCEEDED TS LIMIT (CORE SPRAY-RHR INTER)	PRESSURE SWITCH SET POINT DRIFT
G	BF1	018124	050277	CN	FG	SN	B13	T	R	T		W/FC IN MAN.,RCIC SYS FAILED TO REACH RATED FLOW	FAILED RAMP GEN AND SIGNAL CONVERTER
G	BF1	018122	051277	GS	PS	SH	B13	T	R	T		PRES SWITCH WOULD NOT ALLOW HPCI LO PUMP TO START	CLASS 9012,TYPE ACW22,FAILED AND REPLACED
G	BF1	020111	011378	GS	PG	SF	A14	T	R	T		CS PUMP DISC PRES SW PS-75-44 EXCEEDED TS SETPOINT	SETPOINT DRIFT
G	BF1	020961	040378	GS	PS	SN	A14	T	R	T		RX BLDG PS PS-3-74B DRIFTED BELOW TS LIMIT	SETPOINT DRIFT
G	BF1	021560*	053078	GS	PT	PX	A14	T	R	T	3	PS-1-81A,81E,91B(TURBINE PRES PERMISSIVE) DRIFTED	SET POINT DRIFT
G	BF1	022853A	102278	MO	RR	NN	B13	N	R	T		'A' SAMPLE PUMP FOR OFF GAS SAMPLING FAILED	STUCK VANES ON PUMP
G	BF1	022853B	102278	MO	RR	NN	B13	N	R	T		'B' SAMPLE PUMP FOR OFF GAS SAMP FAILED TO START	BEARINGS AND CENT SW FAILED ON MOTOR
G	BF1	025344	022579	MO	RR	NN	B07	N	R	D		RX&TURBINE BLDG&REFUEL ZONE RAD MON RM-90-250 FAIL	MOISTURE IN DETECTOR FAILED AMPLIFIER
G	BF1	026319*	061279	GS	PT	PX	A14	T	R	T	2	PS'S PS-1-81A&B SETPOINTS EXCEEDED TS LIMIT	SETPOINT DRIFT
G	BF1	026398	062879	GS	LT	PX	B12	T	R	T		SCRAM DISCH LEVEL SWITCH LS-85-45B FAILED IN UNSAF	//E CONDITION. MATERIAL IN PIVOT AREA
G	BF1	027162	092079	MO	RR	NN	B07	N	R	D		RAD MON RM-90-250 FAILED	DETECTOR FAILED WITH MOISTURE BUILDUP
G	BF1	027790	111279	MO	RR	NN	B13	N	R	U		DRYWELL AIR SAMPLER RM-90-256 ALARMED DOWNSCALE	TRANSFORMER FAILED
G	BF1	028020	122679	MO	RR	NN	B13	N	R	U		CONTINUOUS AIR MON 1-RM-90-256 HAD LOW FLOW	SAMPLE PUMP FAILED
G	BF1	030228	012280	GS	LT	PX	B13	N	R	D		CRD ACCUMU LVL SW LS-1-305-129 ON UNIT 38-11 INOP	CAUSE WAS BROKEN REED SWITCH
G	BF1	030307	012680	GS	LT	PX	B13	T	R	D		SCRAM ACCUMU LVL SW 1LS8534 FOR CRD 26-27 NO ALRM/	/ FOR HI ACCUMU LVL. BROKEN PEED SWITCH
G	BF1	031005	041480	MO	RR	NN	B07	N	R	T		RAD MON 1RM90250 ERRATIC DECLARED INOP	MOISTURE COLLECTED IN PARTICULATE DETECTR
G	BF1	031175	043080	MO	RR	NN	B07	N	R	T		HALOGEN CHNL PEN ON RR-90-250 WAS DOWNSCALE	MOISTURE IN HALOGEN DETECTOR
G	BF1	037358*	060180	GS	PT	PX	A14	T	R	T	4	TURB 1ST STAGE PRMSSV SW PS-1-81A/B,-91A/B OOT	SETPOINT DRIFT
G	BF1	031404	060580	GS	PS	SD	A14	N	R	T		CORE SPRAY PMP DSCHRG PS-75-44 EXCEED SETPOINT	INSTRUMENT SETPOINT DRIFT
G	BF1	032177	072880	GS	PT	PX	A14	N	R	T		TURB FRST STAGE PRESS PRMSSV PS-1-81A/B SETPTS HI	SETPOINT DRIFT
G	BF1	032701	091980	MO	RR	NN	B07	N	R	T		CONTINUOUS AIR MON RM90250 IODINE CH IND DWNSCL	WATER COLLECTED IN SAMPLE LINE BY CONDENS

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE	CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	BF1	033387	120180	GS	PS	SD	A	14	N	R	T		CORE SPRAY SPARGER TO RPV D/P SW 1-PDIS-75-28 OOC	SETPOINT DRIFT
G	BF1	033638	121080	MO	RR	NN	B	07	N	R	T		AIR MON IRM90-250 INOP DUE TO IODINE CH IND DWNSCL	WTR IN SAMPLE LINE DUE TO CONDENSATICN
G	BF1	036019	010581	GS	PS	SN	A	14	T	R	T		CORE SPRAY SPARGER TO RPV 1-PDIS-75-28 OOC (LOW)	SETPOINT DRIFT
G	BF1	036988	042881	MO	RR	NN	B	13	N	R	T		RX/TURB BLDG VENT 1-RM-90-250 INOP INSTR RDG DWNSL	DETECTOR HI VOLTG FAILED NAT'L EOL
G	BF1	037175	050581	MO	RR	NN	B	13	N	R	T		RX/TURB BLDG VENT 1-RM-90-250 INOP INSTR DWNSCL	EOL OF IODINE DETECTOR
G	BF1	037421	051881	GS	PG	NN	B	09	M	R	D		SBGTS "C" INOP	PHOTOHELIC PRES SW FAILED ELECTRONICALLY
G	BF1	037575*	061081	GS	LC	NN	B	12	M	R	U	8	SCRAM ACC LVL SW DID NOT OPERATE	SUBSTNCE ON SW FLOAT & GUIDE STEM STICKG
G	BF1	037490*	061581	GS	PG	NN	A	14	T	R	T	2	SWITCHES PS-68-93,-94 OUT OF TECH SPEC LIMITS	SETPOINT DRIFT
G	BF1	037927*	063081	GS	PG	NN	A	14	T	R	T	3	RX LO PRESS SW PS-3-74B,68-95,68-96 OOT	SETPOINT DRIFT
G	BF1	038C09	072281	MO	RR	NN	B	13	T	R	U		1-RM-90-249 OPERATE/TEST SW FOR TURB BLDG ROOF E//	XHST INOP. EQUIPMENT MALFUNCTION
G	BF1	171608	081681	MO	RR	NN	B	13	N	R	T		CONTIN AIR MO 1-RM-90-250 WAS INOP	PUMP FAILURE,WORN VANES
G	BF1	039258*	102281	GS	PG	CT	A	14	T	R	T	2	PS-3-74A #1 & PS-3-47B #2 OOT	SETPOINT DRIFT
G	BF1	171779	112381	GS	PS	SN	B	09	N	R	U		1-PS-3-74B SW 2 FAILED (PERMISSIVE FOR CCS AND LP-	-CI). SWITCH SHORTED OUT
G	BF1	171981	112481	TX	FS	SQ	B	13	T	R	U		RCIC FLOW TRANSMITTER FOUND OOC	FAILED AMPLIFIER CARD
G	BF1	171767	112581	TX	FS	SQ	B	13	N	R	U		RCIC FLOW TRANSMITTER 1-FT-71-36 FAILED	FLUID LEAKED FROM BELLOWS ONTO RESISTORS
G	BF2	019324B	100477	GS	LS	SN	B	13	T	R	T		CRD ACCUMULATOR LEVEL SWITCH FAILED TO ALARM	COMPONENT FAILURE,LEVEL SWITCH REPLACED
G	BF2	021093	041278	MO	RR	NN	B	13	N	R	T		RX BUILDING VENTILATION RAD. MON. FAILED	UPSCALE RELAY FAILED
G	BF2	022944	111078	MO	RR	NN	B	07	N	R	T		TURB BLDG AND REFUEL VENT EXHAUST MON. BECAME INOP	MOISTURE BUILDUP IN SENS. LINES,RM-90-250
G	BF2	023190	120278	MO	RR	NN	B	07	N	R	T		TURB BLDG AND REFUEL VENT EXHAUST MON. BECAME INOP	MOISTURE BUILDUP IN SENS. LINES,RM-90-250
G	BF2	023292*	121178	GS	PT	PX	A	14	T	R	T	2	RX HIGH PRESS SWITCHS PS-3204A,B EXCEEDED TS LIMIT	SETPOINT DRIFT
G	BF2	026164*	060579	GS	PT	PX	A	14	T	R	T	4	TURBINE FIRST STAGE PERMISSIVE PS'S PS-1-81A&B &//	PS-1-91A&B SETPOINTS OOC. SETPOINT DRIFT
G	BF2	030276	012280	GS	LS	SN	A	14	N	R	T		RX WTR LVL SW LIS-3-203D SW 2 EXCEEDED TECH SPEC	DRIFTED ABOVE SETPOINT
G	BF2	031205	050680	RC	RG	NN	B	13	N	R	T		PARTICULATE CHNL RECORDER 2-RR-90-249 INOPERABLE	NORMAL AGING OF RECORDER AMPLIFIER
G	BF2	031548*	060280	GS	PT	PX	A	14	N	R	T	4	TURB 1ST STG PRESS PRMSSV PS-1-81A/B & -91A/B OOC	SW DRIFTED DUE TO NORMAL COMPONENT AGING
G	BF2	037826	062180	IM	FG	NN	B	09	N	R	U		"A" FLOW BIAS LOOP DRIFTED HIGH	FLO TOTALIZER FAILED ELECTRONICALLY
G	BF2	032102	072280	GS	LT	PX	A	14	N	R	T		RX LO WTR LIS-3-203C OUT OF TECH SPEC LIMITS	SETPOINT DRIFT
G	BF2	032257*	081180	GS	PT	PX	A	14	N	R	T	2	RX HP PS-3-204A/B SETPOINTS OOC	MODEL 9N-AA45-X9-TT HAD DRIFTED
G	BF2	032899B	100980	GS	LC	NN	B	12	M	R	T	17	SCRAM ACC LVL SW INOPERABLE	SYSTEM CRUD ACCUMULATED ON FLOATS
G	BF2	033258	111580	GS	LG	MN	B	12	N	R	T		SCRM DSCHRG VOL TNK 3 GAL 2-LS-85-45F INOPERABLE	MODEL SL-305-E1-X SW FLOAT WAS STUCK
G	BF2	033314	112180	GS	LT	PX	B	12	N	R	T		RX WTR 2-LIS-3-58C SW 4 INOP AT PROPER SETPOINT	DIRTY SWITCH CONTACTS
G	BF2	033546	120880	GS	PS	SD	A	14	N	R	T		CORE SPRAY DSCHRG 2-PS-75-16 OOC	MODEL DA-7004-804 SETPOINT DRIFTED
G	BF2	033848	122780	GS	LT	PX	B	00	T	R	U		SCRM DSCHRG INSTR VOL TNK 2-LS-85-45F FAILED TO OP	MODEL SL-305-E1-X INOP UNKNOWN CAUSE
G	BF2	036008A	010281	GS	LS	SN	B	12	T	R	T		SCRAM DISCHARGE VOLUME 2-LS-85-45A FOUND INOP	STUCK FLOAT CHAMBER
G	BF2	036020	010281	GS	LS	SN	A	14	T	R	T		SCRAM DSCHRG INSTR VOL ROD BLOCK 2-LS-85-45E OOC	SETPOINT HAD DRIFTED
G	BF2	036084	011281	GS	PS	SD	A	14	T	R	T		CORE SPRAY PMP DSCHRG 2-PS-75-16 OOT	MERCOID MODEL DA-7004-804 DRIFTED OOT
G	BF2	037339*	052781	GS	PT	PX	A	14	T	R	T	4	PS-1-81A,B,-91A,B OOT(HIGH)	PRESSURE SW SETPOINTS HAD DRIFTED
G	BF2	037491*	061181	GS	PS	SL	A	14	T	R	T	2	RX HI PRES SW 68-93 #2 & 68-94 #2 OOT (HIGH)	SETPOINT DRIFT
G	BF2	038011	070881	GS	LS	SN	B	12	T	R	U		SCRAM DSCHRG INSTR VOL TANK 2-LS-85-45F INOP	MECHANICAL BINDING IN SW MOVEMENT
G	BF2	038858	092181	IM	FG	MN	B	09	N	R	U		FLO TOTALIZER FQ-68-5 DRIFTED HIGH	FLO TOTALIZER FAILED ELECTRONICALLY
G	BF2	039125*	102081	GS	LS	SN	A	14	T	R	T	4	RX WTR LIS-3-203C #1,2;-203D #1,2 OOT	CALIBRATION HAD DRIFTED
G	BF2	039233*	103081	GS	PG	NN	A	14	T	R	T	2	RX LP PS-3-74A #1,-68-95 #1 OOT	SETPOINT DRIFT
G	BF2	171765*	111781	MO	RT	PX	B	09	N	R	U	2	MSL RAD MONITORS 2-RM-90-137C & 139D FAILED	LOOSE CONNECTORS ON RAD MONITORS
G	BF2	172777	121181	GS	LG	NN	A	14	N	R	T		L-WATER LVL SWITCH 2-LIS-3-203D NUMI OP OVER SPEC	INSTRUMENT DRIFT
G	BF3	016809	121276	MO	TG	NN	B	02	N	R	T		DRYWELL TEMPERATURE RECORDER BECAME ERRATIC	THERMOCUUPLE LEAD BROKEN
G	BF3	017160	020877	GS	LT	PX	B	13	T	R	T		RX LOW WATER LEVEL SWITCH LIS-3-203D FAILED TO OP.	ERRATIC MICRO SWITCH WAS REPLACED
G	BF3	019951	121177	GS	LS	IC	B	13	T	R	T		RX WATER SWITCH LIS-3-56D (#2) FAILED TO OPERATE	CONTACT FATIGUE,SWITCH REPLACED
G	BF3	021091	040978	RE	NC	NN	B	12	N	R	T		BOTH RBM CH BECAME CONTINUOUSLY BYPASSED	CONTACT 5-6 FOR CRD 38-03 (RSR) STUCK
G	BF3	021191	041478	MO	RR	NN	B	13	N	R	U		SAMPLE PUMP ON CAM FOR RX AND TURB BLDG EXHST OOC	PUMP FAILED, NO CAUSE STATED
G	BF3	021839	070678	PS	XG	SH	B	09	T	R	D		HPCI PUMP TRIPED DUE TO LOSS OF VOLTAGE TO GOVENOR	RESISTOR THAT WAS TOO SMALL HAD OPENED
G	BF3	022088	072778	GS	FS	SN	A	14	T	R	T		MS HIGH FLOW SW PDIS-1-36D EXCEEDED T.S. LIMIT	FLOW SWITCH,BARTON CAT # 278,DRIFTED

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	BF3	026320*	061279	GS	PT	PX	A14	T	R	T	4	TURBINE FIRST STAGE PERMISSIVE SW'S PS-1-81A&B &//	PS-1-91A&B SETPOINTS FOUND OOC. DRIFT
G	BF3	026776	081579	GS	PT	PX	A14	T	R	T		TURBINE FIRST STAGE PERMISSIVE,PR SWITCH 1-81A SET	//POINT EXCEEDED TS LIMITS. INST DRIFT
G	BF3	028C33*	121879	GS	PT	PX	A14	T	R	T	3	RX PRESSURE SWITCHES,PS-3-74A&B AND PS-68-95 DID//	NOT ACTUATE AT CORRECT SETPOINT. DRIFT
G	BF3	030969*	041080	GS	LG	NN	B12	N	R	T	3	LIS-3-56A SW 1&2 AND -56B SW 2 INOPERABLE	DIRTY CONTACTS. LIS MODEL 4418C
G	BF3	031204*	050980	CS	LG	NN	B12	N	R	T	2	LIS-3-56A/B SW 2 OOC	STUCK SW CONTACTS DUE TO INCR SURF FRIC
G	BF3	031271	051780	GS	LG	NN	B12	N	R	T		LIS-3-56B SW 2 OOC	STUCK SW CONTACTS LI. MODEL 4418C
G	BF3	031666*	061680	GS	PT	PX	A14	N	R	T	4	TURB FRST-STG PRESS PRMSSV PS-1-81A/B & -91A/B//	OOC. MODEL B21-A125S SWITCHES DRIFTED
G	BF3	032178	080680	GS	LS	SQ	A14	N	R	T		RX WTR LIS-3-203C SW 2 EXCEEDED TECH SPEC LIMITS	MODEL 288A DRIFTED
G	BF3	032261*	081380	GS	PT	PX	A14	N	R	T	2	TURB FRST-STG PS-1-81A & -91A ABOVE TECH SPECS	MODEL B21-A125S SETPOINTS HAD DRIFTED
G	BF3	033081	110580	GS	PG	NN	A14	N	R	T		SETPOINT FOR 3-PS-1-76 BELOW TECH SPEC LIMITS	MODEL B21A125S SW SETPOINT DRIFTED
G	BF3	0336968	123180	GS	LC	NN	B12	M	R	T	17	SCRAM ACCUMULATOR LEVEL SWITCHES INOPERABLE	DIRTY FLOATS
G	BF3	036256	020281	GS	PG	NN	A14	T	R	T		3-PS-1-76 OOT (LOW)	SETPOINT HAD DRIFTED
G	BF3	036385	022481	GS	LT	PX	A14	T	R	T		SCRAM DSCHRG 3-LS-85-45E OOT (HIGH)	SETPOINT DRIFT
G	BF3	037424	051581	GS	LT	PX	B12	T	R	T		HPCI SUPPRESSION CHAMBER HI 3-LS-73-57B INOP	STUCK FLOAT CHAMBER
G	BF3	037579*	061681	GS	PT	PX	A14	T	R	T	4	TURB 1ST STG PRMSSV SW PS-1-81A/B,-91A/B OOT (HI)	SETPOINT DRIFT
G	BF3	038311	081781	GS	PT	PX	A14	T	R	T		TURB 1ST STG PRMSSV SW 3-PS-1-81A OOT (HIGH)	SETPOINT DRIFT
G	BF3	038934	100281	GS	LT	PX	A14	T	R	T		RX WTR LVL SW LIS-3-203D #1 OOT	SETPOINT HAD DRIFTED
G	BF3	039361	110781	MO	RR	NN	B13	T	R	U		3-RM-90-250 DID NOT PASS ON GAS/PARTICULATE CHNLS	GAS COUNT RATE CARD WAS REPLACED
G	BF3	171127	111681	MO	RR	NN	B13	N	R	T		CAM 3-RM-90-249 TURB BUILDING EXHST NOT SAMPLING	WORN VACUUM PUMP DRIVE BELT
G	BPI	020748	031178	CM	PS	SA	B13	N	R	T		TEST ENABLE LIGHT IND. ON RX DEPRESS SYS CHANNEL 4	ELECTRONIC MODULE FAILED IN SENSOR CH 4
G	BPI	027092*	091379	GS	PS	SN	A14	T	R	T	4	RDS PUMP DISCHR PS'S PS789,PS790,PS791 & PS722 //	SETPOINTS FOUND BELOW TS LIMITS. DRIFT
G	BPI	030582	030180	TX	LS	SA	A14	N	R	T		SPURIOUS ALRM ON SENSOR "D" OF RX DEPRESS SYS	SETPOINT DRIFT ON RX LVL XMITTER LT-3183
G	BPI	030896	040360	TX	LS	SA	A14	N	R	T		SPURIOUS ALARMS ON SENSOR "D" OF RX DEPRESS SYS	SETPOINT DRIFT ON RX LVL XMITTER LT-3183
G	BPI	030895	041180	TX	LS	SA	A14	N	R	T		SPURIOUS ALARMS ON SENSOR "D" OF RX DEPRESS SYS	SETPOINT DRIFT ON RX LVL XMITTER LT-3183
G	BPI	032002	042380	TX	LS	SA	A14	N	R	T		SPURIOUS ALARMS ON SENSOR "D" OF RX DEPRESS SYS	SETPOINT DRIFT ON RX LVL XMITTER LT-3183
G	BPI	033849	050780	TX	LS	SA	A14	N	R	T		SPURIOUS ALARMS ON SENSOR "D" OF RX DEPRESS SYS	SETPOINT DRIFT ON RX LVL XMITTER LT-3183
G	BPI	033880	051280	TX	LS	SA	A14	N	R	T		SPURIOUS ALARMS ON SENSOR "D" OF RX DEPRESS SYS	SETPOINT DRIFT ON RX LVL XMITTER LT-3183
G	BPI	031778	070380	TX	LS	SA	A14	N	R	T		SPURIOUS ALARMS ON SENSOR "D" OF RX DEPRESS SYS	SETPOINT DRIFT ON RX LVL XMITTER LT-3183
G	BPI	032176	072980	TX	LS	SA	A14	N	R	T		SPURIOUS ALRMS ON SENSOR "D" OF RX DEPRESS SYS	DRIFT ON LT3183/TOO CNSERV SET RX LO LVL
G	BPI	032357	081480	TX	LS	SA	A14	N	R	T		SPURIOUS ALRMS ON SENSOR "D" OF RX DEPRESS SYS	DRIFT ON LT3183/TOO CNSERV SET RX LO LVL
G	BPI	032353	081980	TX	LS	SA	A14	N	R	T		SPURIOUS ALRMS ON SENSOR "D" OF RX DEPRESS SYS	DRIFT ON LT3183/TOO CNSERV SET RX LO LVL
G	BPI	032359	082080	TX	LS	SA	A14	N	R	T		SPURIOUS ALRMS ON SENSOR "D" OF RX DEPRESS SYS	DRIFT ON LT3183/TOO CNSERV SET RX LO LVL
G	BPI	032360	082980	TX	LS	SA	A14	N	R	T		SPURIOUS ALRMS ON SENSOR "D" OF RX DEPRESS SYS	DRIFT ON LT3183/TOO CNSERV SET RX LO LVL
G	BPI	032655	090980	TX	LS	SA	A14	N	R	T		SPURIOUS ALRMS ON SENSOR "D" OF RX DEPRESS SYS	DRIFT ON LT3183/TOO CNSERV SET RX LO LVL
G	BPI	032699	091780	TX	LS	SA	A14	N	R	T		SPURIOUS ALRMS ON SENSOR "D" OF RX DEPRESS SYS	DRIFT ON LT3183/TOO CNSERV SET RX LO LVL
G	BRI	016850	122676	RC	TG	NN	B13	N	R	T		DRYWELL LEAK DETECTOR RECORDER NOT PRINTING	STEPPING RELAY WAS FOUND BAD, CAC-TR-1258
G	BRI	017530*	011077	GS	PG	SN	A14	T	R	T	2	PRESSURE SWITCH E11-PS-N020B,D FOUND OUT OF CAL.	SEPOINT DRIFT
G	BRI	017084	011277	GS	PS	IC	A14	I	R	T		PRESSURE SWITCH B21-PS-N056C FOUND OUT OF CAL	SETPOINT DRIFT (CONDENSER VACUUM)
G	BRI	017C89*	020577	CM	LS	IC	A14	T	R	T	3	RX LOW WATER LEVEL #1 INST B21-N017A,C,D FOUND OOC	OUT OF CAL DUE TO SETPOINT DRIFT
G	BRI	017597	021777	GS	PG	NN	B13	T	R	T		RELIEF VALVE BELLOWS RUP SW B21-PS-N013D FAILED	COMPONENT FAILURE,SWITCH REPLACED
G	BRI	017599*	030377	CM	PG	SH	A14	T	R	T	3	HPCI TURB EX DIAPHRAGM HP INST FOUND OOC	SETPOINT DRIFT,E41-PSN-N012A,B,C RECALIBR
G	BRI	017581	031477	CM	FG	SH	A14	T	R	T		HPCI STEAM LINE FLOW INST E41-DPIS-N004,OUT OF CAL	SETPOINT DRIFT
G	BRI	017531*	033177	CM	PG	SH	A14	T	R	T	2	HPCI TURB STEAMLINE PRESS INST. FOUND OUT OF CAL	SETPOINT DRIFT,E41-PSL-N001A,C
G	BRI	018149*	040977	GS	PG	SL	A14	T	R	T	2	LPCI PUMP AND ADS PERMISSIVE SWITCHES FOUND OOC	SET POINT DRIFT,E11-PS-N020A,B
G	BRI	018543	070977	GS	PG	SL	A14	T	R	T		LPCI PUMP AND ADS PERMISSIVE SW FOUND OUT OF CAL.	SETPOINT DRIFT,E11-PS-N020B
G	BRI	018683	071377	MO	RR	NN	B13	N	R	T		RX BLDG VENT RAD MONITOR,D12-RM-N010A,FAILED	BROKEN WIRE INSIDE MONITOR
G	BRI	018684	071477	MO	RR	NN	B13	N	R	T		RX BLDG VENT RAD MONITOR,D12-RM-N010A,FAILED	FAILED POWER SUPPLY INSIDE DETECTOR
G	BRI	018539	072777	CM	PG	SH	A14	T	R	T		HPCI TURB STEAMLINE LOW PRESS INST FOUND OOC	SETPOINT DRIFT,E41-PS-N001B
G	BRI	018685	072977	GS	LI	PX	A14	T	R	T		RX LOW WATER LEVEL INST. FOUND OUT OF CALIBRATION	SETPOINT DRIFT,INST.# B21-LIS-N017B
G	BRI	018694	080477	GS	PS	SQ	A12	T	R	T		RCIC TURB EX DIAPHRAGM HP INST SETPOINT WAS WRONG	STICKING SWITCH,E51-PS-N012C

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	BR1	018890*	081077	TX	LG	NN	A14	T	R	T	2	TORUS LEVEL INSTRUMENTS READ WRONG	TRANSMITTERS OUT OF CALIBRATION
G	BR1	018888	081577	RC	TG	NN	B12	N	R	T		DRYWELL TEMPERATURE RECORDER CAC-TR-1258 INOP.	CONTACT FOUND STICKING
G	BR1	019019*	090177	CM	PS	SQ	A14	T	R	T	2	RCIC TURB STEAMLINE LOW PRES INST SETPOINT OOC	SETPOINT DRIFT,INST ID E51-PS-N019B,D
G	BR1	019022	090777	GS	PG	SL	B07	T	R	D		LPCI PUMP DISCHARGE ADS PERM SW WOULD NOT OPERATE	WATER DAMAGE TO E11-PS-N020B
G	BR1	019085A	091577	SE	LG	NN	A04	N	R	D		TORUS LEVEL INST CAC-LT-2601 FOUND TO BE DRIFTING	MOISTURE IN DRY REFERENCE LEGS
G	BR1	019085B	091777	SE	LG	NN	A04	N	R	D		TORUS LEVEL INST CAC-LT-2601 FOUND TO BE DRIFTING	MOISTURE IN DRY REFERENCE LEGS
G	BR1	019331	092977	SE	LG	NN	A11	N	R	D		TORUS WATER LEVEL INST. CAC-LI-2601-3 DRIFTING	WATER IN DRY SENSING LEG
G	BR1	019277	100577	GS	PS	SQ	B13	T	R	T		RCIC TURB STEAMLINE LOW PRESS SWITCH FAILED	MICROSWITCH FOR E51-PS-N019D FAILED
G	BR1	019386	101377	GS	PS	SQ	A07	T	R	D		RX PRESS HIGH S/D COOLING ISO, PRES SW SETPOINT HI	WATER GOT INTO THE MICROSW,B32-PS-N018A
G	BR1	019676	111477	GS	PS	SQ	B07	T	R	D		RX PRESS-HIGH S/D COOLING ISOLA. SW NOT ACTUATING	WATER DAMAGE TO SWITCH,B32-PS-N018A
G	BR1	019825	112877	RC	XG	NN	B13	N	R	T		RECORDER DRIVE STRING FOR CAC-AR-1259 BROKE	COMPONENT FAILURE
G	BR1	019961	120377	PS	XG	SL	B09	N	R	T		OPERATOR FOUND A RHR RELAY LOGIC "A" POWER FAILURE	BLOW FUSE,NO CAUSE FOUND FOR BLOWN FUSE
G	BR1	020208	122977	GS	PG	SQ	B07	T	R	D		RCIC TURBINE EXHUST DIAPHRAGM HP SW FAILED TO ACT.	TRASH FOUND INSIDE COVER,ID E51-PS-N012C
G	BR1	020386	011878	GS	PG	SL	B13	N	R	T		RHR/CORE SPRAY PUMP RUNNING ANNUNCIATOR RECIEVED	SW E11-N016B HAD LEAKING DIAPHRAGM
G	BR1	020484	012978	MO	RR	NN	B13	N	R	T		RX BLDG VENT EXHUST RAD MONITOR FAILED	D12-RM-N010B FAILURE DUE TO FAILED DIODE
G	BR1	020615*	020978	MO	RR	NN	B04	T	R	D	2	CONT RADIATION MONITORS CAC-AQH-1260,1262 FAILED	MOISTURE IN SENSING LINES
G	BR1	020839	030178	GS	PG	IC	B08	T	R	T		DRYWELL TO TORUS VACUUM BKR IND FAILED TO INDICATE	STICKING SWITCH
G	BR1	020726	030478	GS	XG	NN	B13	N	R	T		DRYWELL FLOOR DRAIN LEAK RATE IND FOUND ERRATIC	SWITCH ASSEM. FAILED DUE TO FAILED DIODE
G	BR1	020835*	031578	SE	NT	PX	B00	N	R	U	2	IRM'S "A" AND "H" DECLARED INOPERABLE	IRM "E" AND "H" FAILED,COMPONENT FAILURE
G	BR1	020836*	031578	MO	RR	NN	B13	T	R	T	2	PRI CONT RAD MONITORS CAC-AQH-R61-1,1262-1 OOC	DETECTORS REPLACED DUE TO NORMAL
G	BR1	021556	052678	SE	DC	NN	B13	N	R	T		ROD 12-23 HAD NO POSITION INDICATION	FAILED REED SWITCH
G	BR1	021688	060778	GS	DG	NN	B13	T	R	T		CAC VACUUM BKR CAC-X18G WOULD NOT INDICATE OPEN	FAILED POSITION SWITCH
G	BR1	022703	100478	GS	PG	SL	B13	T	R	T		PRESS SW E11-PS-N016B (LPCI,ADS PERMISSIVE) FAILED	SWITCH FAILURE CAUSED BY CORROSION
G	BR1	022747	101778	MO	RR	NN	B13	N	R	T		RX BLDG RAD MONITOR D12-RM-N010B FAILED SAFE	FAILED TRANSISTOR IN POWER SUPPLY
G	BR1	025017	011779	GS	PS	SH	A08	T	R	D		HPCI LP ISO INST E41-PSL-N001C ACTUATED BELOW TS	LOOSE CLAMP BOLT ALOWED TORQUE SHAFT SLIP
G	BR1	026121	052079	RC	TG	IC	B13	N	R	T		RECORDER 1-CAC-TR-1258,CNTNMNT TEMP, FOUND INOP.	R-3 RELAY FOUND TG HAVE BURNT CONTACTS
G	BR1	026401	070679	GS	LT	PX	A14	T	R	T		RX LOW WATER LEVEL #1 CH,B21-LIS-N017B,SW #1, OOC	INSTRUMENT DRIFT
G	BR1	026402	071379	MO	RT	PX	A14	T	R	T		HIGH STEAM LINE RAD MON "B" FOUND OUT OF CALIBRA.	INSTRUMENT DRIFT
G	BR1	026619B	071779	IN	DG	NN	B13	N	R	D		NO INDICATION OF FULL-IN FOR ROD 42-11	SOCKET WAS BROKEN IN INDICATOR
G	BR1	026621	080579	SE	DG	NN	A00	N	R	U		POSITION 30 INDICATOR ON ROD 34-39 DID NOT IND.	PIP PROBE IN DRYWELL
G	BR1	026739	080879	MO	RT	PX	A14	T	R	T		MAIN STEAM HI RAD MON "B" FOUND OOC HIGH	INSTRUMENT DRIFT
G	BR1	026822	082079	SE	DG	NN	B09	N	R	U		POSITION 12 ON ROD 06-43 WAS NOT INDICATING	SHORT IN PIP PROBE OF REED SWITCH
G	BR1	026940	090879	ZZ	DG	NN	A00	T	R	U		ROD 02-35 HAD NO INDICATION AT NOTCH 46	NO CAUSE COULD BE FOUND
G	BR1	026956	091679	SE	DG	NN	A00	N	R	U		NO INDICATION FOR ROD 26-15 NOTCH'S 30,31,34 & 35	PIP PROBE IN DRYWELL
G	BR1	027158A	092679	MO	RR	NN	A14	N	R	T		CNTNMNT ATMOS MONITOR CAC-AT-1263 WAS ERRATIC	ZERO REFERENCE SHIFTED UPSCALE
G	BR1	027231	093079	SE	DG	NN	A00	T	R	U		CONTROL ROD HAD NO INDICATION AT NOTCH 47.	NO CAUSE GIVEN FOR ROD 34-43 IND MALFUNC.
G	BR1	027158B	100279	MO	RR	NN	A14	N	R	T		CNTNMNT ATMOS MONITOR CAC-AT-1263 WAS ERRATIC	ZERO REFERENCE SHIFTED UPSCALE
G	BR1	027228*	100479	GS	LT	PX	A14	T	R	T	2	RX LOW LEVEL I CH INST. 1B21-LIS-N017 A,SW 1,6 //	1B21-LIS-N017 C,SW 1 FOUND OOC. DRIFT
G	BR1	027319	101579	GS	XS	SD	B12	T	R	D		CORE SPRAY/RHR RUNNING ANNUNCIATOR WOULD NOT RESET	SWITCH FAILED DUE TO SPRING STICKING
G	BR1	027627	102779	MO	RR	NN	A07	N	R	D		CNTNMNT ATMOS MON CAC-1263-2 HAD SHIFT IN OUTPUT	AMPLIFIER REPLACED,ASSUMED MOSTURE IN AIR
G	BR1	027440B	110179	TX	FS	SL	B14	N	R	T		RHR FLOW IND 1E11-FI-3338 INDICATED 2500 GPM WITH/	/NO FLOW. INSTRUMENT DRIFT
G	BR1	027783	111679	MO	RR	NN	B08	N	R	T		CNTMNT ATMOS MONITOR CAC-AQH-1259 INOPERABLE	BROKEN DRIVE BELT ON SAMPLE PUMP
G	BR1	027681	112779	MO	RT	PX	A14	T	R	T		MS LINE HI RAD CH,MS LINE DRAWER "B" FOUND OOA	INSTRUMENT DRIFT
G	BR1	027743	112979	MO	RR	NN	B08	N	R	T		CNTNMT ATMOS MONITOR CAC-AT-1263 INOPERABLE	SEIZED BEARING ON SAMPLE PUMP
G	BR1	027745A	120479	MO	RR	NN	B13	N	R	U		CNTNMT ATMOS MONITOR CAC-ATH-1263 READ DOWNSCALE	BLOWN POWER SUPPLY FUSE
G	BR1	027745B	120479	MO	RR	NN	A14	M	R	T		ZERO SHIFT FOUND ON CAC-ATH-1263(CNTNMT ATMOS MON)	INSTRUMENT DRIFT
G	BR1	027892	121979	SE	DG	NN	B09	N	R	U		NO INDICATION FOR ROD 42-07 FROM 30-39	SHORT IN PROBE
G	BR1	028025	122479	MO	RR	NN	B09	N	R	U		CNTNMNT ATMOS MON CAC-AR-1263 FAILED DOWNSCALE	INPUT POWER CABLE SHORT AGAINST PS CASE
G	BR1	028016	122779	MO	RT	PX	A14	T	R	T		MSL HI RAD DRAWER 1-D12-K603B FOUND OOC	INSTRUMENT DRIFT
G	BR1	028017	122979	SE	DG	NN	B00	N	R	U		THE "48" IND FOR ROD 02-31 FOUND BLINKING	REED SWITCH INTERMITTENILY FAILING

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	BR1	030C26	010280	MO	RR	IC	A14	N	R	T		CNTNMNT ATMOSPHERIC MON CAC-AT-1263 OOC HIGH	INSTRUMENT CALIBRATION SHIFTED
G	BR1	030189	011480	GS	LS	SN	A14	T	R	T		CST LO WTR LVL CH CAL CST LVL SW 1E41-LSL-N002 OOC	INSTRUMENT DRIFT
G	BR1	030232A	012080	MO	RR	SN	A00	N	R	U		CNTNMNT ATMOSPHERIC MON CAC-AT-1263 HAD A STEP //	CHANGE. UNKNOWN CAUSE
G	BR1	030236	012580	GS	PS	SN	A14	N	R	T		LO LVL PS 1B21-LITS-N031A-2 FAILED TO ACTUATE	INSTRUMENT DRIFT
G	BR1	030232B	013180	MO	RR	SN	A00	N	R	U		CNTNMNT ATMOS MON CAC-AT-1263 HAD A STEP CHANGE	UNKNOWN CAUSE
G	BR1	030232C	020180	MO	RR	SN	A00	N	R	U		CNTNMNT ATMOS MON CAC-AT-1263 HAD A STEP CHANGE	UNKNOWN CAUSE
G	BR1	030232D	020280	MO	RR	SN	A00	N	R	U		CNTNMNT ATMOS MON CAC-AT-1263 HAD A STEP CHANGE	UNKNOWN CAUSE
G	BR1	030232E	020680	MO	RR	SN	A00	N	R	U		CNTNMNT ATMOS MON CAC-AT-1263 HAD A STEP CHANGE	UNKNOWN CAUSE
G	BR1	030410	021280	PS	DC	NN	B13	N	R	D		ROD BLOCK MON "A" READ UPSCL DWNSCL INOP & ALRM	BLOWN FUSE IN 28 VDC POWER SUPPLY
G	BR1	030785	032480	MO	RR	SN	B07	N	R	T		CNTNMNT ATMOS MON 1-CAC-AT-1259 LO FLO ALRM INOP	SAMPLE PMP DAMAGED BY EXCESSIVE WTR
G	BR1	030956*	040780	GS	LT	PX	A14	T	R	T	2	RX LO WTR LVL #1 CH OF 1-B21-LIS-N017B&C SW 1 OOC	INSTRUMENT DRIFT
G	BR1	030946	041780	SE	DG	NN	A09	N	R	D		ROD POS IND FOR CRD14-11 LOST TENS DIGIT FOR 40-48	GROUND IN PIP PROBE
G	BR1	031010	041780	MO	RR	SN	B13	N	R	T		CNTNMNT ATMOS ANLYZR 1CAC-AT1263 INOP	MOTOR STOP SW OPEN DISCONNECTED WIRE
G	BR1	031092*	042480	GS	PS	SN	A14	N	R	T	2	RX LO WTR LVL CH2&3 1-B21-LITS-N031A-2/B-3 FAILED	INSTRUMENT DRIFT
G	BR1	031148	050180	TX	FS	SL	A14	N	R	T		RHR FLO IND 1E11-FI-3338 FALSE RDG, IND FLO XMITTR	INSTRUMENT DRIFT
G	BR1	031201	051680	SE	DS	SN	A09	N	R	D		POSITION 8 FOR ROD 14-15 DID NOT INDICATE	GROUND IN PIP PROBE
G	BR1	031411	060580	MO	RR	NN	B08	T	R	D		RAD MON D12-RM-N010B FAILED TO TRIP	RLY 38A MECHANICALLY STUCK IN NON-ALRM
G	BR1	031926A	072080	SE	DG	NN	A09	T	R	D		CNTRL ROD 38-39 DUAL POS IND SUPERIMPOSED	PIP PROBE GROUND
G	BR1	032411*	082680	IM	NT	PX	A14	T	R	T	3	A,C,&F APRM'S MODEL #145C309AAG001 OUT OF SPEC	INSTRUMENT DRIFT
G	BR1	032745	092380	GS	LT	PX	B12	T	R	T		RX LO WTR LVL SW 1-B21-LIS-N031A-2 DIDN'T ACTUATE	STICKING SW ACTUATOR KEPT SW CONTACT OPEN
G	BR1	032793	100980	GS	LT	PX	A14	T	R	T		RX LVL INSTR 1-B21-LIS-N017A OUT OF SPEC (HIGH)	INSTRUMENT DRIFT
G	BR1	033665	121180	PS	DT	PX	B13	N	R	D		ROD MON "B" IND DWNSCL	PS FAILED DEFCTV PS REGLTR & ZENER DIODE
G	BR1	036047A	011481	LS	DG	NN	B12	T	R	T		RPS LOGIC RELAYS DIDN'T DEENGRZ AS REQUIRED	STICKG VLV POS LMT SW ACTUATR ARM CAM
G	BR1	036315*	012681	GS	LC	NN	B12	T	R	T	2	CR SCRAM ACC 46-15,30-07 INOP DUE TO INOP INTERN//	AL LEAKG DET. STCKG LVL SW FLOATS IN DET
G	BR1	164357	020481	MO	RR	NN	B13	N	R	U		POST ACCIDENT RAD MON 1-CAC-AI-1262 INOPERABLE	PHOTOHELIC UNIT REMOVED
G	BR1	036047B	021281	LS	DG	NN	B12	T	R	T		RPS LOGIC RELAYS DID NOT DEENGERGIZE AS REQUIRED	STICKING VLV POS LMT SW ACTUATOR ARM CAM
G	BR1	164595	021381	IN	DG	NN	B13	N	R	U		FULL OUT POSITION INDICATION FOR ROD 14-19 LOST	DEFECTIVE LIGHT ISOLATOR
G	BR1	036316	021481	TX	FG	NN	B08	N	R	D		RADWST SYS LIQ EFF DSCHRG HI RNG IND FALSE FLO RDG	MECH LINK BTWN FLO PADDLE & SMTR LOOSE
G	BR1	036516A	021981	GS	PS	SN	B00	T	R	U		RX PS 1-B21-PS-N021D #1 WOULD NOT ACTUATE	SW ACTUATION SCREW OUT OF ADJUSTMENT
G	BR1	036516B	031781	GS	PS	SN	B00	T	R	U		RX PS 1-B21-PS-N021D #1 WOULD NOT ACTUATE	SW ACTUATION SCREW OUT OF ADJUSTMENT
G	BR1	038069B	071681	GS	DS	IC	A14	T	R	T	2	VLVS 1-CAC-V16/V17 OPENED OOT (HIGH)	AUTO-OPEN ACTUATN SW OUT DUE TO DRIFT
G	BR1	039134	102681	MO	RR	NN	B07	N	R	T		MSL RAD MON 1-D12-RM-K603D FAILED DOWNSCALE	MOIST ACCUM IN CNNCTR FROM MAINT IN AREA
G	BR2	014139*	010276	GS	PG	SL	A14	T	R	T	4	2-E11-PS-N011A,B,C,D WERE FOUND OUT OF CALIBRATION	INSTRUMENT DRIFT
G	BR2	014132*	010376	GS	PS	SN	A14	T	R	T	2	LOW CONDENSER VACUUM SWITCHES FOUND OUT OF CAL.	SETPOINT DRIFT OF 2-B21-PS-N056C AND D
G	BR2	014131	010476	RC	RG	NN	B13	T	R	T		CONTAINMENT RADIATION RECORDER WOULD NOT RESPOND	RECORDER 2-CAC-AR-1261 DRIVE CARD BROKE
G	BR2	014138*	011076	GS	PT	PX	A14	T	R	T	4	RPS HIGH DRYWELL PRESSURE SWITCHES FOUND OUT OF CA	SETPOINT DRIFT,OF C72-N002A,B,C AND D
G	BR2	014113	011576	GS	PS	SN	A14	T	R	T		HIGH DRYWELL PRESSURE SWITCH WAS FOUND OOC HIGH	SETPOINT DRIFT OF E11-PS-N011A
G	BR2	014112*	012176	GS	PG	SL	A14	T	R	T	2	RHR HIGH DRYWELL PRESSURE SWITCHES FOUND OOC	SETPOINT DRIFT OF E11-PS-N011A AND C
G	BR2	014547	012476	GS	PT	PX	A14	T	R	T		HIGH DRYWELL PRESSURE SWITCH FOUND HIGH OOC	SETPOINT DRIFT OF C72-N002A
G	BR2	014392*	013176	GS	PT	PX	A14	T	R	T	2	RPS HIGH DRYWELL PRESSURE SWITCHES FOUND OOC HIGH	SETPOINT DRIFT OF C72-N002C AND D
G	BR2	014643*	020376	GS	FS	SN	A14	T	R	T	3	STEAM LINE HIGH FLOW,DP SWITCHES FOUND OOC HIGH	SETPOINT DRIFT OF 2-B21-N006D,7C,AND 9D
G	BR2	014195*	020676	GS	PG	SH	A14	T	R	T	4	HPCI TURB EXHUST DIAPHRAGM HP SWITCHES FOUND OOC	SETPOINT DRIFT OF E41-N012A,B,C AND D
G	BR2	014391*	020776	GS	LT	PX	A14	T	R	T	4	SCRAM SWITCHES B21-LTS-N017A,B,C AND D FOUND OOC	SETPOINT DRIFT
G	BR2	014648	020776	GS	TG	SH	A00	N	R	U		HPCI ISOLATED ON STEAM LEAK DETECTION	CAUSE UNKNOWN,RHR ROOM COOLERS CLEAR ISOL
G	BR2	014652	020876	GS	TG	SH	A04	N	R	D		HPCI ISOLATED ON STEAM LEAK DETECTION	TOO CONSERVATIVE REQUIREMENT
G	BR2	014628*	030676	GS	PG	SL	A14	T	R	T	2	LPCI PUMP DISC PRESS INTER PRESS SWITCHES FOUND OC	SETPOINT DRIFT OF 2-E11-PS-N020A AND D
G	BR2	014629	030676	GS	PS	SN	A14	T	R	T		LOW CONDENSER VACUUM PRESS SWITCH FOUND OUT OF CAL	SETPOINT DRIFT OF 2-B21-PS-N056B
G	BR2	014632	030776	MO	PG	NN	B12	T	R	T		PRIMARY CONT TEMP RECORDER FAILED DOWNSCALE	STICKING CONTACTS,2-CAC-TR-1258
G	BR2	014619	031176	GS	LG	CT	A14	T	R	T		CONDENSATE STORAGE TANK LOW LEVEL ALARM,ALARMED LO	SETPOINT DRIFT OF E41-LS-N002
G	BR2	014915	052476	MO	RR	NN	B13	T	R	T		RADIO-IODINE RATEMETER FAILED TO RESPOND TO CAL	DETECTOR FAILED,2-CAC-AQH-1261-2

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	BR2	015398*	060876	GS	PI	PX	A14	I	R	T	2	HIGH DRYWELL PRESS SWITCHES FOUND OUT OF CAL	SETPOINT DRIFT OF 2-C72-PS-N002C AND D
G	BR2	014914*	060976	GS	PS	SN	A14	I	R	T	3	HIGH DRYWELL PRESSURE SWI,CHES FOUND OOC HIGH	SETPOINT DRIFT OF E11-PS-N011B,C,AND D
G	BR2	015399	061076	RC	PG	NN	B13	T	R	T		PRIMARY CONTAIMENT PRESSURE RECORDER FOUND INOP	CART DRIVE GEAR BADLY WORN,REPLACED
G	BR2	015402	061276	RC	RG	NN	B13	T	R	T		CONTAINMENT RAD RECORDER 2-CAC-AR-1260 DION'T TRAC	DRIVE CORD WORN OUT
G	BR2	015406*	061776	GS	TG	SQ	A00	N	R	U	7	DURING 2 WEEK PERIOD RCIC ISOLATED 7 TIMES	CAUSE UNKNOWN FOR SWITCH MALFUNCTION
G	BR2	015396*	061876	GS	PS	SQ	A14	T	R	T	4	DRYWELL HP SWITCHES 2 E11-PS-N010A,B,C,D OOC HIGH	SETPOINT DRIFT
G	BR2	015407	061876	MO	RR	NN	A00	I	R	U		CONT RAD MONITOR 2-CAC-AR-1260 WAS FOUND ERRATIC	CONDITION CLEARED ITSELF
G	BR2	015397*	061976	GS	PT	PX	A14	T	R	T	4	HP SCRAM PRESS SWITCHES FOUND OUT OF CAL HIGH	SETPOINT DRIFT OF 2-B21-PS-N023A,B,C & D
G	BR2	015401A	062376	GS	PG	SH	A14	I	R	T		HPCI STEAM LINE DP SWITCH FOUND OUT OF CAL HIGH	SETPOINT DRIFT OF E41-DPIS-N004
G	BR2	015401B	062376	GS	PG	SH	A02	T	R	D		HPCI STEAM LINE DP SW FOUND OOC E41-DPIS-N005	HAD BEEN PREVIOUSLY MISCALIBRATED
G	BR2	015410	062476	RC	RG	NN	B13	I	R	T		CONTAINMENT RAD MON RECORDER FOUND ERRATIC	BROKEN DRIVECORD ON 2-CAC-AR-1261
G	BR2	015411	062676	RC	XG	NN	B13	T	R	T		CONTAINMENT O2-H2 RECORDER INDICATING ERRATIC	BROKEN DRIVE CORD ON 2-CAC-AR-1259
G	BR2	015412	062676	RC	XG	NN	A02	I	R	D		CONTAINMENT O2-H2 RECORDER ERRATIC,2-CAC-AR-1259	DRIVE CORD HAD BEEN INSTALLED TOO TIGHT
G	BR2	015413*	062876	GS	PG	SH	A14	T	R	T	2	HPCI TURB STEAMLINE LOW PRESS SWITCHES FOUND OOC	SETPOINT DRIFT OF 2-E41-PSL-N001B AND D
G	BR2	015415	062976	RC	RG	NN	B13	T	R	T		CONT RAD MONITOR 2-CAC-AR-1261 NOT TRACKING	WORN OUT RECORDER DRIVE CARD
G	BR2	015424	071076	GS	PG	SH	A14	T	R	T		HPCI TURB EXHUST DIAPHRAGM HP SWITCH FOUND OOC	SETPOINT DRIFT OF 2-EH-PSH-N012B
G	BR2	015426*	071076	ZZ	XG	SQ	A00	T	R	U	2	RCIC ISOLATED TWICE IN ONE HOUR	CAUSE UNKNOWN
G	BR2	015425*	071176	GS	PG	SL	A14	T	R	T	2	LPCI PUMP DISCH INTER PRESSURE SWITCH OOC HIGH	SETPOINT DRIFT OF E11-PS-N020A AND B
G	BR2	015430	072176	ZZ	TG	SQ	A00	N	R	U		RCIC ISOLATED ON STEAM LEAK DETECTION HIGH DT SYS.	CAUSE UNKNOWN
G	BR2	015543	081176	RC	XG	NN	B13	T	R	T		CONTAINMENT O2-H2 RECORDER WOULD NOT PRINT	BROKEN DRIVE CORD ON 2-CMC-AR-1263
G	BR2	016063	100376	RC	PG	NN	B13	I	R	T		CONTAINMENT PRESS RECORDER DISCOVER. NOT ADVANCING	MOTOR GOT HOT,REPLACED,2-CAC-PR-1257
G	BR2	016818*	121076	MO	RR	NN	B13	N	R	T	2	IODINE DETECTORS CAC-AR-1260,1261 DECLARED INOP.	DEFECTIVE CRYSTAL AND WEAK PHOTOMUL TUBE
G	BR2	016824	123176	GS	PG	SQ	A14	T	R	T		RCIC TURB EXHUST DIAPHRAGM HP SW OUT OF CAL HIGH	SETPOINT DRIFT OF E51-PS-N012C
G	BR2	016889	010577	CN	XG	NN	B13	I	R	T		RECORDER CAC-AR-1263 INDICATED HIGH H2 READING	DIODE VR1 IN SIGNAL CONVERTER FAILED
G	BR2	017093*	020477	GS	LS	IC	A14	T	R	T	3	RX LOW WATER LEVEL SW FOUND OUT OF CALIBRATION	SET POINT DRIFT OF B21-N017B,C AND D
G	BR2	017092*	020777	RC	XG	NN	B08	T	R	D	2	RECORDERS CAC-AR-1260 & CAC-AR-1262 MALFUNCTIONED	DIRTY OR STICKING SLIDE WIRE AND DRIVE ST
G	BR2	017601*	022177	GS	TG	SH	B04	N	R	D	3	HPCI ISOLATED ON SIGNAL FROM E41-DTS-N601A	COLD REACTOR INLET AIR
G	BR2	017602	022877	RC	XG	NN	B13	I	R	T		RECORDER CAC-AR-1263 DECLARED INOPERABLE	BROKEN DRIVE STRING
G	BR2	017588	031377	GS	PT	PX	A14	I	R	T		RX HIGH PRESSURE TRIP,PRESS SW FOUND OOC HIGH	SETPOINT DRIFT OF B21-PS-N023B
G	BR2	017587	031477	TX	LG	NN	A14	N	R	T		SUPPRESION CHAMBER LEVEL HI-HI ALARM FOUND OOC HI	DRIFT OF TRANSMITTER CAC-LT-2601
G	BR2	017582	032777	PS	XG	SL	B09	N	R	U		RHR RELAY LOGIC "B" POWER FUSE BLEW	UNKNOWN CAUSE FOR FUSE FAILURE
G	BR2	017538*	033077	GS	PG	SH	A14	T	R	T	2	HPCI TURB EXHUST HP INSTRUMENTS FOUND OUT OF CAL.	SETPOINT DRIFT OF E41-PS-N012C AND D
G	BR2	017537	040277	GS	LS	IC	A14	T	R	T		RX LOW WATER LEVEL #1 INST ACTUATED HIGH	SETPOINT DRIFT OF B21-LIS-N017C
G	BR2	020508	040477	GS	PS	SQ	A02	N	R	D		RCIC TURB STEAM LINE LOW PRESS SW FOUND OOC HIGH	ACCIDENTAL JARRING OF E51-PS-N019B
G	BR2	017536*	040877	GS	PG	SL	A14	T	R	T	3	LPCI PUMP DISC ADS PERMISSIVE SWITCHES FOUND OOC	SETPOINT DRIFT OF E11-PS-N020A,B AND D
G	BR2	018135	050877	GS	PG	SL	A14	T	R	T		LPCI PUMP DISC ADS PERMISSIVE SW FOUND OOC HIGH	SETPOINT DRIFT OF E11-PS-N020D
G	BR2	018137*	052777	GS	PG	SH	A14	I	R	T	4	HPCI TURB EXHUST DIAPHRAGM HP INST FOUND OOC	SETPOINT DRIFT OF E41-PSH-N012A,B,C AND D
G	BR2	018175	060877	GS	PG	SL	A14	T	R	T		LPCI PUMP DISC ADS PERMISSIVE SW FOUND OOC HIGH	SETPOINT DRIFT OF E11-PS-N020A
G	BR2	018179	061277	GS	PI	PX	A14	I	R	T		RX HIGH PRESS TRIP PRESS SWITCH FOUND OUT OF CAL.	SETPOINT DRIFT OF B21-PS-N023D
G	BR2	018674	070377	GS	LS	IC	A14	T	R	T		RX LOW WATER LEVEL #1 INST FOUND TO BE SET LOW	SETPOINT DRIFT OF B21-LIS-N017A
G	BR2	018679*	070677	GS	PS	SQ	A02	T	R	D	2	RCIC TURB STEAM LINE LOW PRESSURE SW FOUND OOC	ACCIDENTAL JARRING OF E51-PS-N019A AND C
G	BR2	018692	080477	GS	PS	SQ	A14	I	R	D		RCIC STEAMLINE LOW PRESSURE SW FOUND OOC HIGH	POOR INST REPEATABLITY,E51-PS-N019C
G	BR2	018863*	081177	TX	LS	IC	A14	T	R	T	2	TORUS LEVEL TRANSMITTERS FOUND OUT OF CALIBRATION	ZERO SHIFT OF 2-CAC-LT-2601 AND 2602
G	BR2	018942	082277	RC	TG	NN	B13	N	R	T		PRI CONT. ATMOS. TEMP RECORDER,CAC-TA-1258,ERRATIC	POINT SELECT RELAY MISSING,DRIVE GEAR LOO
G	BR2	018962	082977	GS	PG	SH	A14	T	R	T		HPCI TURB EXHUST DIAPHRAGM HP SW FOUND OOC	SETPOINT DRIFT OF E41-PS-N012B
G	BR2	018963	082977	GS	PG	SH	A14	T	R	D		HPCI TURB STEAM LINE LOW PRESS SW FOUND OOC LOW	LOOSE SET SCREW ON E41-PS-N001B
G	BR2	018961	083177	TX	LS	IC	A14	N	R	T		TORUS LEVEL IND, CAC-LI-2601-3 WAS DRIFTING	TRANSMITTER CAC-LT-2601 HAD ZERO SHIFT
G	BR2	019018	090277	GS	LT	PX	A14	I	R	T		RX LOW WATER LEVEL INST FOUND OUT OF CALIBRATION	INTRUMENT DRIFT OF B21-LIS-N017B
G	BR2	020454A	012278	MO	RR	NN	B13	I	R	T		CONTAINMENT RAD. MON. CAC-AQH-1260 DECLARED INOP.	WORN OUT VACUUM PUMP
G	BR2	020454B	012278	MO	RR	NN	B13	T	R	T		CONTAINMENT RAD. MON. CAC-AQH-1262 DECLARED INOP.	BAD IC CHIP AND A BAD PHOTOMULTIPLIER

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	BR2	020613	021278	GS	PS	SN	A08	T	R	D		RX LOW PRESS INST B21-PS-N021C SW #1 FOUND OOC	ADJ SCREW LOCKNUT FAILED
G	BR2	020725	030478	GS	LT	PX	A08	T	R	D		RX LOW WATER LEVEL #1 INST FOUND OUT OF CAL LOW	DRIVE ARM LINKAGE SLIPED ON B21-LIS-N017D
G	BR2	020730*	030678	MO	RR	NN	B13	T	R	T	2	CONTAIMENT RAD. MON. CAC-AQH-1260,62 DECLARED INOP	FAILED PHOTOMULTIPLIER TUBES
G	BR2	020840A	031378	MO	RR	NN	B13	T	R	T		POST ACCID RAD. MON. CAC-AQH-1261 DISCOVERED INOP.	SAMPLE PUMP MOTOR HAD TRIPPED
G	BR2	020840B	031378	MO	RR	NN	B13	T	R	T		POST ACCID. RAD MON. CAC-AQH-1262 DISCOVERED INOP.	FAILED PHOTOMULTIPLIER TUBE
G	BR2	020968A	032478	MO	RT	PX	B13	N	R	T		MAIN STEAM RAD MON.CHANNEL C, BECAME ERRATIC	PROBABLE CAUSE,TWO BAD TRANSISTORS
G	BR2	020968B	032978	MO	RT	PX	B13	N	R	T		MAIN STEAM RAD MON.CHANNEL C, BECAME ERRATIC	PROBABLE CAUSE,TWO BAD TRANSISTORS
G	BR2	020918	040778	SE	DC	NN	B13	N	R	T		ROD 14-23 POSITION INDCATION WAS ERRATIC	REED SWITCH "7" FAILED CLOSED
G	BR2	020914	041078	SE	DC	NN	B13	T	R	T		NO POSITION IND FOR POS 45 FOR ROD 26-03	PROBABLE CAUSE IS FAILED REED SWITCH
G	BR2	022127	080478	GS	PG	SL	B07	T	R	D		LPCI PUMP DISCHR INTER,HP SW E11-PS-N016D FAILED	SW CORRODED DUE TO MOISTURE
G	BR2	022216	081078	GS	PS	SN	B08	T	R	D		RX LOW PRESS,PRESS SW B21-PIS-N021D FAILED	SW ADJUSTMENT ARMS WERE MISSING
G	BR2	022458*	091278	GS	PG	SL	B12	T	R	T	2	LPCI PUMP DISCH PRESS INTER PR SW FAILED TO ACT.	CORROSION ON PLUNGERS, E11-PS-N016B,20D
G	BR2	023034	111278	GS	PS	SN	A12	N	R	T		RX STEAM DOME HP SWITCH B32-PS-N018B DID NOT RESET	STICKING MICRO-SWITCH
G	BR2	023075	112578	RC	TG	SF	B13	T	R	T		DRYWELL TEMP RECORDER FOUND INOPERABLE	SHEARED CONN. PIN ON CAC-TR-778-1,3,4,7
G	BR2	025092	010279	GS	LT	PX	A14	T	R	T		RX LOW WTR LEVEL #1 CH,INS B21-LIS-N017B FOUND OOC	INSTRUMENT DRIFT
G	BR2	025044	010979	GS	PS	SL	B12	N	R	T		RHR PUMP PRESSURE SW E11-PS-N020D FAILED	CONTACT PLUNGER STEM CORROSION
G	BR2	025043	011079	MO	RR	NN	B08	N	R	T		DRYWELL MONITOR CAC-AT-1259 FAILED	SAMPLE PUMP FAILED
G	BR2	025345	022079	TX	LG	NN	A14	T	R	T		SUPPRESSION POOL LEVEL XMITTER READING LOW	DRIFT OF CAC-LT-2601
G	BR2	026404	070279	GS	LT	PX	A14	T	R	T		RX LOW WTR LEVEL #1 CH,SW 1,B21-LIS-N017C, OOT LOW	INSTRUMENT DRIFT
G	BR2	026520	071979	GS	PT	PX	A14	T	R	T		RX HI PRESS TRIP SW#1,INS 2B21-PS-N023C OOC	INSTRUMENT DRIFT
G	BR2	026518*	072679	GS	LI	PX	A14	T	R	T	2	RX LOW LEVEL INS B21-LIS-N031C & D FOUND OOC LOW	INSTRUMENT DRIFT
G	BR2	026945	090879	ZZ	DG	NN	A00	N	R	U		ROD 26-07 LOST INDICATION AT NOTCH 48 MOMENTARILY	NO CAUSE COULD BE FOUND
G	BR2	026953A	091079	IM	NG	PX	A14	T	R	T		DOWN SCALE ALARM DID NOT ANNUCIATE FOR APRM "F"	INSTRUMENT DRIFT
G	BR2	027042	091879	RC	TG	IC	B13	M	R	T		SUPP POOL WATER TEMP RECORDER 2CAC-TR-778 INOPERA/	/BLE DUE TO A DIRTY K-3 RELAY
G	BR2	027050	092679	SE	DG	NN	A00	N	R	U		NO INDICATION FOR ROD 22-31 AT NOTCH 48	PROBLEM IN PIP PROBE UNKNOWN
G	BR2	027443	103179	MO	RR	NN	B07	N	R	D		CNTNMNT ATMOS MON 2-CAC-AQH-1259 WOULD NOT RUN	MOISTURE IN LINES DUE TO FAILED SOL VLV
G	BR2	027784*	111579	GS	PS	SN	B08	T	R	T	2	RX LP CHANNEL 2-B21-PS-N021D SWITCHES 1 & 2 OOT	LOOSE ACTUATING CAM
G	BR2	027839	121579	MO	RR	NN	B08	N	R	T		CNTNMNT ATMOS MON CAC-AT-1259 WOULD NOT OPERATE	FAILED PULLEY BELT ON SAMPLE PUMP
G	BR2	028050	122679	MO	RT	PX	A14	T	R	T		MSL H. RAD DRAWER 2-D12-K603D FOUND OUT OF CAL	INSTRUMENT DRIFT
G	BR2	030045	011480	MO	RR	NN	B09	N	R	T		CAC-AT-1259-1 FAILED UPSCL LOOSE GROUND CONNCT ON/	/ SPAN POTENTIOMETER. NORML PANEL VIBRAT
G	BR2	030193	011680	MO	RR	NN	B09	N	R	D		CNTNMNT ATMOS MON CAC-AQH1260 BRK TRP ON MAGNETICS	VAC PMP MTR PWR LEAD SHRT TO GRND AT CONN
G	BR2	033797	012780	MO	RR	IC	B00	N	R	U		CNTNMNT ATMOS MON CAC-AT-1263 INOP DUE TO LO FLOW	UNKNOWN
G	BR2	030411*	021280	GS	PS	SQ	A14	T	R	T	2	RCIC EXHST DPHRGM HP SW E51-PS-N012A/C OOC	INSTRUMENT DRIFT
G	BR2	030450	022580	GS	PS	SN	A14	N	R	T		MAIN STMLN HI FLO INSTR 2E41-DPIS-N004 OUT OF TOL	INSTRUMENT DRIFT
G	BR2	033834	041880	GS	FG	NN	A00	T	R	U		MAIN TURB CNTRL VLV FAST CLOSURE TEST DIDN'T MEET/	/ RESPONSE TIME. ACTUATN TIME ON SW SLOW
G	BR2	031090	042580	GS	LS	SN	A14	N	R	T		LO LVL SW 2-B21-LITS-N031D-3 OOC (HIGH)	INSTRUMENT DRIFT
G	BR2	031268*	051680	GS	PS	SN	A14	T	R	T	2	SW 1&2 OF 2-B21-PS-N021D OOC	INSTRUMENT DRIFT
G	BR2	031660	062380	GS	LS	SN	B12	T	R	D		LO LVL SW 2-B21-LIS-N031A-1 WOULD NOT RESET	STUCK CONTACTS
G	BR2	031849	072080	GS	PS	SN	A14	T	R	T		SW 1 OF 2-B21-PS-N021D OUT OF CALIBRATION	INSTRUMENT DRIFT
G	BR2	032105	072880	GS	LS	SN	A14	N	R	T		LO LVL SW 2-B21-LIS-N031C-3 OOC	INSTRUMENT DRIFT
G	BR2	032550	090680	MO	RR	SN	B13	N	R	D		CNTNMNT ATMOS MON 2-CAC-AT-1259 LO SAMPLE FLOW	OPEN RELAY CNTCT IN MON PHOTOHELIC GAUGE
G	BR2	032795*	100880	GS	LT	PX	A14	T	R	T	2	RX LO WTR LVL SW1 OF 1-B21-LIS-N017 B & C OOC	INSTRUMENT DRIFT
G	BR2	033057	102880	GS	LS	SN	A14	N	R	T		RX LO WTR LVL SW 2-B21-LIS-N031D-3 OOC (HIGH)	INSTRUMENT DRIFT
G	BR2	033201A	110680	MO	RR	SN	A07	N	R	T		2-CAC-AT-1259 LOST SUPPRESSION POOL SAMP INLET FLO	WATER IN TORUS SAMPLE LINE TO MONITOR
G	BR2	033201B	110880	MO	RR	SN	A07	N	R	T		2-CAC-AT-1259 LOST SUPPRESSION POOL SAMP INLET FLO	WATER IN TORUS SAMPLE LINE TO MONITOR
G	BR2	033201C	111280	MO	RR	SN	A07	N	R	T		2-CAC-AT-1259 LOST SUPPRESSION POOL SAMP INLET FLO	WATER IN TORUS SAMPLE LINE TO MONITOR
G	BR2	033201D	111580	MO	RR	SN	A07	N	R	T		2-CAC-AT-1259 LOST SUPPRESSION POOL SAMP INLET FLO	WATER IN TORUS SAMPLE LINE TO MONITOR
G	BR2	033262	111580	MO	RR	SN	A14	N	R	T		PRMRY CNTNMNT ATMOS MON 2CAC-AT1263 ERRATIC	XMITTER OOC DUE TO INSTRUMENT DRIFT
G	BR2	033318	111980	GS	PS	SN	A14	T	R	T		ACTUATION PRESS SET PT OF SW 2-B21-PS-N021D OOC	INSTRUMENT DRIFT
G	BR2	033201E	112280	MO	RR	SN	A07	N	R	T		2-CAC-AT-1259 LOST SUPPRESSION POOL SAMP INLET FLO	WATER IN TORUS SAMPLE LINE TO MONITOR

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	BR2	033201F	112380	MO	RR	SN	A07	N	R	T		2-CAC-AT-1259 LOST SUPPRESSION POOL SAMP INLET FLO	WATER IN TORUS SAMPLE LINE TO MONITOR
G	BR2	033319	112880	MO	RR	SN	A07	N	R	T		CNTNMNT ATMOS MON 2-CAC-AT-1263 HAD LOW SAMPLE FLO	MOISTURE ACCUMULATION IN MON SAMPLE LINES
G	BR2	033555	121580	MO	RR	SN	A07	N	R	T		PRIMARY CNTNMNT ATMOS MON 2-CAC-AT-1259 LO FLOW	MOISTURE IN MON SAMPLE LINES
G	BR2	033642	122980	GS	LS	SN	A14	T	R	T		LO LVL SW 2B21-LIS-N031D-3 OPERATED OUT OF SPEC	INSTRUMENT DRIFT
G	BR2	036168	012881	TX	FG	NN	B08	N	R	D		RADWST SYS LIQ EFF DSCHRG HI RNG IND FALSE FLO RDG	MECH LINK BTWN FLO PADDLE & XMTR LOOSE
G	BR2	036263	012981	GS	LS	SN	A08	T	R	U		2-B21-LIS-N031A ACTUATED BELOW TECH SPEC LIMIT	LOOSE SET SCREWS ON INSTR POINTR & MAGNET
G	BR2	036317A	020781	GS	LT	PX	A00	N	R	U		RX LVL INSTR B21-LIS-N017D WAS PEGGED HIGH	LO LVL IN INSTRUMENT REFERENCE LEG
G	BR2	036450	020781	GS	LS	SN	B12	T	R	U		LO LVL SW 2-B21-LIS-031D-3 ACTUATED OOT	SW RUBBING INSTR MAGNET
G	BR2	036317B	021281	GS	LT	PX	A00	N	R	U		RX LVL INSTR B21-LIS-N017D RDG HIGHER THAN OTHERS	LO LVL IN INSTRUMENT REFERENCE LEG
G	BR2	036657	030181	GS	LS	SN	A14	M	R	T		LO LVL SW 2-B21-LIS-N031D-3 ACTUATED OOC	INSTRUMENT SETPOINT DRIFT
G	BR2	037954	060781	TX	LS	IC	A11	N	R	U		PRIMARY CAC SUPPRESSION POOL LVL IND RDG ERRATIC	BLOCKAGE IN IND XMTR WTR SUP THROTTLE VLV
G	BR2	037956	062081	RC	RG	IC	B13	N	R	T		PRIMARY CAM 2-CAC-AR-1259 NOT PRINTING. RECORDER/	/PRINTING MECHANISM TIMING MTR-NAT'L LVL
G	BR2	038069A	071681	GS	DS	IC	A14	T	R	T	2	VLVS 2-CVC-V16/V17 OPENED OOT (HIGH)	AUTO-OPEN ACTUATION SW OOT DUE TO DRIFT
G	BR2	038176	072981	TX	LS	IC	A11	N	R	U		LVL WIDE RNG RECORDER ERRONEOUS LVL INDICATION	BLOCKAGE IN INSTR XMTR WTR SUP THROTL VLV
G	BR2	038399	082581	GS	TS	SQ	B13	M	R	U		RCIC STM LINE AREA AMBIENT TEMP SW FAILED DOWNSCL	FAILED COLD SOLDER JOINT NO REASON GIVEN
G	BR2	038762	091481	GS	PS	SD	B12	I	R	D		"A" CORE SPRAY D/P INSTR SW #1 WOULD NOT ACTUATE	STICKING SW ACTUATOR ARM
G	BR2	038720	092081	GS	PS	SQ	B12	T	R	T		RCIC ISOLATED REC'D "LOGIC A" ISOLATION SIGNAL	CORRODED ELEC CNTCTS IN MICROSW OF PS
G	BR2	039082	101381	GS	PS	SL	B08	N	R	T		HEADER PRES SW 2-SW-PS-1175 SENSED LOW PRESSURE	FLUID SEEPAGE THRU DIAPHRAGM PERFORATIONS
G	BR2	039088A	101881	GS	PS	SN	B07	N	R	T		"A" PRMSSV PRES SW 2-E11-PS-N020A ACTUATED	SW CORROSION DUE TO MOISTURE ACCUMULATION
G	BR2	039088B	102081	GS	PS	SN	A07	N	R	T		"C" PRMSSV PRES SW 2-E11-PS-N020C ACTUATED	SW CORROSION DUE TO MOISTURE ACCUMULATION
G	BR2	039174	102981	GS	PS	SN	A02	M	R	D		"CORE SPRAY/RHR PMP RUNNING" ANNUNCIATOR RECEIVED	INADQ MAINT ON C PRMSSV PRES SW CORROSION
G	BR2	039171	110281	GS	PS	SN	B07	N	R	D		D RHR PMP DSCHRG ADS INITIATN LOGIC "A" PRMSSV PS/	/ACTUATED. MOIST ACCUM IN SW INTERNALS
G	BR2	171850	120781	RC	TG	NN	B12	N	R	T		SUPPRESSION CHAMBER TEMP RECORDER 2-CAC-TR-778 FA-	-ILED. STICKING PRINT HEAD,WORN SOLENOID
G	BR2	172024A	121681	GS	PS	SA	A12	T	R	T	2	CORE SPRAY/RHR PUMPS ANNUNC FAILS TO INITIATE	CORROSION OF SW INTERNALS 2E11PSN016D,20D
G	BR2	172024B	121781	GS	PS	SA	B12	T	R	T	2	CORE SPRAY/RHR PUMPS ANNUNC FAILS TO INITIATE	CORROSION OF SW INTERNALS 2E11PSN016D,20D
G	BR2	172337	122881	GS	LS	SN	A14	N	R	T		SETPOINT DRIFT OF RX LO WTR LVL SW 2-B21-LIS-N031D	11-8. INSTRUMENT DRIFT
G	C01	015249	060776	GS	PG	SN	B09	N	R	T		BELLOWS PRESSURE SWITCH FAILED,ACTUATING ALARM	GROUND ON ONE LEAD OF BELLOWS PRESSURE SW
G	C01	016953	060776	GS	PG	SN	B09	N	R	T		BELLOWS PRESSURE SWITCH FAILED, ACTUATING ALARM	GROUND ON ONE LEAD OF BELLOWS PRESSURE SW
G	C01	015361	072176	GS	PG	SL	B08	T	R	D		D/P SWITCH FAILED TO TRIP RELAY IN RHR SYSTEM	EXCESS CYCLING DRIVING SWITCH INTO STOPS
G	C01	016006	091576	MO	RR	NM	B09	N	R	U		CONTROL ROOM VENT MONITOR IODINE CHANNEL FAILED	HIGH VOLTAGE POWER SUPPLY OUT OF ADJUSTME
G	C01	016563*	112276	RE	XS	SA	A14	T	R	T	2	ADS TIME DELAY RELAYS SETPOINT FOUND OUT OF CAL	INSTRUMENT DRIFT,MS-TDR-K5A & B
G	C01	016564	112676	TX	PS	SA	A14	T	R	T		ADS DRYWELL PRESSURE PERMISSIVE SWITCH TRIP LOW	PRESSURE SWITCH DRIFTED FROM NORMAL SETPO
G	C01	016666	121576	RE	XS	SA	A14	T	R	T		ADS TIME DELAY RELAY FOUND OUT OF CAL,MS-TDR-K5A	INSTRUMENT DRIFT
G	C01	017302	022577	GS	LS	SN	B12	T	R	T		REACTOR VESSEL LEVEL IND SWITCH WOULD NOT TRIP	SWITCH CONTACTS CORRODED,SWITCH REPLACED
G	C01	018C01	050377	RE	XS	SA	A14	T	R	T		ADS TIME DELAY RELAY FOUND OUT OF CAL,MS-TDR-K5B	SETPOINT DRIFT
G	C01	018022	051877	RE	XG	SL	B13	T	R	T		RHR TIME DELAY RELAY FOUND OOC,TDR-K45A	EXCESSIVE DRIFT,TIME DELAY RELAY REPLACED
G	C01	018584	070677	MO	RR	NN	B13	N	R	U		AIR EJECTOR DISCHARGE RAD MONITOR FAILED DOWNSCALE	CAUSE UNKNOWN-REPLACED AMP CIRCUIT BOARD
G	C01	020046	121077	MO	RR	NN	B07	N	R	U		DRYWELL ATMOS RAD MONITOR FAILED DOWNSCALE(PARTIC)	MOISTURE IN DETECTOR PREAMPLIFIER
G	C01	020335	121577	MO	RR	NN	B09	N	R	U		DRYWELL RAD MONITOR FAILED DOWNSCALE(IODINE CHANN)	SHIELD GROUND WIRE SHORTED TO OUTPUT TERM
G	C01	020798	011078	MO	RR	NN	B07	N	R	U		DRYWELL ATMOS RAD MONITOR FAILED DOWNSCALE(GAS CH)	MOISTURE IN DETECTOR CHAMBER
G	C01	020805	020778	SS	PG	SH	B03	T	R	D		HPCI TURBINE SPEED INCREASED GREATER THAN 4000 RPM	DPIS SENSING LINES NOT BACKFILLED PROPERL
G	C01	021066	022178	MO	RR	NN	B13	N	R	U		MAIN COND AIR EJECTOR RAD MONITOR FAILED DOWNSCALE	CAUSE UNKNOWN-MONITOR WILL BE REPLACED
G	C01	022737	081478	RE	XS	SD	B04	T	R	D		CORE SPRAY TDR #CS-TDR-K16B FAILED TO OPERATE	DESIGN ERROR,INOPERABLE DUE TO INACTIVITY
G	C01	025280	010379	MO	RR	NN	B07	N	R	D		DRYWELL ATMOS RADIATON MON GAS CH FAILED DOWNSCALE	MOISTURE FAILED DETECTOR ON RMV-RM-C4
G	C01	026899	080979	GS	FG	NN	A13	T	R	T		DP SWITCH MS-DPIS-119B FOUND OUT OF CAL	FAULTY MICRO SWITCH
G	C01	037430	042680	GS	LS	SN	B12	N	R	T		RX VESSEL LIS-72C #4 CAUSED ANNUNC 9-3-1/8-2 ALARM	FILM BLDUP ON CNTCTS IN AUX SW MECHANISM
G	C01	033095	101180	GS	LS	SN	A14	N	R	T		SW ON NBI-LIS-101A SET LOWER THAN TECH SPEC LIMIT	BARTON MODEL 288 SW DRIFTING
G	C01	171801*	122381	GS	LT	PX	B14	T	R	T	2	LOW LEVEL SCRAM SCRAM SW'S NBI-LIS-101A&B OOC LOW	INSTRUMENT DRIFT
G	DA1	014188	012876	GS	TS	SN	A14	T	R	T		MSL HI TEMP SW TIS 4444 SUBCH 3 & 4 EXCEEDED LIMIT	INSTRUMENT DRIFT
G	DA1	014378	031476	PS	NT	PX	B13	T	R	U		SRM A(4573A) FOUND READING APPROX 50% LOW	FAULTY DIODE IN VOLTAGE PREREGULATOR

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	DA1	014517	041976	GS	PS	SN	B13	T	R	U		PS 1096D WAS FOUND TO BE INOPERATIVE	RUPTURED SWITCH BELLOWS
G	DA1	014751	060876	GS	LG	CT	B07	T	R	U		LOW LEVEL SWITCH IN COND STORAGE TK FAILED	CONDENSATION IN JUNCTION BOX FROM CST
G	DA1	015323	081876	TI	PS	SA	A14	T	R	T		CH B ADS TIMER SETTING WAS OUT OF TOLERANCE	INSTRUMENT DRIFT
G	DA1	015749	091476	GS	PG	NN	B13	T	R	U		RECIRC RISER PDIS-4643 FAILED IN TRIPPED CONDITION	FILL FLUID LEAKED OUT OF BELLOWS UNIT
G	DA1	015992	092376	GS	PG	NN	B13	T	R	U		RECIRC PUMP SUCT PRESS HI PS 4637 WOULD NOT OPEN	MICROSWITCH CONTACTS WELDED SHUT
G	DA1	016020	093076	GS	PG	SL	B13	T	R	U		RHR PRESS IND SW PDIS-4643 DID NOT RESPOND TO SURG	MICROSWITCH FOR THE PDIS HAD FAILED
G	DA1	016444	110176	GS	FG	SH	A14	T	R	T		HPCI STEAM SUP HI FLOW PDIS 2245 TRIPPED TOO SOON	INSTRUMENT DRIFT
G	DA1	016589	120776	GS	FG	SH	A14	T	R	T		HPCI STEAM SUP HI FLOW PDIS 2245 EXCEEDED LIMIT	INSTRUMENT DRIFT
G	DA1	016655	121576	TX	TS	IC	B13	T	R	U		TORUS LIQUID TEMP TRANSMITTER FAILED(TT4324)	CAPACITOR C1 IN TT 4324 FAILED
G	DA1	017311	021777	TI	PS	SA	A14	T	R	T		ADS TIMER B SETTING EXCEEDED LIMIT	INSTRUMENT DRIFT
G	DA1	017309	021877	GS	PG	NN	A08	T	R	D		RX HI PRESS RECIRC PUMP TRIP PS4593D EXCEEDED LIMI	SWITCH MECHANISM STICKS IF NOT EXERCISED
G	DA1	017307	030977	GS	FG	SH	A14	T	R	T		HPCI STM LINE HI FLOW PDIS 2244 TRIPPED BELOW SPEC	INSTRUMENT DRIFT
G	DA1	017626	031477	GS	PG	SL	B12	T	R	U		LPCI PDIS 4643 FOUND TRIPPED AND COULD NOT BE RESE	STICKING MICROSWITCH
G	DA1	017758	041877	MO	RT	PX	B13	T	R	U		MSL RAD MONITOR RC 4448D DID NOT RESPOND PROPERLY	TWO VACUUM TUBES & ONE DIODE WERE DEFECTI
G	DA1	018279A	061377	GS	FS	SQ	A14	T	R	T		RCIC STM LINE HIGH FLOW PDIS 2441 TRIPPED BELOW SP	INSTRUMENT DRIFT
G	DA1	018523A	062877	GS	PS	IC	A14	T	R	T		SUP CHAM TO RX BLDG D/P SW PDS 4304 EXCEEDED LIMIT	INSTRUMENT DRIFT
G	DA1	018667	072277	TI	PS	SA	A14	T	R	T		ADS TIMER B EXCEEDED SETPOINT	INSTRUMENT DRIFT
G	DA1	018591	080477	GS	PS	SQ	A14	T	R	T		HI PRESS RECIRC PUMP PS4593D EXCEEDED LIMIT	INSTRUMENT DRIFT
G	DA1	019131A	082477	TX	TS	IC	B13	T	R	U		TORUS WATER TEMP TT4324 INDICATED ERRATICALLY	COMPONENT FAILURE
G	DA1	019128	090277	PS	NT	PX	B13	T	R	U		IRM CH A DOWNSCALE TRIP FOUND INOPERABLE	VOLT REG AND PRE-REG WERE DEFECTIVE
G	DA1	019208	091577	PS	NI	PX	B13	T	R	D		IRM CH B DOWNSCALE TRIP FOUND INOPERABLE	LOOSE CONN ON PWR SUPPLY CAUSED FUSE TO B
G	DA1	019706	110377	TX	TS	IC	B13	T	R	U		SUP POOL LIQUID TEMP TR4386A INDICATING DOWNSCALE	ASSOC TRANSMITTER TT4325 FAILED
G	DA1	019966A	121277	GS	FS	SQ	A14	T	R	T		RCIC STM LINE HI FLOW PDIS 2241 EXCEEDED LIMIT	INSTRUMENT DRIFT
G	DA1	019966B	121277	GS	FS	SQ	A14	T	R	T		RCIC STM LINE HI FLOW PDIS 2242 EXCEEDED LIMIT	INSTRUMENT DRIFT
G	DA1	020134	122977	PS	TS	SN	B13	T	R	U		MSL HI AMB TEMP TIS 4443 INDICATION LOW CH 2,364	FAULTY CAPACITOR IN POWER SUPPLY
G	DA1	020144	010378	PS	TS	SN	B13	T	R	U		MSL B LEAK DET SYS TIS 4478 EXCEEDED LIMIT	CAPACITOR IN INST POWER SUPPLY FAILED
G	DA1	020889	030878	GS	LS	SN	B08	T	R	D		LIS 4534 FAILED TO TRIP AS REQUIRED	CORROSION PRODUCTS INTRODUCED DURING FILL
G	DA1	021170	031578	GS	LS	SN	B08	T	R	D		RX VESSEL LEVEL LIS 4534 EXCEEDED TRIP SETPOINTS	CORROSION PRODUCTS INTRODUCED DURING FILL
G	DA1	021860	052578	GS	TS	SN	A14	T	R	T		MSL TUNNEL HI TEMP TIS4444 EXCEEDED LIMIT	INSTRUMENT DRIFT
G	DA1	021863A	062778	GS	PS	IC	A14	T	R	T		PDS 4304 FOR CV 4304 EXCEEDED LIMIT	INSTRUMENT DRIFT
G	DA1	021863B	062778	GS	PS	IC	A14	T	R	T		PDS 4305 FOR CV 4305 EXCEEDED LIMIT	INSTRUMENT DRIFT
G	DA1	026873A	061479	MO	RR	NN	B13	N	R	T		RR 4379B, DRYWELL GASEOUS RAD MON, FOUND DOWNSCALE	FAILED AMPLIFIER CARD
G	DA1	026873B	061479	MO	RR	NN	B00	N	R	U		RR 379A DISCOVERED INDICATING DOWNSCALE	UNKNOWN. DRYWELL GASEOUS RAD MON RECORDER
G	DA1	026878A	072679	GS	PS	IC	A14	T	R	T		PRESSURE DP SW PDS 4305,VACUUM BKR CONTROL OOC	INSTRUMENT DRIFT
G	DA1	027095	091479	TX	LG	NN	B08	N	R	T		SUPP CHAMBER LEVEL IND WENT DOWNSCALE DUE TO XMI//	TTER LT 4363 HAVING CORROSION ON TERMINAL
G	DA1	027998	111279	GS	FS	SQ	A14	T	R	T		RCIC SL HIGH DP PRESSURE SWITCH PDIS 2442 OOC	INSTRUMENT DRIFT
G	DA1	027996	111679	GS	PS	SF	A14	T	R	T		HI DRYWELL PRESSURE SW PS-4311C FOUND OOC HIGH	INSTRUMENT DRIFT
G	DA1	027991	122179	RC	PG	NN	B13	N	R	T		PEN 1,CNTNMNT PRESSURE,ON PR-4384 FAILED DOWNSCALE	SLIDE WIRE CONTACT FAILED DUE TO EOL
G	DA1	030454*	021380	GS	PS	SF	A14	T	R	T	3	CNTNMNT SPRY PERMSV SW PS-4310C,11C,12C OOT (HIGH)	INSTRUMENT DRIFT
G	DA1	030455	021680	GS	PS	SN	A14	T	R	T		CORE SPRAY SPARGER TO RX VESSEL PDIS-2139 OOT (LO)	INSTRUMENT DRIFT
G	DA1	031772*	062680	MO	RR	NN	B13	N	R	U	2	DRYWELL GASEOUS RAD RECORDER RR-4379A RDG DWNSCL	FAULTY RAD ELEMENTS RE-8102A/B
G	DA1	032032	071980	GS	PS	SN	A14	T	R	T		PDIS-2139 TRIPPED OOT (HIGH)	INSTRUMENT DRIFT
G	DA1	032302	072280	MO	RR	NN	B07	T	R	T		"B" CNTRL BLDG AIR INTAKE MON RE-6101B INOP	WTR THRU FAILED SEAL INTO RAD MON
G	DA1	032371	081380	GS	PS	SF	A14	T	R	T		CNTNMNT SPRAY PERMISSIVE PS-4311C OOT (HIGH)	INSTRUMENT DRIFT
G	DA1	032368	082080	GS	PS	SD	A14	T	R	T		"B" CORE SPRY SYS/TOP OF CORE PLAT HI PDIS2139 OOT	INSTRUMENT DRIFT
G	DA1	033772	082480	CA	DS	SN	A07	N	R	T		"B" RBM INDICATING DOWNSCALE DECLRD INOPERABLE	LOOSE PIN CONNECTOR DUE TO VIBRATION
G	DA1	032916	101580	GS	PS	SL	B12	T	R	T		RHR PUMP DISCHARGE PRESSURE SW PS-1925B INOPERABLE	MICROSWITCH STUCK ON PS-1925B
G	DA1	033276	111480	RC	PG	SN	B13	N	R	U		DRYWELL PRESSURE RECORDER PR-43843A FAILED DWNSCL	DFCTV AMPLIFIER BOARD IN PR-43843A
G	DA1	033361	111480	GS	PS	SF	A14	N	R	T		CNTNMNT SPRAY PERMISSIVE PS-4312C OOT (HIGH)	INSTRUMENT DRIFT
G	DA1	036053	010181	MO	RR	NN	B07	N	R	T		B D/W PARTICULATE RAD ELEMENT-8101B DIDN'T RESPOND	//TO SOURCE CHECK. MOISTURE CARRYOVER

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	DA1	036194	010681	GS	TG	NN	A14	T	R	T		TURB BLDG HI TEMP SW TIS-4477 ZONE 2 OOC (HIGH)	INSTRUMENT DRIFT
G	DA1	036054	010881	MO	RR	NN	B07	N	R	T		B D/W PARTICULATE RAD ELEMENT-8101B UNRESPONSIVE//	TO SOURCE CHECK. CONDENSATE COLLECTED
G	DA1	036195	011181	MO	RR	NN	B07	N	R	T		B D/W PART RAD MON FAILD DWNSCL	CONDENSATE ON RE-8101B
G	DA1	036178	011381	GS	LG	NN	B07	T	R	T		CST IT-5B LO LVL SW LS-5219 INOPERABLE	MOIST ON PROBE'S LEADS W/IN TERMINAL BOX
G	DA1	036322	012781	RC	PG	IC	B13	N	R	U		CNTNMNT PRESS RECORDER PR-4384A FAILED UPSCALE	PEN 1 AMP CARD CNNCTR PINS BENT
G	DA1	036635	031081	GS	LG	NN	B07	T	R	T		CST 1T-5A LO LVL SW LS-5218 INOPERABLE	MOIST ON PROBE'S LEADS W/IN TERMINAL BOX
G	DA1	037583	061181	GS	PS	SQ	A14	T	R	T		RCIC STM LIN FLOW PDIS-2442 OOC (LOW)	INSTRUMENT DRIFT
G	DA1	172195	122381	GS	PS	IC	A14	T	R	T		D/P SW PDIS-4305 TRIPPED OOC CONSERVATIVELY LOW	INSTRUMENT DRIFT
G	DR1	015078	061176	CM	NT	PX	A14	T	R	T		POWER RANGE CH 3 ACTUATES ABOVE LIMITS	INSTRUMENT SETPOINT DRIFT
G	DR1	017294	022377	AM	NT	PX	A14	T	R	T		IN CORE NEUTRON FLUX AMPLIFIER 109A TRIPPED HIGH	INSTRUMENT SETPOINT DRIFT
G	DR1	017797*	042877	AM	NT	PX	A14	T	R	T	6	IN-CORE FLUX AMPS 104B 110D 112D 113A 113C 114D HI	INSTRUMENT SETPOINT DRIFT DUE TO HIGH TEM
G	DR1	019015	090477	AM	NT	PX	A14	T	R	T		CH 3 HIGH NEUTRON MONITOR FAILED TO TRIP DURING TE	INSTRUMENT SETPOINT DRIFT
G	DR1	019197	092377	MO	RR	NN	B13	N	R	T		OFF GAS MONITOR #2 FAILED	ONE OR MORE TUBES IN MONITOR FAILED
G	DR1	021016	031878	AM	NT	PX	A14	T	R	T		INCORE MONITOR AMP 104B EXCEEDED TRIP LIMIT	INSTRUMENT DRIFT
G	DR1	021515	052578	AM	NT	PX	A14	T	R	T		INCORE MONITOR AMP 109A EXCEEDED TRIP LIMIT	TRIP ADJ BIAS VOLTAGE 25KOHM RESIS DRIFTE
G	DR1	021514	060278	AM	NT	PX	A14	T	R	T		INCORE MONITOR AMP 113C EXCEEDED TRIP LIMIT	TRIP ADJ BIAS VOLTAGE 25KOHM RESIS DRIFTE
G	UR1	026579	082578	MO	RR	NN	A14	T	R	T		#1 OFF-GAS MONITOR EXCEEDED SETPOINT LIMIT	ELECTRONIC INSTRUMENT DRIFT
G	DR2	014309	021776	GS	FS	SQ	A14	T	R	T		CONDENSATE HIGH FLOW DPIS1349B ACTUATED ABOVE LIMI	SETPOINT DRIFT OF INSTRUMENT
G	DR2	014543	041476	GS	FS	SQ	A14	T	R	T		CONDENSATE HIGH FLOW DPIS2-1349A ACTUATED ABOVE LI	INSTRUMENT DRIFT
G	DR2	015022	052776	GS	PS	SN	A14	T	R	T		RPS 600 PSI BYPASS PRESS SW PS226351A ACTUATES HIG	INSTRUMENT SETPOINT DRIFT
G	DR2	015077	052776	GS	PS	SN	A14	T	R	T		BYPASS PRESS SW PS226351A ACTUATED ABOVE LIMIT	INSTRUMENT SETPOINT DRIFT
G	DR2	015023	061676	GS	PT	PX	A14	T	R	T		REACTOR HIGH PRESS SCRAM SWITCH PS226355C ABOVE LI	INSTRUMENT SETPOINT DRIFT
G	DR2	015024	061676	GS	PT	PX	A14	T	R	T		REACTOR HIGH PRESS SCRAM SW PS226355A ABOVE LIMITS	INSTRUMENT SETPOINT DRIFT
G	DR2	015320	072776	GS	PS	SN	A14	T	R	T		DRYWELL HP INITIATION SW PS1632A ACTUATED ABOVE LI	SETPOINT DRIFT OF INSTRUMENTATION
G	DR2	015747	082176	GS	LT	PX	A14	T	R	T		REACTOR WATER LEVEL INST 226357B ACTUATED ABOVE LI	INSTRUMENT SETPOINT DRIFT
G	DR2	017221	021477	RE	NT	PX	B13	T	R	T		REED RELAY CONTACTS ON RELAY K6 WERE SEPARATED	CONTACTS REPLACED,APRM AVE CARD RELAY
G	DR2	017293	022377	CM	NT	PX	A14	T	R	T		IRM#16 TRIPPED ABOVE SETPOINT DURING TEST	INSTRUMENT SETPOINT DRIFT
G	DR2	018493	071777	GS	PS	SN	A14	T	R	T		RPS 600 PSI BYPASS PS263514 ACTUATED ABOVE SPEC	INSTRUMENT SETPOINT DRIFT
G	DR2	019193	093077	GS	PS	SN	B13	T	R	D		D/P SWITCH 261-35B FOUND TRIPPED & INDICATING 1.8	DAMAGED BELLOWS
G	DR2	019903	112977	GS	PT	PX	A14	T	R	T		TURBINE FIRST STAGE PS-504C TRIPPED ABOVE SPEC	INSTRUMENT DRIFT
G	DR2	019986	122377	GS	PS	SN	A14	T	R	T		ECCS DRYWELL HI PRESS PS1632A-1 EXCEEDED SETPOINT	INSTRUMENT DRIFT
G	DR2	020600	021678	GS	LT	PX	A14	T	R	T		REACTOR LEVEL SWITCH LIS2-263-57B ABOVE LIMITS	INSTRUMENT DRIFT
G	DR2	021159	042478	GS	PT	PX	A14	T	R	T		TURBINE FIRST STAGE PS5040 TRIPPED ABOVE SPEC	INSTRUMENT SETPOINT DRIFT
G	DR2	021881	062678	CM	NT	PX	A14	T	R	T		APRM CH 4 ROD BLOCK TRIP HIGH	SETPOINT DRIFT
G	DR2	022070	072678	RE	NC	NN	B13	N	R	U		DURING STARTUP RWM MALFUNCTIONED CAUSING ROD INSER	DEFECTIVE DIGITAL OUTPUT RELAY BOARD
G	DR2	025247	011979	MO	RT	PX	B09	N	R	T		D MSL HIGH RAD ALARMED AND HALF TRIP OCCURED	RAD MONITOR HAD OPEN CIRCUIT
G	DR2	025907*	042579	GS	PT	PX	A14	T	R	T	2	PS 504C & PS 505D(TURBINE FIRST STAGE PRESSURE) //	FOUND OOC. INSTRUMENT DRIFT
G	DR2	0259048	051979	AM	NT	PX	B09	N	R	U		IRM 18 IN "A" TRIP SYSTEM FOUND DOWNSCALE	LOOSE INPUT PRE-AMP CONNECTOR
G	DR2	027572	102079	GS	FS	SQ	A14	T	R	T		CONDENSATE HIGH FLOW SW DPIS-1349-A OOC HIGH	INSTRUMENT SETPOINT DRIFT
G	DR2	027567	111479	IM	NT	PX	A14	T	R	T		SRM 23 HI TRIP FOR ROD BLOCK FOUND OOC. SRM FOUND/	/OOC. INSTRUMENT DRIFT,SRM READJUSTED
G	DR2	033798	031880	GS	FS	SQ	A14	M	R	T		DPIS-1349A TRIPPED OUT OF TOLERANCE (HIGH)	INSTRUMENT SETPOINT DRIFT
G	DR2	031172	042980	MO	RT	PX	B13	N	R	U		2C MAIN STM LIN RAD MON CAUSED RPS "A" HALFSCRAM	BAD RELAY CAUSE MON FAILURE
G	DR2	031418*	052880	MO	RR	NN	B13	N	R	U	2	"C" MAIN STM LIN RAD MON TRIPPED	DFCTV TRANSISTORS & CAPACITORS
G	DR2	031886	072180	GS	FS	SQ	A14	N	R	T		DPIS-2-1349-B TRIPPED OUT OF TOLERANCE (HIGH)	INSTRUMENT SETPOINT DRIFT
G	DR2	032913	101680	MO	RR	NN	A14	N	R	T		REFUELING FLOOR ARM "A" TRIPPED OOT (HIGH)	INSTRUMENT DRIFT
G	DR2	037924	062481	GS	PT	PX	A14	T	R	T		PRESSURE SW PS-504C TRIPPED OOC (HIGH)	INSTRUMENT SETPOINT DRIFT
G	DR2	038140	070281	GS	PT	PX	B13	N	R	U		RELAY DIDN'T DROP OUT WHEN TURB 1ST STG PRESS OOT	MICRO SW PART OF PRESS SW PS-504B DFCTV
G	DR2	038040	070681	MO	RR	NN	B09	N	R	D		DWNSCL ALRM ON RX BLDG,FUEL POOL,ISOL CNDNSR MON	PWR LOST DUE TO LOOSE PWR SUP CABL CNNCIN
G	DR2	038041	070981	MO	RR	NN	BC9	N	R	D		DWNSCL ALRM ON RX BLDG,FUEL POOL,ISOL CNDNSR MON	PWR LOST DUE TO GRND ON CAP HI-SIDE LEAD
G	DR2	038C80	072481	GS	PT	PX	A14	T	R	T		PRESSURE SW PS-504C OOC (HIGH)	INSTRUMENT SETPOINT DRIFT

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	DR2	038249	081781	MO	RR	NN	A14	T	R	T		TRP PT OF REFUELING FLOOR ARM OOC (HIGH)	SETPOINT DRIFT
G	DR2	038455	082381	GS	PI	PX	B13	N	R	U		PRESSURE SW PS-504C FAILED	WORN OUT MICRO SWITCH IN PS-504C
G	DR2	038594	082781	GS	PT	PX	A14	T	R	T		PRESSURE SW PS-504D OOC (HIGH)	INSTRUMENT SETPOINT DRIFT
G	DR2	039197	102981	GS	PS	IC	A14	T	R	T		PRESS SW DPIS-2-1622B TRP PT EXCEDED TECH SPEC	SETPOINT DRIFT
G	DR2	172260	121681	CM	NC	NN	A14	M	R	T		SET POINT DRIFT IN SRM ROD BLOCK CHANNEL 23	HI ALRM POTENTIOMTR ON MOD BRD Z16B DRIFT
G	DR3	015197	062276	GS	PS	SH	A14	T	R	T		SUST HIGH REACTOR PRESS SW 326353A ACTUATED HIGH	INSTRUMENT SETPOINT DRIFT
G	DR3	014169	092976	GS	PG	SL	B08	T	R	D		LPCI DPIS 261-34A FAILED TO TRIP	ACTUATING ARM JAMMED ROLLER CAM
G	DR3	017326	022177	GS	FS	SN	A08	T	R	D		MSL HIGH FLOW ISOLATION SW 3-261-2B EXCEEDED LIMIT	WATER CAUSED DEPOSITS ON SWITCH INTERNALS
G	DR3	017511	040577	SE	NT	PX	B13	N	R	T		OUTPUT OF LPRM 16-33-D SHIFTED UPSCALE	CERAMIC SEAL FAILED
G	DR3	017513*	041077	SE	NC	SN	B13	N	R	T	2	RBM CH 7 AND 8 INDICATING INCORRECTLY(RODS 87 &88)	SHORTED DIODE IN CON ROD SELECT CIRCUITRY
G	DR3	017975	052677	IM	NT	PX	A14	T	R	T		APRM 4 INOPERABLE	ELECTRONIC DRIFT
G	DR3	018935	080677	GS	PI	PX	B08	T	R	D		HIGH PRESS SCRAM SWITCH FAILED TO TRIP AS REQUIRED	ADJUSTED MECHANICAL STOP OF BOURDON TUBE
G	DR3	019151	091377	GS	LS	SN	A14	T	R	T		REACTOR LEVEL SWITCH LIS 3-263-57B EXCEEDED LIMITS	SETPOINT DRIFT
G	DR3	019188	092877	MO	RT	PX	B13	N	R	U		MSL RAD MONITOR B INDICATION DOUBLED	DETECTOR MALFUNCTIONED
G	DR3	019726	111577	GS	LS	SN	A14	T	R	T		REACTOR LEVEL SWITCH LIS 3-263-58B ACTUATED ABOVE	SETPOINT DRIFT
G	DR3	019661	111877	GS	FS	SQ	A14	T	R	T		ISOL COND LINE HIGH FLOW DPIS 3-1349A EXCEEDED LIM	INSTRUMENT SETPOINT DRIFT
G	DR3	020603*	020278	CM	NT	PX	A14	T	R	T	2	IRM 15 & 16 EXCEEDED TRIP SETPOINT	INSTRUMENT DRIFT
G	DR3	021155*	042478	GS	PT	PX	A14	T	R	T	2	PS 504C & D 1ST STG TURB PRESS EXCEEDED LIMITS	INSTRUMENT SETPOINT DRIFT
G	DR3	021508	060678	GS	PS	SM	A14	T	R	T		SUST HI RX PRESS PS3-263-53A EXCEEDED SETPOINT	INSTRUMENT DRIFT
G	DR3	022264	082178	GS	FS	SN	B13	T	R	T		MSL HI FLOW SW DPIS3-261-2C EXCEEDED SETPOINT	METAL FATIGUE CAUSED POINTER TO FAIL
G	DR3	022563	091778	GS	FS	SQ	A14	T	R	T		DPIS 1349B EXCEEDED SETPOINT(ISOL COND LINE HI FLO	INSTRUMENT DRIFT
G	DR3	022940	102178	GS	FS	SN	A08	T	R	D		MSL HI FLOW ISOL SW DPIS3-261-2C EXCEEDED LIMIT	FRICTION IN SWITCH MECHANISM
G	DR3	022922	110478	MO	RR	NN	B13	T	R	T		OFFGAS RAD MONITOR 3A FAILED DOWNSCALE	AMPLIFIER IN MONITOR FAILED
G	DR3	025245	012079	GS	FG	NN	A14	T	R	T		MSL HI FLOW ISO SW DPS-3-261-2G OOC HIGH	INSTRUMENT DRIFT
G	DR3	025779	030279	MO	RT	PX	B13	N	R	T		"B" MSL RAD MONITOR WAS FOUND DOWNSCALE	FAULTY DIODE CR-72 OUTPUT IN ALRM TRP SP
G	DR3	025777	041879	GS	FS	SQ	A14	T	R	T		HI ISOL COND FLOW SW DPIS 1349 FOUND OOC HIGH	INSTRUMENT DRIFT
G	DR3	026212	060879	IM	NT	PX	A14	T	R	T		SRM A21 FOUND TO INITIATE ROD BLOCK TO HIGH	INSTRUMENT DRIFT
G	DR3	026575	062179	GS	FG	NN	A13	T	R	U		MSL HI FLOW ISOL SW DPIS 3-261-2G TRIPPED TO HIGH	FAILED MERCURY SWITCH
G	DR3	027113	082179	MO	RR	NN	B13	N	R	T		"3A" OFF GAS MON FOUND READING ERRATIC	FAULTY V1 TUBE IN INPUT SIGNAL BALANCE SG
G	DR3	027112	082279	GS	FS	SQ	A14	T	R	T		CONDENSATE LINE HI FLOW DPIS 1349B OOC HIGH	INSTRUMENT SETPOINT DRIFT
G	DR3	027111*	082379	IM	NT	PX	A07	T	R	D	2	SRM #21 ON TWO OCCASIONS FOUND OOC. TEMPERATURE//	DEPENDENCY IN PULSE HEIGHT DISCRIMINATOR
G	DR3	030292*	021380	LS	OT	PX	A09	N	R	D	2	MSIV SCRAM LIMIT SW SETPOINTS OOT (HIGH)	CONSTRUCTION/INSTALLATION ERROR
G	DR3	030612	030580	GS	TG	NN	A12	N	R	T		TEMPERATURE SW 3-261-17B OOT (HIGH)	DIRT DEPOSITS ON SW ACTUATION PLUNGER
G	DR3	030527C	030780	GS	TS	SN	A12	N	R	T		TEMPERATURE SW OOT (HIGH)	DIRTY CONTACTS
G	DR3	030724*	031380	MO	RR	NN	A14	N	R	T	3	FUEL POOL ARM "A" & "B" & RX BLDG VENT ARM "A" OOT	SETPOINT DRIFT
G	DR3	031322	051380	GS	LT	PX	A00	N	R	U		LIS-3-263-58A OOT (LOW)	CAUSE OF MISALIGNED SW ASSEMBLY UNKNOWN
G	DR3	031323	051980	GS	LS	SN	A14	N	R	T		LIS-3-263-58B OOT (LOW)	INSTRUMENT DRIFT
G	DR3	032127	072480	RE	NT	PX	B00	T	R	U		APRM 3 FAILED TO INITIATE A ROD BLOCK	RELAY K2 FAILED PREVENTED ROD BLCK K5 OP
G	DR3	033101	102080	GS	LT	PX	A14	N	R	T		LVL SW LIS-263-57B TRP OOT (LOW)	INSTRUMENT DRIFT
G	DR3	036051	011381	GS	LT	IC	A14	T	R	T		LVL SW LIS-3-263-58A TRPD OOC (LOW)	SETPOINT DRIFT
G	DR3	036273	012081	GS	FS	SQ	A14	M	R	T		DPIS-3-1349B TRIPPED OOC (HIGH)	SETPOINT DRIFT
G	DR3	164427	012781	CM	NC	SN	B14	T	R	T		ROD BLOCK NOT INITIATED BY SRM #21 SETPOINT POTEN-	-TIOMETER. ELECTRONIC DRIFT
G	DR3	036454	021881	MO	RR	NN	A14	N	R	T		REFUELING FLOOR ARM CHNL A OOC (HIGH)	INSTRUMENT DRIFT
G	DR3	037817	061881	GS	FG	NN	A14	M	R	T		FLOW SWITCH 3-1349B ACTUATED OOC(HIGH)	INSTRUMENT DRIFT
G	DR3	037818	061881	GS	LT	PX	A14	T	R	T		LIS-263-57A TRIPPED OOC (HIGH)	INSTRUMENT SETPOINT DRIFT
G	DR3	167513	061981	GS	LS	SN	A14	T	R	T		RX WTR LEVEL ECLS INITIATING SW LIS 263-72B OOC HI	INSTRUMENT DRIFT
G	DR3	038382*	082181	GS	FG	NN	A12	T	R	T	2	FLO SWITCHES DPIS-3-261-2D ABOVE T.S. LIMITS	TORQ TUBE SHAFT GEARS BINDG ON LINKG GEAR
G	DR3	038563	090281	GS	LT	PX	A14	N	R	T		VESSEL LO-LO WTR LVL ISOL SW LIS-3-263-57B OOC HI	INSTRUMENT SETPOINT DRIFT
G	DR3	038980	102081	IM	NG	NN	B13	N	R	U		HI TRP ON SRM 23 DID NOT FUNCTION	BAD CAPACITOR C8 ON INTEGRATOR CARD Z1
G	DR3	039152	102681	IM	NG	NN	A14	N	R	T		SRM CHNL 21,22 TRIPPED HIGH. MODULE BRD Z-17B //	HI ALRM SETPT POTENTIOMTR DRIFTED

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	EN1	014110	012076	GS	FS	SH	B13	T	R	U		HPCI MIN FLOW SW E41-N005 FAILED TO RESPOND	BELLOWS FAILURE
G	EN1	014109	012476	LS	DS	IC	B13	T	R	D		TORUS TO DRYWELL VAC BKRS IND LIGHTS DID NOT EXTIN	DOUBLE LIMIT SWITCH FAILED
G	EN1	014787	042976	GS	FS	SN	B13	I	R	D		ECCS FLOW SWITCH E21-N006B FAILED TO RESPOND	RUPTURED BELLOWS
G	EN1	014791	050476	GS	FG	SH	B13	N	R	D		HPCI NOT IN OP-FLOW SW E41-N006 INDICATING FLOW	BELLOWS FAILURE
G	EN1	015553	061476	GS	LG	SL	B12	T	R	D		RHR SW E11-N040 FAILED TO OPERATE	SWITCH WAS STICKING
G	EN1	015563	071476	GS	LG	SL	B12	T	R	D		LPCI DSCHG LINE LEVEL SW E11-N040 WOULD NOT OPERAT	SWITCH STICKING OR DRIFTED
G	EN1	015565	072676	GS	LG	SL	B12	T	R	D		LPCI DSCHG LINE LEVEL SW E11-N040 WOULD NOT OPERAT	SWITCH STICKING OR DRIFTED
G	EN1	015567	080476	GS	LG	SL	B13	T	R	D		LPCI DSCHG LEVEL SW E11-N040 FAILED TO RESET	SWITCH FAILURE
G	EN1	016837	110676	GS	LS	SQ	A14	T	R	T		RCIC HI RPV LEVEL TRIP SW B21-N017C EXCEEDED LIMIT	SETPOINT DRIFT
G	EN1	017593	022477	GS	LT	PX	A14	T	R	T		RX WATER LEVEL SW B21-N017B EXCEEDED LIMIT	SETPOINT DRIFT
G	EN1	020211*	032677	GS	PG	AS	B13	T	R	D	2	SERV WATER DIV I & II LP SW P41-N512&N513 FAILED	MICROSWITCHES FAILED TO OPERATE
G	EN1	020012	120677	GS	PG	SH	A14	T	R	T		TURB EXH DIAPHRAGM PS E41-N012D EXCEEDED LIMIT	SETPOINT DRIFT
G	EN1	021406	051178	GS	LS	SQ	A14	T	R	T		RX LEVEL SW B21-N017C OUT OF TOLERANCE	INSTRUMENT DRIFT
G	EN1	021724	060978	MO	RR	NN	B13	T	R	U		REFUELING FLOOR EXH SENSOR HIGH & ERRATIC INDICATI	G-M TUBE FAILED
G	EN1	022289	091078	MO	RR	NN	B13	T	R	T		RX BLDG VENT MONITOR D11-N010B FAILED UPSCALE	BAD GM TUBE
G	EN1	022482	091578	MO	RR	NN	B13	T	R	T		REFUELING FLOOR VENT EXH SENSOR D11-N012C ERRATIC	GM TUBE FAILED
G	EN1	022745	110178	MO	RT	PX	B13	T	R	U		MSL RAD MON D11-K603D DID NOT INITIATE HALF SCRAM	LOOSE WIRE AND DAMAGED COMPONENTS
G	EN1	023063	113078	MO	RR	NN	B07	N	R	D		REFUELING FLOOR EXH VENT SENSOR D11-N012C FAILED	RAIN WATER IN SENSOR ENCLOSURE
G	EN1	025877	050879	GS	TG	NN	A14	T	R	T		MSL TUNNEL TEMP SWITCH B21-N011B OOC HIGH	INSTRUMENT SETPOINT DRIFT
G	EN1	026152*	061379	GS	LT	PX	A08	T	R	U	2	SCRAM DISCHARGE VOLUME HI-LEVEL SW'S 1C11-N013A&B/	/FOUND INOPERABLE. BENT FLOAT RODS
G	EN1	026553	080179	GS	PT	PX	A14	T	R	T		HIGH RX PRESS TRIP SETPOINT FOUND OOC HIGH	SETPOINT DRIFT OF B21-N023B
G	EN1	026516	080479	GS	PS	SH	B12	T	R	T		HPCI TURBINE EXHAUST RRESS SW E41-N012D WOULD NOT/	/OPERATE AT SETPOINT. FOREIGN PART IN SW
G	EN1	027223	101379	GS	FS	SQ	A14	T	R	T		INS 1E51-N017 SWITCH CONTACTS #2 FOUND OUT OF CAL	INSTRUMENT DRIFT.(RCIC STEAM LINE FLOW)
G	EN1	028026	122679	GS	FS	SH	A14	T	R	T		HPCI STEAM LINE DP SW E41-N004 FOUND OOC HIGH	INSTRUMENT DRIFT
G	EN1	028027	122779	GS	FS	SQ	A14	T	R	T		RCIC SYS FLOW INST,1E51-N002,FOUND OUT OF CAL HIGH	INSTRUMENT DRIFT
G	EN1	030090	011880	RC	TG	NN	A13	N	R	T		DRYWELL/TORUS TEMP RECORDER 1T47-R611 ERRATIC	MICROSW FAILED IN RECORDER PRINTING MECH
G	EN1	030046A	012280	CN	FS	SN	A14	N	R	T		FAN 1T46-C001B WOULD NOT MEET FLOW REQ OF T.S.	SQUARE ROOT CONVERTER 1T46-K001 OOC
G	EN1	030046B	012280	TX	FS	SN	A14	N	R	T		FAN 1T46-C001B WOULD NOT MEET FLOW REQ OF T.S.	TRANSMITTER 1T46-N002 OOC
G	EN1	030304	013080	MO	RR	NN	B12	N	R	T		GAS SAMPLE FLO TO RX BLDG VENT STACK RAD MON STOP	SOLENOID VLV STUCK IN CLOSED POSITION
G	EN1	030287	070780	RC	TG	NN	A13	N	R	T		D/W TEMPERATURE RECORDER 1T47-R612 ERRATIC	MICROSW IN PRINTING MECHANISM OUT OF ADJ
G	EN1	030365*	021380	GS	PS	SN	A14	T	R	T	2	PRESSURE SW 1E51-N012B/C OUTSIDE T.S. LIMITS	SETPOINT DRIFT
G	EN1	030463	022480	GS	PS	SH	A04	N	R	D		HPCI SYS DIDN'T BECOME OPERATIONAL AT CRRCT PRESS	PRESS SW DRIFT & DESIGN DEFICIENCY
G	EN1	030531	030180	GS	FS	SQ	A14	T	R	T		RCIC FLOW SW 1E51-N002 OOT (LOW)	INSTRUMENT DRIFT
G	EN1	030756	033080	MO	RR	NN	B07	N	R	T		MAIN STACK RAD MON & BACKUP SAMPLE PUMP INOP	MOISTURE SWELLING CARBON VANES IN PUMP
G	EN1	031158	050380	RC	TG	NN	A13	N	R	T		TORUS AIR & WTR TEMP RECORDER 1T47-R611 ERRATIC	FAULTY BALANCING MOTOR IN RECORDER
G	EN1	031161	050980	IN	PG	NN	B00	T	R	U		PLANT SERVICE WTR PMP 1B LOW FLO DECLRD INOPERABLE	FAULTY PRESSURE IND ON PUMP DISCHARGE
G	EN1	031657	062180	RC	TG	NN	B13	N	R	U		D/W TEMPERATURE RECORDER 1T47-R611 STAMPING UPSCL	FAULTY DRIVE MOTOR STARTING CAPACITOR
G	EN1	031599	062480	MO	RR	NN	B07	N	R	T		RX BLDG VENT RAD MON & BACKUP SAMPLE PUMP FAILED	MOISTURE SWELLING CARBON VANES IN PUMP
G	EN1	031664	062480	RC	TG	NN	B13	N	R	U		D/W TO TORUS TEMP RECORDER 1T47-R612 INOPERABLE	FAULTY STEPPING ADVANCE & CHART DRIVE MTR
G	EN1	031719A	062680	RC	TG	NN	B13	N	R	U		PRIMARY CNTNMNT TEMP RECORDER 1T47-R611 SPURIOUS//	IN PRINTING. COMMUTATION MTR GEARBOX FA
G	EN1	031719B	062880	RC	TG	NN	B13	N	R	U		PRIMARY CNTNMNT TEMP REC 1T47-R611 SPURIOUS PRINT	COMMUTATION MOTOR GEARBOX FAILED
G	EN1	032131	072680	RC	TG	SN	B13	N	R	U		D/W & TORUS TEMP REC 1T47-R611 INOPERABLE	STRIPPED GEAR IN PRINT DRIVE MECHANISM
G	EN1	032263	081580	MO	RR	NN	B07	N	R	T		RX BLDG VENT RAD MON & BACKUP SAMPLE PUMP INOP	MOISTURE SWELLING CARBON VANES IN PUMP
G	EN1	032565	090280	RC	TG	NN	A14	N	R	T		D/W & TORUS TEMP RECORDER 1T47-R612 OOT (HIGH)	CALIBRATION DRIFT
G	EN1	033112*	102780	GS	PS	SH	A14	N	R	T	4	HPCI STEAMLINE LP SW 1E41-N001A-D OOC	SETPOINT DRIFT
G	EN1	033421	121180	RC	TG	NN	B13	N	R	U		DRYWELL TEMP RECORDER 1T47-R611 OOT (HIGH)	FAULTY SLIDE WIRE CNTCTS & PRINTHEAD MECH
G	EN1	036C03*	122880	GS	PS	SH	A14	N	R	T	3	HPCI STM LIN PRESS SW 1E41-N001A,C,D OOC (LOW)	SWITCH SETPOINT DRIFT
G	EN1	036405*	021681	GS	PS	SN	A14	N	R	T	4	1E51-N012A,B,C,D ACTUATED OOC (HIGH)	SWITCH SETPOINT DRIFT
G	EN1	037520	060381	GS	LT	PX	A14	T	R	T		RPS RX WTR LVL SW 1B21-N017C ACTUATED OOC (HIGH)	SWITCH SETPOINT DRIFT
G	EN1	037715	060581	GS	PS	SH	B13	T	R	U		HPCI STM LINE D/P SW 1E41-N005 FAILED	LOST INTERNAL DAMPING IN BELLOWS

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	EN1	037716	061081	RC	TG	IC	B14	N	R	U		D/W & TORUS TEMP RECORDER 1T47-R612 ERRATICALLY//	MARKING. BALANCING MOTOR FAILURE
G	EN1	037722	062481	MO	RR	NN	B13	N	R	U		RX BLDG STACK MON B 1D11-K619 INOP	BROKEN PHOTO MULTIPLIER TUBE
G	EN1	167529	063081	GS	FS	SH	B14	T	R	T		HPCI STEAM LINE DELTA P SW 1E41-N005 FOUND OOC HI	INSTRUMENT DRIFT
G	EN1	037950*	070181	GS	PS	SH	A14	T	R	T	2	HPCI STM LINE PRESS SW 1E41-N001B/D	SWITCH SETPOINT DRIFT
G	EN1	038021	072081	[illegible]	FG	NN	B13	N	R	U		MAIN STACK OFFGAS FLOW RECORDER INOPERABLE	XSTR FAILR IN FLO MEASURING UNIT
G	EN1	038333	072881	GS	FS	SH	A14	T	R	T		HPCI STM LIN DELTA-P SW 1E41-N005 FAILD TO ACTUATE	//ON SIMULATED HI FLO. SETPOINT DRIFT
G	EN1	038111	073081	GS	FS	SQ	A14	N	R	T		RCIC STM FLO SW HI CONTACT ACTUATED OOC (LOW)	SWITCH SETPOINT DRIFT (1E51-N002)
G	EN1	038334	080581	GS	PS	SQ	A14	N	R	T		RCIC STM STMLINE DELTA-P SW 1E51-N017 ACTUATED HI	SETPOINT DRIFT
G	EN1	038335	080981	MO	RR	NN	B09	M	R	U		NOBLE GAS MON 1D11-K633 INOP IN CALIBRATE MODE	OSCILLATOR CKT FAILD ON POWER SUPPLY BRD
G	EN1	038584	082881	MO	RR	NN	B09	N	R	U		NOBLE GAS FISSION PRODUCT MON 1D11-K633 INOPERABLE	DFCTV ELECTRONIC COMPONENTS REPLACED
G	EN1	038688	090181	RC	PG	NN	A00	N	R	U		D/W TO TORUS CHAMBR DELTA-P RECORDER 1T48-R6318 //	RDG LO. NO CAUSE FOUND
G	EN1	038690	090881	GS	PS	SQ	A14	N	R	T		RCIC STMLIN DELTA-P SW 1E51-N018 ACTUATED HIGH	SETPOINT DRIFT
G	EN1	038691	090981	GS	PT	PX	A14	N	R	T		TURB 1ST STG PRESS PRMSSV SW 1C71-N003D OOC (HIGH)	SETPOINT DRIFT
G	EN1	038718	091481	MO	RR	NN	B13	T	R	U		RECOMBINER BLDG VENT RAD MON 1D11-P003A FAILD TEST	COMPONENT FAILURE/DFCTV FUSE REPLACED
G	EN1	038627*	092181	GS	PS	SQ	A14	N	R	T	4	RCIC TURB EXHST DIAPHRAGM PRESS SW 1E51-N012A-D //	ACTUATED HIGH. SETPOINT DRIFT
G	EN1	038747	092381	MO	RT	PX	B13	T	R	U		MAIN STMLINE RAD MON 1D11-K603D INOPERABLE	GATE 6(INTEGRATED CKT) IN TRP LOGIC DFCTV
G	EN1	038950*	092981	GS	PS	SH	A14	N	R	T	2	HPCI STMLINE PRESS SW 1E41-N001A,D OOC (LOW)	SETPOINT DRIFT
G	EN1	038945	100181	MO	RR	NN	B12	N	R	T		MAINSTACK MON D11-P001 INOP/SAMP PMP B NOT RUNNING	CORROSION OF PUMP'S CARBON VANES
G	EN1	038926	100681	GS	PS	SQ	A14	N	R	T		RCIC STMLINE DELTA-P SW 1E51-N017 ACTUATED HIGH	SETPOINT DRIFT
G	EN1	038932	100881	GS	PS	SN	A14	M	R	T		PRESS SW 1B21-N023B ACTUATED OOC (HIGH)	SETPOINT DRIFT
G	EN1	039226	103081	GS	LS	SA	A12	T	R	T		LVL SW 1B21-N031A #2(ADS PRMSSV) FAILD TO ACTUATE	FOULED SWITCH CONTACTS
G	EN1	039398*	111381	GS	PT	PX	A14	N	R	T	3	HI RX PRESS SCRAM SW 1B21-N023A,B,C OOC (HIGH)	SWITCH SETPOINT DRIFT
G	EN1	171638	112381	RE	LT	PX	B13	N	R	T		REACT LL-LVL RELAY WAS INOPERABLE	INSULATION BREAKDOWN IN THE COIL
G	EN1	171930	120281	GS	PS	SH	A14	T	R	T		1E41-N001D,HPCI SL PRESSURE SWITCH FOUND OOC	INSTRUMENT DRIFT,SWITCH REPLACED
G	EN1	172128	122381	RC	TG	NN	B00	N	R	T		D/W TEMP RECORDER 1T47-R612 INOP	TOOTHED SECTOR GEAR FAILING DUE TO WEAR
G	EN1	172152	123081	GS	LS	SL	B00	N	R	U		LPCI RX LVL SW 1B21-N031A #2 FAILS TO ACTUATE	BAD CONTACT
G	EN2	022020	080378	GS	PS	SN	A14	T	R	T		PRESS INST 2E11-N011A-D SETPOINTS EXCEEDED T.S.	INSTRUMENT DRIFT OF CALIBRATION
G	EN2	022489	092178	GS	TS	SN	A14	T	R	T		TEMP SW 2B21-N013C SETPOINT HIGH DID NOT ACTUATE	NORMAL DRIFT 200 F TO 214 F
G	EN2	022490	092178	GS	TS	SN	A14	T	R	T		TEMP SW 2B21-N010C SETPOINT HIGH DID NOT ACTUATE	NORMAL DRIFT 200 F TO 217 F
G	EN2	023634	111278	GS	LT	PX	B13	N	R	U		LEVEL OUT OUT OF SPEC AND COULD NOT BE CALIBRATED	SENSOR FAILED AND WAS REPLACED
G	EN2	023036	111578	GS	LT	PX	B13	N	R	U		INST 2B21-N017C COULD NOT BE CALIBRATED	SENSOR FAILED AND WAS REPLACED
G	EN2	023065	120778	GS	FS	SN	A14	N	R	T		STEAM FLOW SW 2E41-N004 SETPOINT 217 VICE 196 IN	BARTON 288A SW SETTING HAD DRIFTED
G	EN2	023066	120878	GS	FS	IC	A14	N	R	T		FLOW SW 2E51-N017 TRIP PTS HIGH	BARTON 288A SW SETTING HAD DRIFTED 5 INCH
G	EN2	023068	121078	GS	LT	PX	A14	T	R	T		LEVEL SW 2B21-N017C SETPOINT DRIFT	BARTON 288A SW SETTING HAD DRIFTED
G	EN2	025103A	011179	GS	FS	SQ	A14	T	R	T		RCIC STEAM LINE DP LOW SWITCH FOUND OOC LOW	INSTRUMENT SETPOINT DRIFT
G	EN2	025103B	011179	GS	FS	SQ	A14	T	R	T		RCIC STEAM LINE DP HIGH SWITCH FOUND OOC HIGH	INSTRUMENT SETPOINT DRIFT
G	EN2	025748	041879	GS	LG	NN	B12	T	R	T		RX WATER LEVEL INST 2B21-N024A LIMIT SWITCH FAILED	FOULING OF CONTACTS,SWITCH WAS CLEANED
G	EN2	026638	072579	GS	FG	NN	B12	T	R	T		2B21-N024A #2 SWITCH FOUND INOP.(FOR 'A' RECIRC)	TRASH FOUND ON SWITCH CONTACTS
G	EN2	026637	072979	GS	FS	SH	A14	T	R	T		HPCI STEAM LINE DP INS 2E41-N004 FOUND OOC HIGH	INSTRUMENT DRIFT
G	EN2	026642	072979	GS	PS	SH	B13	M	R	U		2E41-N010,HPCI SUCTION LP SW,FOUND INOPERABLE	DIAPHRAM RUPTURED
G	EN2	026775	082979	GS	PS	SH	B13	T	R	U		HPCI TURBINE EXAUST PRESS SW 2E41-N012C WOULDNT //	HOLD PRESSURE. CRACKED DIAPHRAM
G	EN2	027154*	092679	GS	PT	PX	A14	T	R	T	3	HI DRYWELL PRESSURE SWITCHES 2C71-N002A,C&D FOUND/	/OOC. SETPOINT DRIFT
G	EN2	027626	103079	GS	FS	SH	A14	T	R	T		HPCI SL DP #2 CONTACT OF 2E41-N004 FOUND OOC HI	INSTRUMENT DRIFT
G	EN2	027506	112779	GS	FS	SH	A14	T	R	T		HPCI SL DP SETPOINT OF 2E41-N004 FOUND OOC	SETPOINT DRIFT
G	EN2	027774A	120679	TX	LS	IC	B11	N	R	T		TORUS WATER LEVEL WIDE RANGE,2T48-R607A,FAILED UP/	/SCALE. VLV IN TX SENSING LINE LEAKED
G	EN2	027774B	120779	TX	LS	IC	B11	N	R	T		TORUS WATER LEVEL WIDE RANGE,2T48-R607A,FAILED UP/	/SCALE. VLV IN TX SENSING LINE LEAKED
G	EN2	027848A	121979	PS	XS	SQ	B09	N	R	D		'A' POWER SUPPLY FOR RCIC STEAM LEAK DET SYS FAIL	EXCESS CURRENT ON INPUT FAILED FUSES
G	EN2	027848B	122079	PS	XS	SQ	B09	N	P	D		'B' POWER SUPPLY FOR RCIC STEAM LEAK DET SYS FAIL	EXCESS CURRENT ON INPUT FAILED FUSES
G	EN2	027889	122079	MO	RR	NN	B13	N	R	T		2D 1-R632,FISSION PRODUCT IODINE MONITOR,FAILED	ZENER DIODE ON INPUT TO LOG COUNT RATE
G	EN2	027770*	122879	GS	FS	SH	A14	T	R	T	2	HPCI SL DP INS 2E41-N004 & 2E41-N005 FOUND OOC	INSTRUMENT DRIFT

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE&CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	EN2	030122*	013080	GS	PT	PX	A14	T	R	T	3	HI D/W PS 2C71-N002A,B,D OOT (HIGH)	INSTRUMENT DRIFT
G	EN2	030178	013080	GS	FS	SH	B12	T	R	T		HPCI MINIMUM FLOW VLV 2E41-F012 FAILED TO CLOSE	STICKING SW CONTACTS ON FLOW SW 2E41-N006
G	EN2	030775A	032080	GS	TG	NN	B14	N	R	T	3	MAIN STM LINE TEMP SW 2B21-N010A/13A/D OOC	INSTRUMENT DRIFT
G	EN2	030775B	032080	GS	TG	NN	A14	N	R	T	6	MAIN STM LINE TEMP SW 2B21-N010A/B,13A/B,11B,12B//	OOC. INSTRUMENT DRIFT
G	EN2	030948	042180	RC	TG	NN	B13	N	R	T		D/W-TORUS TEMP RECORDER INOP	LOOSE WIRE ON "COMMON" TERMINAL BLOCK
G	EN2	030979	042580	GS	PS	SH	B09	N	R	D		PRESSURE SW 2E41-N004 CONTCT #2 ACTUATED OOT	SW SHORTED TO GROUND INSIDE INSTR CASE
G	EN2	031159*	042980	GS	PC	NN	A14	M	R	T	61	61 OF 137 PRESSURE SW OUT OF TECH SPEC LIMIT	INSTRUMENT DRIFT
G	EN2	031155*	050880	GS	PS	SL	A14	N	R	T	2	PRESSURE SW 2B31-N018A/B OOT (HIGH)	INSTRUMENT DRIFT
G	EN2	031317	052880	GS	LS	SL	B12	N	R	T		LEVEL SW 2B21-N031B #4 HAD DOUBLE ACTUATION	CORROSION ON SW ASSMBLY
G	EN2	031316	052980	GS	LS	SL	A08	N	R	T		LVL SW 2B21-N031A OUT OF ADJUSTMENT	MECH ARM SCREW ON SW PLATE LOOSE
G	EN2	031656*	070280	GS	PS	SN	A14	M	R	T	8	PRESS SW 2C71-N002A THRU D & 2E11-N11A THRU D OOT	SETPOINT DRIFT
G	EN2	032136	072680	GS	PT	SN	B12	N	R	T		HPCI SYS FAILED TO ISOLATE ACCORDING TO TECH SPECS	CORROSION OF "B" ISOL LOGIC PRESS SW
G	EN2	032191	081180	GS	PT	PX	A14	N	R	T		RX HI PRESS SW 2B21-N023C OOC (HIGH)	SETPOINT DRIFT
G	EN2	032141*	081380	GS	PS	SN	A14	N	R	T	4	PRESS SW 2B31-N018A1/2 & B1/2 OOC (HIGH)	SETPOINT DRIFT
G	EN2	032264	081380	IN	XG	IC	A00	N	R	U		VLV 2T48-F323J FAILED TO GIVE PROPER LIGHT IND	CAUSE OF FAILURE UNKNOWN
G	EN2	032567*	090580	GS	PT	PX	A14	N	R	T	2	RX HI PRESS INSTRUMENTS 2B21-N023C/D OOT (HIGH)	SETPOINT DRIFT
G	EN2	032568	090980	GS	PS	SL	A14	T	R	T		RX PRESS SW 2B31-N018A OOT (HIGH)	SETPOINT DRIFT
G	EN2	032769	092980	GS	PS	SH	A14	T	R	T		HPCI TURBINE EXHST DIAPHRGM PRESS SW 2E41-N012D //	OOT (HIGH). SETPOINT DRIFT
G	EN2	036174*	011981	GS	PC	NN	A14	M	R	T	62	62 OF 137 PRESSURE SW FOUND OUT-OF-TOLERANCE	SETPOINT DRIFT
G	EN2	036411	030481	SE	NT	PX	B09	T	R	U		IRMH 2C51-K601H NOT ON SCALE FOR OVERLAP CHECK	RANGE PLUG PINS PUSHED BACK/NOT CONNECTG
G	EN2	036634	031181	GS	PS	SL	A14	M	R	T		RX PRESS SW 2B21-N018B ACTUATED OOC (HIGH)	SETPOINT DRIFT
G	EN2	036619A	031481	SE	NT	PX	B09	N	R	U		WHILE ATTEMPTING RX S/U, IRM B BECAME INOPERABLE	PINS PUSHED BACK/NOT MAKING CONNECTION
G	EN2	036619B	031481	SE	NT	PX	B09	N	R	U		IRM F STARTED SPIKING UPSCALE	IRM D SHORT/GRND ON HI VOLTAGE
G	EN2	036619C	031581	SE	NT	PX	B09	N	R	U		IRM B BECAME INOPERABLE	PINS PUSHED BACK NOT MAKING CONNECTION
G	EN2	036906	040981	GS	PS	SN	A14	N	R	T		RX SW 2B31-N018A ACTUATED OOC (HIGH:	SETPOINT DRIFT
G	EN2	036947	041381	GS	PS	IC	B12	N	R	T		RX BLDG/TORUS VAC BRKR ISOL VLV FAILED OPEN	STICKG SW MECHANISM OF DP SW 2T48-N210
G	EN2	037206	050481	GS	PS	SH	B13	T	R	U		HPCI MIN FLO VLV INOP AFTER CLOSED W/ CONTROL SW	OBSTRUCTED PRESS SW BOURDON TUBE
G	EN2	037382	052081	RC	TG	IC	A12	N	R	T		D/W & TORUS TEMP RECORDER 2T4T-R627 INOPERABLE	DUST BUILDUP ON RECORDER SLIDEWIRE
G	EN2	037522	060281	MO	RR	NN	A14	M	R	T		RX BLDG VENT RAD MON HI-HI SETPOINTS OOC (HIGH)	SETPOINT DRIFT
G	EN2	037657	061081	GS	PS	IC	B12	N	R	T		RX BLDG TO TORUS VAC BRKR ISOL VLV FAILED OPEN	RESET STICKING IN D/P SW 2T48-N210
G	EN2	037724	062281	GS	PS	IC	A14	N	R	T		RX BLDG TO TORUS VAC BRKR ISOL VLV FAILED OPEN	SETPOINT DRIFT OF D/P SW 2T48-N210
G	EN2	037725	070181	IN	PG	NN	A14	T	R	T		RSDP RPV PRESS INDICATOR FOUND OOC	CALIBRATION DRIFT
G	EN2	038143	071981	RC	TG	NN	B00	N	R	U		D/W & TORUS TEMP RECORDER 2T47-R627 INOPERABLE	DFCTV LOGIC BOARD
G	EN2	038242	072881	GS	PS	SH	A14	N	R	T		HPCI TURB EXHST DIAPHRAGM HP SW ACTUATED HIGH	SWITCH SETPOINT DRIFT
G	EN2	168028*	073081	GS	PS	SH	A14	T	P	T	2	TURBINE EXHAUST PRESSURE SW'S 2E41-N012A&D FOUND -	-OOC HIGH. INSTRUMENT DRIFT
G	EN2	038244	081281	GS	PG	NN	A14	T	R	T		SW 2B21-N021A ACTUATED OOC (HIGH)	SETPOINT DRIFT
G	EN2	038288A	081081	RC	PG	NN	B12	N	R	T		D/W PRESS/TORUS WTR LVL RECORDER 2T48-R607A INOP	DIRTY ELEC CNNCTN ON MOTHER BOARD
G	EN2	038288B	081681	RC	PG	NN	B00	N	R	U		D/W PRESS/TORUS WTR LVL RECORDER 2T48-R607A INOP	MOTHER BRD NOT FULLY INSERTED
G	EN2	038412A	082081	CL	FG	SQ	B13	M	R	U		RCIC FLO CONTROLLER DEMAND LESS THAN 100% IN A/M	FAULTY RESISTR/SELF SYNC CNTRL MOD FAILED
G	EN2	038412B	082181	CL	FG	SQ	B13	N	R	U		RCIC FLO CONTROLLER DEMAND LESS THAN 100% IN A/M	FAULTY RESISTR/RAMP GENERATOR FAILED
G	EN2	038554	090281	TX	LS	IC	A11	N	R	T		TORUS WTR LVL IND 2T48-R622A RDG HIGH DCLRD INOP	DRAINED XMTR REF LEG/LEAKG EQUALIZING VLV
G	EN2	038696	090381	GS	PS	SN	A14	N	R	T		STMLINE DELTA-P SW 2E41-N005 ACTUATED HIGH	SETPOINT DRIFT
G	EN2	038590	090481	GS	PS	SN	B09	N	R	U		HPCI TURB EXHST PRESS SW 2E41-N017B FAILED	SHORTED MICRO-SWITCH
G	EN2	038697	091381	TX	LS	IC	A11	N	R	T		TORUS WTR LVL IND 2T68-R622A RDG HIGH DCLRD INOP	DRAINED XMTR REF LEG/LEAKG EQUALIZING VLV
G	EN2	038731	091881	GS	PT	PX	A14	M	R	T		SW 2B21-N015D ACTUATED OOC (LOW)	SETPOINT DRIFT
G	EN2	038732*	092181	GS	PS	SN	A14	N	R	T	3	2B21-N301E,H,K SAFETY RELIEF VLV POS SECONDARY //	IND PRESS SW OOC. SETPOINT DRIFT
G	EN2	038848	092981	GS	PG	SQ	A12	M	R	T		SW 2E41-N012D OOC (HIGH)	SW & MECHANISMS BEING CORRODED
G	EN2	038942*	100681	RE	DG	NN	B00	N	R	U	2	LOST ROD-OUT PRMSSV LIGHT/CR COULD NOT BE W/DRAWN	RELAY MODULE #2 RELAYS 2C11-K1,-K2 FAILED
G	EN2	039304	110581	GS	PT	PX	A14	M	R	T		RX PRESS SW 2B21-N023A ACTUATED HIGH	SETPOINT DRIFT
G	EN2	039266*	110681	GS	PG	NN	A14	M	R	T	3	LP ALRM ON CRD HYDRAULIC CNTRL UNITS 18-07,20-43,/	146-39 SWITCHES OOC. SETPOINT DRIFT

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	EN2	039354	110881	GS	XS	SN	B13	N	R	T		2T46-D001B FILTR TRAIN DIDN'T RESPOND TO START SIG	CNTRL SW LOOSE CNNCTN/OPEN START LOG CKT
G	EN2	171682	112381	GS	PS	SH	A14	N	R	T		HPCI TURB EXHST DIAP PRES INST 2E41-N012A OFF SPEC	SETPOINT DRIFT
G	EN2	172205	120781	MO	RI	PX	A14	N	R	T		MSL HI RAD INSTR HI-HI TRP OOC (HIGH)	INSTRUMENT DRIFT
G	EN2	172307	120781	GS	FS	SH	A14	N	R	T		HPCI STM LINE DP SW 2E41-N004 OOC (HIGH)	INSTRUMENT SETPOINT DRIFT
G	EN2	172302*	120881	RE	XG	NN	B09	N	R	U	2	SBGT FILTER TRAIN 2T46-C001B INOP SYS HAD OVERHEAT	HEATER CNTRL RELAYS CHATTERING
G	EN2	172226*	121781	GS	PG	NN	A14	N	R	T	2	CRD HCU PRESSURE SWITCHES OUT-OF-TOLERANCE	INSTRUMENT SETPOINT DRIFT
G	EN2	172228	121881	MO	RR	NN	B07	N	R	T		REFUELING FLOOR VENT EXHST RAD MON 2D11-K611C INOP	CONDENSATION INSIDE SENSOR CONNECTOR
G	FP1	013959	010676	GS	PT	PX	B11	N	R	U		DRYWELL PRESS SW 05-PS-16 INOPERATIVE	MOISTURE IN SENSING LINE BLOCKED SIGNAL
G	FP1	014484	040576	MO	RR	NN	A14	T	R	T		B OFF-GAS RAD MONITOR SETPOINTS LOW	NORMAL DRIFT IN CONSERVATIVE DIRECTION
G	FP1	015052	062076	ZZ	NC	SN	B13	N	R	U		ROD BLOCK MONITOR CHAN B INOPERABLE	CIRCUIT BOARD DEFECTIVE AND REPLACED
G	FP1	015053	062176	ZZ	NC	SN	B13	N	R	U		ROD BLOCK MONITOR CHAN A INOPERABLE	CIRCUIT BOARD DEFECTIVE AND REPLACED
G	FP1	015054	062876	SE	NT	PX	A14	N	R	T		LPRM 44-37-C DRIFTED HIGH	NORMAL INSTRUMENT DRIFT
G	FP1	016613	120376	MO	DG	NN	B13	N	R	T		REACTOR BLDG VENT MONITOR A INOPERATIVE	DETECTOR FAILED AND WAS REPLACED
G	FP1	016598	120876	MO	DG	NN	B13	N	R	T		REACTOR BLDG VENT MONITOR 17-RIS-452A INOPERATIVE	DETECTOR FAILED AND WAS REPLACED
G	FP1	017328	022777	CM	NT	PX	A14	T	R	T		APRM "E" DOWNSCALE TRIP SETPOINT HIGH	NORMAL DRIFT
G	FP1	017841	052877	TX	PG	NN	B11	N	R	U		DRYWELL HI-LO ANNUNCIATOR INDICATING ZERO	SENSING LINES BLOCKED WITH WATER
G	FP1	019866	112977	GS	FS	SQ	A14	T	R	T		STM LINE FLOW INST 13-DPIS-84 SETPOINT HIGH	OUT OF CAL DUE TO DRIFT
G	FP1	020715*	031278	MO	RR	NN	B08	N	R	T	2	"A"DRYWELL ATMOS MONITOR SAMPLE PUMP INOPERATIVE	CONN ROD & BELLOWS FAILURE
G	FP1	020714	032778	MO	RR	NN	B08	N	R	T		"B" DRYWELL ATMOS MONITOR SAMPLE PUMP IKOPERATIVE	CONNECTING ROD FAILURE
G	FP1	022031	070778	IM	NT	PX	A14	N	R	T		APRM D LPRM COUNT TRIP SETPOINT HIGH	SETPOINT DRIFT, READJUSTED CIRCUITS
G	FP1	027002A	091079	RE	XC	NN	B00	N	R	T		RBM 'B' FAILED	RELAY CARD FAILED DUE TO NATURAL EOL
G	FP1	027002B	091379	RE	XC	NN	B00	N	R	T		RBM 'B' FAILED	RELAY CARD FAILED DUE TO NATURAL EOL
G	FP1	027002C	091479	RE	XC	NN	B00	N	R	T		RBM 'B' FAILED	RELAY CARD FAILED DUE TO NATURAL EOL
G	FP1	027309	100979	IM	NT	PX	A14	T	R	T		APRM 'A' AND 'D' TRIP SETPOINTS FOUND OOC HIGH	INSTRUMENT DRIFT
G	FP1	027400A	102579	TX	PS	IC	A14	T	R	T		DRYWELL TO SUPPRESSION CHAMBER DP XMITTER FOUND //	OOC. INSTRUMENT DRIFT (27-PT-U02B)
G	FP1	027400B	110179	TX	PS	IC	A14	T	R	T		DRYWELL TO SUPPRESSION CHAMBER DP XMITTER FOUND //	OOC. INSTRUMENT DRIFT (27-PT-U02B)
G	FP1	027400C	110279	TX	PS	IC	A14	T	R	T		DRYWELL TO SUPPRESSION CHAMBER DP XMITTER FOUND //	OOC. INSTRUMENT DRIFT (27-PT-U02B)
G	FP1	027895	122779	ZZ	NT	PX	A14	T	R	T		APRM CHANNEL D SCRAM SET POINT FOUND OOC HIGH	INSTRUMENT DRIFT
G	FP1	030022	010180	SE	NG	NN	A14	T	R	T		APRM E DWNSCL TRIP OUT OF TECH SPEC LIMIT	INSTRUMENT DRIFT
G	FP1	030647	030780	LM	NG	NN	A14	N	R	T		PROCESS COMPUTER IND OPER EXCESS OF THERMAL LIMITS	DRIFTING LPRM 44-37C DUE TO AGE
G	FP1	032037	071780	SE	NI	PX	A14	N	R	T		APRM E INDICATED OOT (LOW)	INSTRUMENT DRIFT
G	FP1	032185A	080580	GS	FS	SD	A14	T	R	T	2	CORE SPRY SYS PIPE BREAK DETCTN SW 14-DPIS-43A/B//	OOT (HIGH). INSTRUMENT DRIFT
G	FP1	032186*	080580	GS	PS	SN	A14	N	R	T	2	HPCI & RCIC STM LINE LP SW 23-PS-68A & 13-PS-87B//	OOT (HIGH). INSTRUMENT DRIFT
G	FP1	032418	081580	MO	RR	NN	A14	N	R	T		OFF GAS RADIATION MONITOR B OOC	DET LOWER SENSITVTY CAUSD INSTRUMENT DRFT
G	FP1	032185B	081880	GS	FS	SD	A14	T	R	T		CORE SPRY SYS PIPE BREAK DETCTN SW 14-DPIS-43B OOT	INSTRUMENT DRIFT
G	FP1	032185C	083080	GS	FS	SD	A14	T	R	T		CORE SPRY SYS PIPE BREAK DETCTN SW 14-DPIS-43B OOT	INSTRUMENT DRIFT
G	FP1	033326	112680	GS	PS	SQ	A14	N	R	T		RCIC STM LINE LP SW 13-PS-87B OOT (LOW)	INSTRUMENT DRIFT
G	FP1	033619	121780	GS	FS	SQ	A14	N	R	T		RCIC HI STM FLO SW 13-DPIS-84 OOT (HIGH)	INSTRUMENT DRIFT
G	FP1	036176A	011381	GS	FS	SD	A14	N	R	T	2	CORE SPRAY PIPE BREAK D/P SW 14-DPIS-43A/B OOC HI	INSTRUMENT DRIFT
G	FP1	036176B	012381	GS	FS	SD	A14	N	R	T		CORE SPRAY PIPE BREAK D/P SW 14-DPIS-43A OOC (HI)	INSTRUMENT DRIFT
G	FP1	164367*	020781	CM	NT	PX	B14	T	R	T	2	APRM A & E DOWNSCALE TRIPS FOUND OOC LOW	SET POINT DRIFT
G	FP1	036455A	021881	GS	FS	SD	A14	N	R	T		CORE SPRAY PIPE BREAK SW 14-DPIS-43A OOC (HIGH)	INSTRUMENT DRIFT
G	FP1	036455B	021981	GS	FS	SD	A14	N	R	T		CORE SPRAY PIPE BREAK SW 14-DPIS-43A OOC (HIGH)	INSTRUMENT DRIFT
G	FP1	036784A	032781	MO	RR	NN	B13	N	R	T		REFUEL FLOOR VENT MON FAILED	NORMAL WEAR AND TEAR (AGE)
G	FP1	036784B	041381	MO	RR	NN	B13	N	R	T	2	BOTH REFUEL FLOOR VENT MONITORS FAILED	NORMAL WEAR AND TEAR (AGE)
G	FP1	037712	062581	GS	PS	SL	A14	N	R	T		PRESS SW 02-3-PS-128A OOC (HIGH)	INSTRUMENT DRIFT
G	FP1	038026	070881	IM	FG	NN	A14	T	R	T		D/W FLOOR DRAIN SUMP FLO INTEGRATOR 20-FQ-527 OOC	INSTRUMENT DRIFT
G	FP1	038346	080481	MO	RR	NN	A13	N	R	T		ISOL ADJST POTENTIOMTR FOR RADWST EFF MON MALFUNCT	NORMAL WEAR AND TEAR
G	FP1	039148	101581	GS	PS	SL	A14	N	R	T		S/D COOLING PERMISSIVE SW 02-PS-128A OOC (LOW)	INSTRUMENT DRIFT
G	MI1	015041	062376	GS	PS	SN	A14	T	R	T		RX LOW PRESS PERMISSIVE TRIP OUT OF TOLERANCE	PRESSURE SWITCH SETPOINT DRIFT

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE&CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	MI1	015297	080876	SE	FG	NN	B11	T	R	U		STACK FLOW RECORDER INDICATING ERRONEOUS FLOW	RAIN WATER IN U-TUBE SENSOR
G	MI1	015680	091776	SE	FG	NN	B11	N	R	U		STACK FLOW RECORDER INOPERABLE	RAINWATER IN U-TUBE SENSOR
G	MI1	016388*	110976	GS	TS	SN	A14	T	R	T	4	4 OF 16 TEMP SWITCHES TRIP HIGHER THAN T.S.	DRIFT OF MODEL 17002-40 TEMP SWITCHES
G	MI1	016615*	120776	GS	PS	SN	A14	T	R	T	2	2 OF 4 DRYWELL PRESS SWITCHES TRIP HIGHER THAN T.S	SETPOINT DRIFT OF BARTON PRESS SWITCHES
G	MI1	016616	120876	GS	PS	SF	A14	Y	R	T		CONTAINMENT SPRAY SWITCH TRIP OUTSIDE RANGE SPECIF	SETPOINT DRIFT OF MELTRON PRESS SWITCH
G	MI1	016672*	122176	GS	PT	PX	A14	T	R	T	2	2 OF 4 HIGH GRYWELL PRESS SWITCHES TRIP HIGH	SETPOINT DRIFT OF BARTON SWITCHES
G	MI1	016691	122876	GS	PS	SN	A14	T	P	T		RX LOW PRESS PERMISSIVE SW TRIP OUTSIDE RANGE T.S.	SETPOINT DRIFT OF MELTRON SWITCH
G	MI1	016961	011277	GS	PS	SN	A14	T	R	T		HIGH DRYWELL PRESS SW TRIP HIGHCR THAN T.S.	SETPOINT DRIFT OF BARTON PRESS SWITCH
G	MI1	017209	021177	GS	LS	IC	A14	T	R	T		VESSEL LEVEL SW TRIP LOWER THAN T.S.	MODEL 4418C 0-100 IN SW SETPOINT DRIFT
G	MI1	017214*	021477	GS	PS	SN	A14	T	R	T	2	2 OF 4 MN STM LINE LOW PRESS SW TRIP LESS CONSERVA	B2T-A125S 50-1200PSI SW SETPOINT DRIFT
G	MI1	01.676	050377	GS	PS	SN	A14	T	R	T		RX LOW PRESS PUMP START PERM TRIP LESS CONSERVATIV	372-655-49A 28-1400 PSI SETPOINT DRIFT
G	MI1	018277	061577	GS	PS	SQ	A14	T	R	T		ISOL COND ACTUATION PRESS SW LESS CONSERVATIVE	372-65549A-292 PRESS SW SETPOINT DRIFT
G	MI1	019092*	091277	GS	PS	SQ	A14	T	R	T	2	2 OF 4 ISOL COND ACT SWITCHES TRIP LESS CONSERVATI	MELTRON PRESS SW SETPOINT DRIFT
G	MI1	020353*	011678	GS	PS	SN	A14	T	R	T	2	2 OF 4 PRESS SW TRIP LESS CONSERVATIVE THAN T.S.	BARKSDALE PRESS SW INSTRUMENT DRIFT
G	MI1	020909	040378	GS	TS	SN	A14	T	R	T		1 OF 16 STM TUNNEL HIGH TEMP SW SETPOINT HIGH 6F	FENWAL TEMP SW SETPOINT DRIFT
G	MI1	021407	050878	GS	PS	SN	A14	T	R	1		CONT PRESS SW TRIP OUTSIDE TOLERANCE RANGE OF T.S.	MELTRON PRESS SW INSTRUMENT DRIFT
G	MI1	022679	101178	GS	PT	PX	A14	T	R	T		DRYWELL HIGH PRESS SW TRIP 2.85PSI VICE 2PSI	INSTRUMENT DRIFT OF BARTON 288 SWITCH
G	MI1	022680	101178	GS	PS	SN	A14	T	R	T		DRYWELL HIGH PRESS SW TRIP 2.3PSI VICE 2PSI	PS 2206-1620B SETPOINT DRIFT
G	MI1	022861	110678	GS	LS	SN	A14	T	R	T		RX LOW-LOW LEVEL TRIP OUTSIDE TOLERANCE OF T.S.	LIS-263-72A SETPOINT DRIFT
G	MI1	025010	010879	GS	PS	IC	A14	T	R	T		MSL LOW PRESSURE SW,INITIATES GROUP I ISO,OOC	INSTRUMENT DRIFT
G	MI1	026144*	053079	GS	PS	SN	A14	T	R	T	4	PRESSURE SWITCHES 263-52A,52C,54A & 54B FOUND OOC	INSTRUMENT DRIFT
G	MI1	026648	071279	GS	LS	SN	B12	T	R	T		REACTOR LOW-LOW LEVEL SWITCH FOUND OUT OF CAL	FOREIGN PARTICLES
G	MI1	027515*	110679	GS	PT	PX	A14	T	R	T	2	DRYWELL PRESSURE SWITCHES PS 2206-1621B&C OOC	INSTRUMENT DRIFT
G	MI1	031518*	060580	GS	PS	SN	A14	N	R	T	2	PRESS SW 263-52C/54A TRIPPED OOT	SETPOINT DRIFT
G	MI1	032804	100780	GS	LS	SN	B12	N	R	T		LVL SW LIS-263-57B TRPD OUTSIDE ALLOWABLE BAND	DUST IN THE SWITCH MECHANISM
G	MI1	036908*	040781	GS	TG	NN	A14	T	R	T	2	2 OF 16 HIGH TEMP SW'S IN STEAM TUNNEL OOC HIGH	INSTRUMENT DRIFT
G	MI1	037391	051181	MO	RT	PX	A14	T	R	T		MAIN STEAM LINE HI RAD CH B RX TRIP FOUND OOC	INSTRUMENT DRIFT
G	MI1	037776	061881	LS	DT	PX	B08	T	R	T		MSIV-1-1C 10% RELAY DIDNT DEENERGIZED	ACTUATING ARM ON LIMIT SWITCH WAS OOA
G	MI1	038298	081081	LS	DT	PX	B08	T	R	T		LIMIT SWITCH ON 1-MS-1C,MSIV,FAILED TO GIVE 10% //	CLOSE POSITION SIGNAL. ARMATURE OOA
G	MI1	038299	081081	MO	RT	PX	A14	T	R	T		MAIN STEAM LINE HI RAD CH B TRIP SETPOINT OOC	SETPOINT DRIFT
G	MI1	038561*	081781	MO	RR	NN	A14	T	R	T	3	TRIP SETPOINT FO3 3 OUT OF 4 RAD MON FOUND OOC	SETPOINT DRIFT
G	MI1	038819*	091481	RE	XT	PX	A14	T	R	T	2	TWO TIME DELAY RELAYS WHICH BYPASS CONTROL VLV FA/	/ST CLOSURE TRIP FOUND OOC. SETPOINT DRFT
G	MI1	039144	101381	RE	XT	PX	A14	T	R	T		TIME DELAY RELAY WHICH BYPASSES TURBINE CONTROL //	VLV FAST CLOSURE SCRAM FOUND OOC. DRIFT
G	MO1	015260	072276	GS	PS	SN	A14	T	R	T		MN STM PRESS SW 2-134C TRIP LOW	B2T-A125S DRIFT, SETPOINT ALSO REVISED
G	MO1	017462	040477	GS	TG	SH	A14	T	R	T		HPCI ISOLATION TEMP SW TRIP ABOVE T.S. LIMIT	TYPE 17023-6 TEMP SW SETPOINT DRIFT
G	MO1	019544	103077	GS	PS	SN	A14	T	R	T		MN STM LINE LOW PRESS ISOL SW TRIP LOW PS-2-134C	B2T-A125S SETPOINT DRIFT
G	MO1	025802	032379	RE	XG	NN	B09	T	R	D		TRIP OUTPUT RELAY ON #12 RECIRC MG SET DIDNT INTIA	//TE A TRIP. POOR SOCKET CONTACT
G	MO1	027176A	092379	SE	PG	NN	B09	N	R	T		RX PRESSURE GAGE DEVELOPED LEAK	POSSIBLY IMPROPER BOURDON TUBE MATERIAL
G	MO1	027176B	092379	GS	LT	PX	B11	N	R	D		REFERENCE LEG FOR SCRAM SWITCH(LEVEL) DRAINED	PRESSURE GAGE ON SAME TAP HAD LEAKED
G	MO1	027176C	092379	GS	LS	SN	B11	N	R	D		REFERENCE LEG FOR ECCS SWITCH(LEVEL) DRAINED	PRESSURE GAGE ON SAME TAP HAD LEAKED
G	MO1	030534*	022680	GS	TS	IC	A14	T	R	T	7	MSL AREA TEMPERATURE SW TRIPPED OOT (HIGH)	SETPOINT DRIFT
G	MO1	037244	042881	GS	TS	IC	A14	T	R	T		MSL AREA TEMPERATURE SWITCH FOUND OOC HIGH 2 DEGR-	-EES. INSTRUMENT DRIFT
G	NM1	014039*	011776	GS	PS	SD	A14	T	R	T	2	RV-30 A&B CORE SPRAY PRESS TRIP	BARTON INSTRUMENT SETPOINT DRIFT
G	NM1	014247	020776	GS	LS	SN	A14	T	R	T		AE-18C RX LO-LO-LO TRIP AT 131 IN VICE 129.7 MAX	BARTON INSTRUMENT SETPOINT DRIFT
G	NM1	014578	042376	GS	PT	PX	A14	T	R	T		TURB ANTIC TRIP BYPASS RX SCRAM 364 VICE 355 PSIG	BARKSDALE INSTRUMENT SETPOINT DRIFT
G	NM1	017845	070276	GS	PG	SD	A14	T	R	T		CORE SPRAY SPARGER DP TRIP AT 7PSID VICE REQUIRED	BARTON 288-4803 SETPOINT DRIFT
G	NM1	017846	070276	GS	PS	SN	A14	T	R	T		RE-22A TRIP AT 103 VICE 105 PSI	BARTON 278-759 SETPOINT DRIFT
G	NM1	015850	082776	GS	PS	SN	A14	T	R	[		RE-22A MN STM LINE BREAK INST TRIP 108 VICE 105PSI	BARTON 278 SETPOINT DRIFT
G	NM1	016216	101576	GS	LS	SN	A14	T	R	T		LO-LO-LO RX LEVEL SWITCH TRIP AT 118 VICE 124 INCH	BARTON INST SETPOINT DRIFT
G	NM1	016669*	121076	GS	LS	SN	A14	T	R	T	3	RE-18A,B,&C DID NOT ACTUATE WITHIN TOLERANCE BAND	BARTON 288 SETPOINT DRIFT

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	NM1	017036	011477	GS	FS	SN	A14	T	R	T		MN STM LINE HIGH FLOW TRIP 95 VICE 105 PSID	BARTON INST SETPOINT DRIFT
G	NM1	017402	031777	GS	PG	SD	A14	T	R	T		CORE SPRAY HEADER DP SETPOINT 5.8 VICE 5PSID	BARTON INST SETPOINT DRIFT
G	NM1	018260	061677	GS	LS	SN	A14	T	R	T		RX LEVEL LO-LO-LO AT 140 IN VICE 125 IN	RE-18A INST SETPOINT DRIFT
G	NM1	018265	061677	GS	LS	SN	A14	T	R	T		RX LEVEL LO-LO-LO AT 127.5 IN VICE 125 IN	RE-18B INST SETPOINT DRIFT
G	NM1	018261	061877	GS	PS	IC	A14	T	R	T		VAC SW TRIP & RESET POINTS LOW	VAC SW INST DRIFT
G	NM1	018263	070577	SE	TG	MN	A14	T	R	T		RTD IN COND DISCH FAILED TO MAINTAIN ACCURACY	INST DRIFT OF ABOUT 1.5 F
G	NM1	018869	082077	GS	PS	SN	A14	T	R	T		HIGH DRYWELL PRESS SW RE-04C SETPOINT HIGH	BARTON 289 PRESS SW SETPOINT DRIFT
G	NM1	018868	082277	GS	PS	IC	A14	T	R	T		VAC RELIEF SYS FROM PS CHMBR TO RX BLDG HIGH TRIP	CP4122 SW DRIFT OF SETPOINT NON-CONSERV
G	NM1	018870	090977	GS	PS	SN	A14	T	R	T		TURB ANTIC TRIP BYPASS SW 02-13C TRIPS HIGH	SW B2T-A12SS SETPOINT DRIFT
G	NM1	019143	091677	GS	PS	SN	A14	T	R	T		HIGH DRYWELL PRESS SW SETPOINT LOW	BARTON 269 PRESS SW SETPOINT DRIFT
G	NM1	019149	101577	GS	PS	SN	A14	T	R	T		HIGH DRYWELL PRESS SW SETPOINT LOW	BARTON 289 PRESS IND SW SETPOINT DRIFT
G	NM1	019584	110477	GS	PS	SN	A14	T	R	T		TURB ANTIC TRIP BYPASS RX SCRAM SW SETPOINT HIGH	2T-A12SS PRESS SW SETPOINT DRIFT
G	NM1	019587A	111077	GS	PS	SN	A14	T	R	T		HIGH DRYWELL PRESS SW RE04B SETPOINT LOW	BARTON 289 PRESS SW SETPOINT DRIFT
G	NM1	019587B	111077	GS	PS	SN	A14	T	R	T		HIGH DRYWELL PRESS SW RE04D SETPOINT HIGH	BARTON 289 PRESS SW SETPOINT DRIFT
G	NM1	019776A	120977	GS	LS	SN	A14	T	R	T	2	RE-18A&B RX WATER LEVEL DRIFT CONSERVATIVE	BARTON 288 LEVEL SW DRIFT
G	NM1	019776B	120977	GS	LS	SN	A14	T	R	T		RE-18C RX WATER LEVEL DRIFT NON-CONSERVATIVE	BARTON 288 LEVEL SW DRIFT
G	NM1	019775	121077	GS	PS	SN	A14	T	R	T		RE-04D HIGH DRYWELL PRESS SW SETPOINT LOW	BARTON 289 PRESS SW SETPOINT DRIFT
G	NM1	019979	121777	GS	PS	SN	A14	T	R	T		RE-04D HIGH DRYWELL PRESS SW SETPOINT LOW	BARTON 289 PRESS SW SETPOINT DRIFT
G	NM1	019980	121777	GS	LS	SN	A14	T	R	T		RX LO LEVEL IND SW RE05A TRIP 50 VICE 53 INCH	YARWAY SW 431LE SETPOINT DRIFT
G	NM1	020109*	010678	GS	PS	SN	A14	T	R	T	3	RE04A,B, & C HIGH DRYWELL PRESS SW SETPOINT LOW	BARTON 289 SW SETPOINT DRIFT
G	NM1	020501	012778	GS	PS	IC	A14	T	R	T		VAC REL SYS FM PRESS SUPP CHMBR TO RX BLDG HIGH	CP4122 VAC SW SETPOINT DRIFT
G	NM1	020497	020478	GS	PS	SN	A14	T	R	T		RE04D HIGH DRYWELL PRESS SW SETPOINT HIGH	BARTON 289 PRESS IND SW SETPOINT DRIFT
G	NM1	020499*	021078	GS	FS	SN	A14	T	R	T	3	RE22C,E,&F MN STM LINE HIGH FLOW TRIPS CONSERVATIV	BARTON 278 DP SW SETPOINT DRIFT
G	NM1	020568	022678	MO	RR	NN	B13	N	R	T		LOW LEVEL ALARM RX BLDG VENTILATION RAD MONITOR	GE RN04B-5 SENSOR FAILURE
G	NM1	020567	030378	GS	LS	SN	A14	T	R	T		RE18D RX WATER LEVEL SW SETPOINT NON-CONSERVATIVE	BARTON 288 LEVEL SW SETPOINT DRIFT
G	NM1	020566*	030478	GS	PS	SN	A14	T	R	T	2	RE-04A &D HIGH DRYWELL PRESS SW TRIP CONSERVATIVE	BARTON 289 PRESS SW SETPOINT DRIFT
G	NM1	020711	033178	GS	LS	SN	A14	T	R	T		RE-18C RX LO-LO-LO LEVEL TRIP 129 VICE 125 INCH	BARTON 288 LEVEL SW SETPOINT DRIFT
G	NM1	020712A	040178	GS	PS	SN	A14	T	R	T		RE-04B HIGH DRYWELL PRESS SW SETPOINT CONSERVATIVE	BARTON 289 PRESS SW SETPOINT DRIFT
G	NM1	020712B	040178	GS	PS	SN	A14	T	R	T		RE-04D HIGH DRYWELL PRESS SW SETPOINT NON-CONSERVA	BARTON 289 PRESS SW SETPOINT DRIFT
G	NM1	021108	040778	GS	FS	SN	A14	T	R	T		RE-22C MN STM LINE HI FLOW SW SETPOINT HIGH	BARTON 278 DP SW SETPOINT DRIFT
G	NM1	021442	052678	GS	LS	SN	A14	T	R	T		RE-18A RX LO-LO-LO LEVEL SW AT 135 VICE 127 INCH	BARTON 288 LEVEL SW SETPOINT DRIFT
G	NM1	021440	052778	GS	PS	SN	A14	T	R	T		TURB ANTIC TRIP BYPASS SCRAM SW 02-13A NONCONSERVA	BARKSDALE 2T-A1SS PRESS SW SETPOINT DRIFT
G	NM1	021441*	052778	GS	PS	SN	A14	T	R	T	2	RE04A&B DRYWELL HIGH PRESS TRIP LESS CONSERVATIVE	BARTON 289 PRESS SW SETPOINT DRIFT
G	NM1	021713	062478	GS	PS	SN	A14	T	R	T		RE-04D DRYWELL HIGH PRESS TRIP LESS CONSERVATIVE	BARTON 289 PRESS SW SETPOINT DRIFT
G	NM1	021715*	063078	GS	FS	SN	A14	T	R	T	2	RE22D & E MN STM HI FLOW TRIP LESS CONSERVATIVE	BARTON 278 DP PRESS SW SETPOINT DRIFT
G	NM1	021795*	072278	GS	PS	SN	A14	T	R	T	3	RE04A,B,&C DRYWELL HIGH PRESS TRIP LESS CONSERVATI	BARTON 289 PRESS SW SETPOINT DRIFT
G	NM1	022353*	091678	GS	PS	SN	A14	T	R	T	4	RE04A,B,C,&D DRYWELL HIGH PRESS TRIP MORE CONSERV	BARTON 289 PRESS SW SETPOINT DRIFT
G	NM1	022832	102778	GS	PS	IC	A14	T	R	T		VAC REL SYS P SUPP CHMBR TO RX BLDG TRIP HIGH	CP4122 VAC SW SETPOINT DRIFT
G	NM1	037666*	050881	MO	RR	NN	A14	T	R	T	2	RX BLDG VENTILATION MONITORS FOUND OOC HIGH	INSTRUMENT DRIFT
G	NM1	037668*	052181	GS	PS	SD	A14	T	R	T	2	CORE SPRY SPARGER DELTA PRESS SWITCHES FOUND OOC	INSTRUMENT DRIFT
G	NM1	037987*	062481	GS	DS	IC	B14	T	R	T	2	DRYWELL VACUUM RELIEF VALVE SWITCHES FOUND OOC	INSTRUMENT DRIFT--SW RECAL
G	NM1	039288	071581	MO	RR	NN	B13	N	R	U		#11 RX BLDG VENT DUCT RAD MONITOR FAILED	FAILED SENSOR-CONVERTER UNIT
G	NM1	038379*	083181	MO	RR	NN	B13	T	R	U	4	4 RAD MONITORS FOUND FAILED	DEFECTIVE POWER SUPPLY UNITS
G	OC1	013968	010276	GS	PS	SN	B13	T	R	U		HI DRYWELL PRESS SW RV46B TRIP AT 2.75 VS 2.0 PSIG	MERCRY SW BULB REPLACED IN SW - MOD 278
G	OC1	014384	032676	GS	PS	SN	A14	T	R	T		HI DRYWELL PRESS SW RV46C TRIP PT LESS CONSERVATIV	THAN TECH SPEC-TRIP POINT DRIFTED-MOD 278
G	OC1	014385A	040176	GS	PS	SN	A14	T	R	T		DRYWELL HI PRESS SW 1P15B TRIP PT LESS CONSERVATIV	THAN TECH SPEC-SETPOINT DRIFT-MOD 278
G	OC1	014385B	040176	GS	PS	SN	A14	T	R	T		DRYWELL HI PRESS SW 1P15D TRIP PT LESS CONSERVATIV	THAN TECH SPEC-SETPOINT DRIFT-MOD 278
G	OC1	018877A	090177	CN	FT	PX	A09	N	R	U		RECIRC FLO SIG FOR APRM I 1.7% HIER THAN ACT FLOW	FLO CNVTR NO.135B8308G1-ZERO SHIFT
G	OC1	018877B	090177	CN	FT	PX	A09	N	R	U		RECIRC FLO SIG FOR APRM II 1.7% HIER THAN ACT FLOW	FLO CNVTR NO.135B8308G1-HI GAIN ADJUSTMT
G	OC1	021638	060778	GS	PS	SN	A14	T	R	T		RX HI PRES SW RE03D TRIP PT LESS CONSV THAN TECH S	ATTRIBUTED TO SENSOR ST PT REPEATABILITY

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	OC1	021933*	070478	MO	RR	NN	A14	T	R	T	2	AREA RAD MON RN04A-1 &2 FOUND LESS CONSRV THAN TS	ATTRIBUTED TO INSTRUMENT DRIFT
G	OC1	030341B	020580	MO	RR	NN	A14	N	R	T		RAD MON RN04A-2 SETPT FOUND LESS CNSRVTV THAN T.S.	INSTRUMENT DRIFT
G	OC1	031266	050780	GS	PS	SN	A14	T	R	T		SW RE03D LESS CONSERVATIVE THAN T.S.	ATTRIBUTED TO SENSOR REPEATABILITY
G	OC1	031449A	052380	SE	PS	SN	A14	T	R	T		SENSOR IA83B EXCEED TECH SPEC SETPOINT	INSTRUMENT DRIFT
G	OC1	032047	071180	SE	PS	SN	A14	N	R	T		HI D/W PRESS SENSOR RV46B ACTUATED OOT	INSTRUMENT SETPOINT DRIFT
G	OC1	032387*	081480	GS	PS	IC	A14	T	R	T	2	HI D/W PRESS SW IP-15A,D TRIPPED HIGH	LACK OF INSTRUMENT REPEATABILITY
G	OC1	032637	082680	GS	LS	SN	A14	T	R	T		RX TRIPLE LOW WATER LVL SENSOR RE18B TRIPPED HIGH	SENSOR REPEATABILITY
G	OC1	032671*	091180	GS	PS	IC	A14	T	R	T	3	HI D/W PRESSURE SW IP-15A,B,C TRIPPED HIGH	INSTRUMENT REPEATABILITY
G	OC1	033126*	110180	GS	PS	JC	A14	T	R	T	4	HI D/W PRESS SW RV-46A,B,C,D TRIPPED HIGH	INSTRUMENT REPEATABILITY
G	OC1	033216*	110680	GS	PS	SF	A14	T	R	T	4	CNTNMNT SPRAY SYS HI D/W PRESS SW IP-15A-D OOC HI	INSTRUMENT REPEATABILITY
G	OC1	033366*	111880	GS	LS	SN	A14	T	R	T	2	RX TRIPLE LO WTR LVL IND SW RE-18A,D TRIPPED HIGH	SENSOR REPEATABILITY
G	OC1	033589*	120380	GS	PS	SD	A14	T	R	T	3	CORE SPRAY SYS HI D/W PRESS SW RV-46B,C,D OOT HIGH	INSTRUMENT REPEATABILITY
G	OC1	033520A	120480	SE	FG	NN	A14	T	R	T		MSL HI FLO SENSOR RE-22C TRIPPED HIGH	INSTRUMENT REPEATABILITY
G	OC1	033590*	120580	GS	PS	SF	A14	N	R	T	4	CNTNMNT SPRAY HI D/W PRESSURE SW IP15A-D OOT HIGH	INSTRUMENT REPEATABILITY
G	OC1	033656	121780	GS	LS	SN	A14	T	R	T		RX TRIPLE LOW WATER LEVEL IND SW RE-18A TRPD HIGH	INSTRUMENT DRIFT
G	OC1	036036	010281	GS	PS	SF	A14	T	R	T		CNTNMNT SPRAY SYS HI DRYWELL PRESS SW FOUND OOC HI	INSTRUMENT REPEATABILITY OF IP-15C
G	OC1	036037	010281	MO	RR	NN	B08	N	R	T		STACK GAS MONITOR FAILED	PUMP TRIPPED DUE TO WORN BEARINGS
G	OC1	036125	011581	GS	LS	SN	A14	T	R	T		RX TRIPLE LOW WATER LEVEL SW RE-18B FOUND OOC HI	INSTRUMENT REPEATABILITY/DRIFT
G	OC1	036623*	031381	GS	PS	SN	A14	T	R	T	2	ERV HIGH PRESSURE ACTUATION SWITCHES IA83C,E OOC	INSTRUMENT REPEATABILITY
G	OC1	036754	031981	GS	PS	SD	A14	T	R	T		CORE SPRAY HI DRYWELL PRESS SW RV46B FOUND OOC HI	INSTRUMENT REPEATABILITY
G	OC1	037537*	060381	GS	PS	SN	A14	T	R	T	3	HIGH PRESSURE SENSOR RE03B,C & D FOUND OOC	INSTRUMENT REPEATABILITY
G	OC1	038295*	081581	GS	PS	SN	A14	T	R	T	2	ERV HIGH PRESSURE SWITCHES IA83B & C FOUND OOC HI	INSTRUMENT REPEATABILITY
G	OC1	039236	082481	MO	RR	NN	B08	N	R	T		STACK GAS MON "A" SAMPLE PUMP TRIPPED	VANES BECAME BRITLE AND FAILED
G	OC1	038454A	082881	MO	RR	NN	B08	N	R	T		STACK GAS MON "B" SAMPLE PUMP TRIPPED	LUBRICATION SYS FAILED
G	OC1	038454B	082881	GS	PG	NN	B13	N	R	U		FLOW SENSOR FOR STACK GAS MON "B" FAILED	LOW FLOW SWITCH ALARM CARD FAILED
G	OC1	039092*	101281	GS	PS	SF	A14	T	R	T	2	CNTNMNT SPRAY HIGH DRYWELL PRESS SW IP15A & C FOU-	-ND OOC. INSTRUMENT REPEATABILITY
G	OC1	039208	101781	GS	PS	SN	A14	T	R	T		ERV HIGH PRESSURE SWITCH IA83E FOUND OOC HI	INSTRUMENT DRIFT
G	OC1	039285	103181	GS	PS	SN	A14	T	R	T		ERV HIGH PRESSURE SWITCH IA83B FOUND OOC HIGH	INSTRUMENT REPEATABILITY
G	OC1	171803*	111181	GS	PS	JC	A14	T	R	T	2	DRYWELL PRESSURE SWITCHES IP15B&D FOUND OOC HI 0.-	-03 & 0.04 PSIG. INSTRUMENT DRIFT
G	OC1	171826*	111381	SE	FS	SQ	A14	T	R	T	2	ISOL CONDENSER PIPE BREAK SENSORS IB11A1&A2 OOC HI	INSTRUMENT DRIFT
G	OC1	172285*	120181	SE	FG	NN	A14	T	R	T	3	MSL HI FLO SENSORS RE-22C,E,F OOC (HIGH)	INSTRUMENT REPEATABILITY AND DRIFT
G	OC1	172026*	123081	GS	PS	SD	A14	N	R	T	3	CORE SPRAY HI D/W PRESS SW RV-46A,B,D OOC (HIGH)	INSTRUMENT REPEATABILITY
G	OC1	172027	123181	SE	PS	SQ	A14	N	R	T		ISOL CONDENSER ISOL PIPE BREAK SENSOR IB11A1 OOC	INSTRUMENT REPEATABILITY
G	PB2	014181	020576	GS	FS	SQ	A14	T	R	T		RCIC STM LINE HI FLO SW DPIS-13-83 STPT EXCD TS LT	SLIGHT SETPT DRIFT - MOD 288 DPIS
G	PB2	014182	020576	GS	FS	SQ	A14	T	R	T		RCIC STM LINE HI FLO SW DPIS-13-84 STPT EXCD TS LT	SLIGHT SETPT DRIFT - MOD 288 DPIS
G	PB2	014401	040976	CA	PG	SN	B08	T	R	D		RELF VLV BELLOWS LK DET SW PS-2-2-71L FLD TO TRIP	BROKEN WIRE IN CONN PLUG-MOD 1482-W-40A-7
G	PB2	014659	042376	GS	PG	SN	A14	T	R	T		SECNRY CONT-TORUS VAC BKR DPIS-25038 ,011 GT TS	SLIGHT SETPOINT DRIFT - MODEL 277 DPIS
G	PB2	014400	042676	GS	LT	PX	B13	T	R	D		RX LVL SW LIS 2-2-3-101B COULD NOT OBT ACC RESP TI	ME-DEFECTV MICRO SW - MODEL 288A LVL IND
G	PB2	014745	050976	MO	RR	NN	B13	N	R	U		GAMMA SCAN MULTI-CHANNEL ANALYZER FAILED	NO CAUSE,OTHER THAN COMPONENT FAILURE
G	PB2	015183	062876	GS	FS	SN	A12	T	R	D		MN STM LINE HI FLO SW DPIS 2-116A OPER HIER THN TS	SLIGHT MECH BINDING-CLEARED WHEN EXERCISE
G	PB2	015233	071976	CL	XG	SH	B13	N	R	T		HPCI TURBINE SPEED CLD NOT BE CONT W CONTRLR OR PT	2 DEFCTV 2166 ZENER DIODS & 747 IC CHIP
G	PB2	015309	080376	MO	RR	NN	B13	T	R	T		CONT RM VENT MON RIS-0160A ABNML READNGS IN NOR&TS	IC FAILURE IN EXP CNTG CKT-DRM 100
G	PB2	015453	082376	MO	RR	NN	B13	N	R	U		DRYWELL RAD GAS SMPLE PMPS TRIPPD -RELAY FAILD	FAILD IN FAIL-SAFE POSITION ; REPLACED
G	PB2	015743	090876	GS	LS	SF	B13	T	R	T		CONT SPRAY PRMSV SW LIS-2-2-3-73A FOUND TO BE INOP	CRACKED BELLOWS - MOD 4418CE LEVEL SWITCH
G	PB2	016079	091476	GS	FG	SH	A14	T	R	T		HPCI STM LINE HI FLO SW DPIS 2-23-76 TRIP GT TS	SETPOINT SHIFT - MOD 288 DIFF PRESS SWTCH
G	PB2	016332*	111576	GS	PS	SN	A14	T	R	T	2	MN STM LINE PRESS ISOL SWS PS-2-2-134A&B TRIPPED	BELOW TS-SETPT DRFT-MOD 82T-A1255 PRES SW
G	PB2	016569	121776	GS	FG	SH	A14	T	R	T		LO ST PT OF HPCI STM FLO SW DPIS-2-23-76 HIER THAN	TECH SPEC-SETPT DRFT-MODEL 288
G	PB2	017153	021077	GS	FS	SQ	A14	T	R	T		RCIC STM LINE HI FLO SW DPIS-2-13-83 TRPD GT TS	SETPOINT DRIFT - MOD 288 DP SWITCH
G	PB2	017496	040577	GS	FS	SN	B12	T	R	D		MN STM LINE FLO SW DPIS-2-2-116A FAILED TO TRIP	BINDING IN THE SW LINKAGE-MOD 288 DP SWCH
G	PB2	018250	071977	MO	RR	NN	B09	N	R	U		VENT STACK RAD MON RIS-29798 BECAME INOPERABLE	BLOWN FUSE IN LOGIC POWER SUPPLY

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	PB2	018701A	080577	MO	RR	NN	B09	N	R	U		VENT STACK RAD MON RIS-2979A BECAME INOPERABLE	LOOSE INTEGRATED CIRCUIT CHIP
G	PB2	018701B	080577	MO	RR	NN	B09	N	R	U		VENT STACK RAD MON RIS-2979B BECAME INOPERABLE	BLOWN FUSE IN POWER SUPPLY
G	PB2	019323A	100377	MO	RT	PX	B08	T	R	U		2C MN STM LINE RAD MON DWN SCL TRP IND FLD TO CLR	DEFECTIVE REED RELAY - RPLCD IN KIND
G	PB2	019268	100477	IM	FG	NN	B02	N	R	D		"A" OFF-GAS FLOW IND LOOP WAS LOST	BLOWN FUSE-LOGIC CARD DISLDGD DURING MAIN
G	PB2	019267	101377	IM	FG	NN	B02	N	R	D		"A" OFF-GAS FLOW IND LOOP WAS LOST	BLOWN FUSE-LOGIC CARD DISLDGD DURING MAIN
G	PB2	019674	111077	GS	PS	SQ	A14	T	R	D		RCIC STM LINE DELTA P DPIS-2-13-84 HIER THAN TS	SETPT SHIFT-STRPD SCREW ON STPT ADJUSTMT
G	PB2	019673	111777	MO	RR	NN	A09	N	R	D		2A VENT STK RAD MON(RIS-2979A) WAS OPER ERRATICALY	POOR CONT BEWN LOGIC-CARD CONN & CHASSIS
G	PB2	019829	112877	MO	RT	PX	A09	N	R	D		MN STM LINE RAD MON RIS-2-2-251B DVLPD UPSCL SPIKG	CONTACT MISALIGNMENT PROBLEM
G	PB2	020006	122277	GS	PG	SH	A14	T	R	T		HPCI STM SUP LN HI FLO SW DPIS 2-23-76 STPT GT TS	SETPOINT DRIFT - MODEL 288
G	PB2	020494	02097R	GS	PS	SQ	A14	N	R	T		RCIC TURB STM LN HI FLO TRP STPT 2.5 IDW ABOVE TS	SETPOINT DRIFT - MODEL 288
G	PB2	023348	122778	GS	PG	NN	A14	T	R	T		RECIRC PMP DISCH VLV CNT SW(PS-2-2-3-52D)SET GT TS	STPT DFT CAUSED BY SHRD LOCKDOWN SCREW
G	PB2	025012	010979	MO	RR	NN	B12	T	R	T		2A OFF GAS RAD MON(RIS-2-17-150A)FAILED DOWNSCALE	DIRT ON CONTACTS OF TRIP TEST/ZERO CAL SW
G	PB2	025035	011879	GS	FS	SD	A14	T	R	T		S-2-14-43B,CORE SPRAY SPARGER BREAK IND,FOUND OOC	INSTRUMENT DRIFT
G	PB2	026448	072079	GS	FS	SD	A14	T	R	T		SETPOINT OF DPIS-2-14-43B,CORE SPRAY SPARGER BREAK	//SENSOR,FOUND OOC. INSTRUMENT DRIFT
G	PB2	033218	112180	GS	PS	SN	A14	T	R	T		MSL LP SW PS-2-2-134B SETPOINT LOWER THAN T.S. LMT	SETPOINT DRIFT
G	PB2	164168	011281	GS	FS	SD	B14	T	R	T		CORE SPRAY SPARGER DP SWITCH TO RX VESSEL OOC LOW	INSTRUMENT DRIFT OF DPIS 2-14-43B
G	PB3	013988	010476	GS	PG	NN	A14	T	R	T		ATWDS RECIRC PUMP TRIP SW PS-102B DID NOT TRIP	DRIFT-APPTY DUE TO CORROSION-9NAA45(X9)11
G	PB3	014684	050676	TI	XG	SN	A14	T	R	T		"B" LOGIC TIMER SET AT 125.5 SEC VS 120 + OR -5 SE	SETPOINT SHIFT - MOD CR 2820 B-414AA41 A
G	PB3	014744	051276	GS	TS	SN	B12	T	R	T		MN STM LINE HI TEMP SW TS-5932C FLD TO TRIP LOCALY	DIRTY CONTACTS ON CB-C52 PLG-IN TYP PCB
G	PB3	014954	060676	MO	RR	SN	B13	N	R	U		REFUEL FLR EX VNT MNTR RIS-3-17-458D UNUSUAL DFLCT	DEFECTIVE #129B2802G12 RADIATION MONITOR
G	PB3	015083	061876	GS	PT	PX	B13	T	R	U		RX HI PRESS SW PS-3-2-3-55B WOULD NOT TRIP	FAILURE OF ZEN DIODE IN TRIP UNT-XET-1205
G	PB3	015229	070576	CL	XG	SQ	B13	T	R	U		RCIC SPEED CONTROL CIRCUIT WAS FOUND TO BE INOPRBL	DEF VOLTAGE DRPNG RESTR IN SPD CONT CRKT
G	PB3	016175	100576	CM	NC	SN	A14	T	R	T		ROD BLOCK STNG ON "B" APRM FOUND 10 PCT HIER TS	SLIGHT STPT DRIFT ON ELECTRONIC TRIP UNIT
G	PB3	016076	101476	GS	FS	SN	A14	T	R	T		MN STM LINE HI FLO SW DPIS-3-2-118D TRPD HIER TS	SETPOINT SHIFT-MOD 288 DIFF PRESS SWITCH
G	PB3	016567A	121776	GS	FS	SN	A14	T	R	T		HI SIDE SW DPIS 3-23-76 SET POINT SHIFTED FROM TS	SETPOINT SHIFT-MOD 288 DIFF PRESS SWITCH
G	PB3	016567B	121776	GS	FS	SN	A14	T	R	T		LO SIDE SW DPIS 3-23-77 SET POINT SHIFTED FROM TS	SETPOINT SHIFT-MOD 288 DIFF PRESS SWITCH
G	PB3	017479	041177	IM	DC	SN	B13	N	R	U		ROD SEQ CONT SYS PROVIDED NO RESTRCINS TO SEL/MOTN	DEF IC ON A #828E559AA PCB - REPLACED
G	PB3	018471	072977	IM	DC	SN	B13	N	R	U		THE RSCS WAS DETERMINED TO BE INOPERABLE	DEFCTIVE INT CKT ON #828E559AA PCB-RPLCD
G	PB3	018885	090277	TI	XG	NN	A14	T	R	T		"A"&"B" LOGIC TIMERS FOUND SETPT GT TS LIMIT	SETPOINT SHIFT - MOD CR2820 B-414AA41 A
G	PB3	019716	093077	CL	FG	SH	B13	T	R	U		HPCI FLOW CONT FC-3-23-108 FOUND DEFECTIVE	CKT BOARD MOD FAILURE - MOD 540017HAPVZ
G	PB3	020088	122677	CL	FG	SH	B13	N	R	U		HPCI FLO CONT FC-23-108 OUTPUT SIG 20 PCT OF DEMND	DEFTV AMP PLUG& PS IN CONT-540017HAPUZ
G	PB3	020616	020178	MO	RR	NN	B13	N	R	U		THE 38 VENT STACK MONITOR (RIS3979B) FAILED	FAILD RCTFR IN 5V PS - PART NO Y353474
G	PB3	020495	020678	GS	FS	SQ	A14	T	R	T		RCIC STM LN HI FLO TRIP DPIS 3-13-84 TRIPPD GT TS	SETPOINT DRIFT - MODEL 288
G	PB3	021190	032478	CL	FG	SH	B13	N	R	U		HPCI FLO CONT FC-3-23-108 DMD 25 PCT FLO	DEFCTV AUTO MODULE IN CONT - 540017HAPUZ
G	PB3	022282	090478	MO	RT	PX	B13	T	R	U		"D" MN STM LN RAD MON FAILED TO CAUSE HALF SCRAM	DEFCTV XISTR IN TRIP UNIT-MOD 194X629007
G	PB3	023187	112778	MO	RR	NN	B13	N	R	U		"D" RX BLDG AREA EXH RAD MON INDICATING DOWNSCALE	DEFCTV ZENR DIODE IN AMPLFR - 194X927011
G	PB3	025371	021279	RE	XS	SA	A14	T	R	T		SETPOINT OF ADS TIME DELAY RELAY FOUND OOC 33 SECS	SETPOINT DRIFT,GE MODEL CR 2820
G	PB3	025187	030579	GS	FS	SQ	A14	T	R	T		RCIC STEAM SUPPLY HIGH FLOW SWITCH DPIS 3-13-83 //	FOUND OOC HI. SETPOINT DRIFT
G	PB3	026128	052379	RE	XS	SA	A14	T	R	T		ADS TIME DELAY RELAY FOUND 13 SECONDS OOC	SETPOINT DRIFT
G	PB3	026333	061579	MO	RT	PX	B12	T	R	T		"D" MSL RAD MONITOR HI-HI TRIP FAILED TO FUNCTION	DIRTY SWITCH OR RELAY CONTACTS
G	PB3	026650	071979	GS	PS	SF	B13	N	R	D		PS 3-10-119D FAILED(SYS II DRYWELL PRESS PERMITS//	CNTNMNT SPRAY). DIAPHRAM FAILED
G	PB3	027056	101079	GS	TG	NN	B12	T	R	T		MS TUNNEL HIGH TEMP SWITCH TS 5932C FAILED	DIRTY CONTACTS ON TEMPERATURE SW CIRC BRD
G	PB3	033898	010680	MO	RT	PX	B00	T	R	U		MSL "D" RADIATION MONITOR INOPERABLE	UNKNOWN
G	PB3	030366	020780	GS	FS	SQ	A14	T	R	T		DPIS 3/13/84 GREATER THAN TECH SPEC LIMIT	SETPOINT DRIFT
G	PB3	030484	021380	CL	FG	SQ	B13	N	R	U		RCIC AUTO FLOW CONTROL INOP	LOGIC CKT BRD FAILD IN RCIC PMP CONTRLLR
G	PB3	033180	111480	CL	FG	SH	B13	N	R	U		HPCI FLOW CONTROLLER SHOWING DWNSCL OUTPUT	FAILD ZENER DIODE & RESISTOR IN CNTRLLR
G	PB3	036351	020681	MO	RT	PX	A14	N	R	T		"A" MSL RAD MONITOR DISCOVERED READING 15% LOW	INSTRUMENT DRIFT
G	PB3	036423A	021481	IN	XG	SL	B09	N	R	T		INDICATING LIGHT RENDERED RHR LOGIC SYS INOPERABLE	INTERMITTENT GROUND BLEW FUSE
G	PB3	036423B	022581	IN	XG	SL	B09	N	R	T		INDICATING LIGHT RENDERED RHR LOGIC SYS INOPERABLE	INTERMITTENT GROUND BLEW FUSE
G	PB3	039438	110981	GS	FS	SQ	A14	T	R	T		RCIC HI FLOW SWITCH DPIS 3-13-83 FOUND OOC HI BY -	-8 INCHES OF WATER. INSTRUMENT DRIFT

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE&CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	PI1	014125*	011276	GS	PS	SN	A14	T	R	T	2	PCIS SYS PS-261-30A&C SETPTS WERE 5 PSI ABOVE TS	MINOR SETPT DRFT - 50-1200 PSI-B2T-A1255
G	PI1	014170*	011976	MO	RR	NN	B11	N	R	T	2	PLT STK PRCS RAD MON SYS LO SUCTION FLOW - TWICE	SAMPLE PUMP INLET LINE PLUGGED WITH ICE
G	PI1	015109	070676	GS	PG	SL	A14	T	R	T		CS & LPCI INJ PS PS-263-52A SET POINT WAS GT TS	MINOR SETPOINT DRIFT
G	PI1	016024	093076	MO	RR	NN	A07	N	R	T		PRI SYS CLT BNDRY LKG AIR SMPL SYS-ERRATIC INDICAT	CONDNSTN IN SAMPL PIPING CARRIED OVER
G	PI1	016926	010777	GS	PG	SL	A14	T	R	T		CS & LPCI INJ PS-263-52A SETPT OF 363 VS 400 PSIG	SETPOINT DRIFT
G	PI1	017165	020777	GS	PT	PX	A14	T	R	T		LO VAC SCRAM PRES SW PS-503B&D SET AT 22.5 VS 23IN	MINOR SETPOINT DRIFT
G	PI1	017371	031477	IN	RG	NN	B13	N	R	T		PRI SYS CLT BNDRY LKG AIR SMPL PUMP FAILED	PUMP REPLACED AND MOISTURE IN INST REMOVD
G	PI1	017549	041377	GS	PG	SL	A14	T	R	T		RHR ISOL SIG PRES SW PS 263-23A ACTUATES GT TS	MINOR SETPOINT DRIFT
G	PI1	018408	070577	GS	PG	SL	A14	T	R	T		CS & LPCI INJ PS-263-52A SETPT OF 444 VS 400 PSIG	LIMITED SET POINT DRIFT
G	PI1	018469*	071477	GS	PG	SL	A14	T	R	T	2	RHR SYS PRESS SW PS-261-23A&B HAD TRIPS GT TS LMIT	MINOR SET POINT DRIFT
G	PI1	021099	041378	GS	PG	SH	A14	T	R	T		HPCI STEAM LN LO PRES SW 23-PS-2389C-61 VS 72 PSIG	SETPOINT DRIFT-REPETITIVE-WILL BE REPLCD
G	PI1	021964*	071778	GS	PG	SL	A14	T	R	T	2	RHR SYS PRES SWS PS-261-23A&B HAD TRIP GT TS LIMIT	MINOR SETPOINT DRIFT - 0-1500 MOD B2TA12S
G	PI1	025127	012079	MO	RR	NN	B11	N	R	D		PLANT STACK PROCESS RAD MON HAD LOW FLOW	FROZEN SENSING LINES
G	PI1	027701	110979	MO	RR	NN	B07	N	R	D		RX COOLANT LEAK DETECTING SYS(C-19) IND LOW FLOW	MOISTURE IN SAMPLING LINE,STEAM LEAK
G	PI1	030758	031280	GS	PS	SN	A14	T	R	T		LP PERMISSIVE PS-263-52A SETPOINT DRIFTED (LOW)	SETPOINT DRIFT
G	PI1	030737	031380	GS	PT	PX	A14	T	R	T		CONDENSER LO VACUUM PS-503D SETPOINT DRIFTED LOW	SETPOINT DRIFT
G	PI1	032644	082880	MO	RR	NN	B07	M	R	T		RX CLNT LEAK DET AIR SAMP SYS C-19 INOP EXCESSV //	MOIST IN SENSING LINES. VLV PCK LEAK
G	PI1	032811	093080	MO	RR	NN	B07	N	R	T		RX CLNT LEAK DET AIR SAMP SYS CU9 INOP	CONDENSATE IN SAMP LINES SATURATING C-19
G	PI1	036127B	010781	MO	RR	NN	B09	N	R	U		MAIN STACK SAMPLE LOW FLOW ALARM RECEIVED	SAMPLE PUMP POWER SUPPLY FUSE BLEW
G	PI1	036497	021781	MO	RR	NN	B08	N	R	T		RX COOLANT LEAK DETECTOR AIR SAMPLING SYS DECLARE-	-D INOPERABLE. FUSES BLEW, WORN BEARINGS
G	PI1	037734A	061781	MO	RR	NN	B08	N	R	T		RBV SAMPLE PUMP "A" TRIPPED	INTERNAL FRICTION DUE TO NORMAL WEAR
G	PI1	037734B	061881	MO	RR	NN	B08	N	R	T		RBV SAMPLE PUMP "A" TRIPPED	INTERNAL FRICTION DUE TO NORMAL WEAR
G	PI1	037736A	061881	MO	RR	NN	B08	N	R	T		MAIN STACK SAMPLE PUMP "A" TRIPPED	INTERNAL FRICTION DUE TO NORMAL WEAR
G	PI1	037736B	061981	MO	RR	NN	B08	N	R	T		MAIN STACK SAMPLE PUMP "A" TRIPPED	INTERNAL FRICTION DUE TO NORMAL WEAR
G	PI1	038259*	070981	GS	PS	SN	A14	T	R	T	2	PS PS-263-52A & 53A FOUND OOC(PERMISSIVE FOR CORE-	-SPRAY AND LPCI) FOUND OOC. INST DRIFT
G	PI1	038207	072081	GS	PS	SL	A14	T	R	T		PRESSURE SW PS-261-23A FOUND OOC 3PSI HIGH	INSTRUMENT DRIFT
G	QC1	015347	072776	GS	PS	IC	A14	T	R	T		RX BLDG/SUP CHBR VAC BKR PS-1-1622B TRIPPED GT TS	SETPOINT DRIFT-MOD 12R2KK815-V,RNG +20PSI
G	QC1	017469	030577	GS	LG	AS	B08	T	R	U		LEVEL SWITCH FOR CIRC WATER PUMP FOUND INOPERABLE	MOTION OF SW RESTRCTD BY FRICTN&SMAL WIRE
G	QC1	018108	042277	GS	PS	IC	A14	T	R	T		RX BLDG/SUP CHBR VAC BKR TRPD AT 0.527 VS 0.5 PSID	INSTRUMENT SETPOINT DRIFT
G	QC1	018458	052577	GS	LG	AS	B08	T	R	U		COND HTWL FLD PROTCN LVL SW FAILD TO ALARM IN CR	SMALL WIRE BIND AGST COVER-PRVNT MOVEMENT
G	QC1	018581	072877	GS	PS	IC	A14	T	R	T		RX BLDG/SUP CHBR VAC BKR PRES SW TRIPPED GT TS LMT	INSTRUMENT SETPOINT DRIFT
G	QC1	018747	081677	GS	LS	SD	B08	T	R	U		LO-LO RX VSL WTR LVL SW WOULD NOT TRIP	MISALGNMT OF SW COVER CAUSES GAP BTWN SW
G	QC1	019684	102677	GS	PS	IC	A14	T	R	T		RX BLDG/SUP CHBR VAC BKR(PS-1-1622B) TRPD GT TS	INSTRUMENT DRIFT-MFR SUGGSTS 5-YR REPLCMT
G	QC1	020941	032078	GS	PG	NN	B11	M	R	T		PRESS SW PS-1-1001-88A WAS FOUND FAILED	OBSTRUCTION OF THE SENSING LINE
G	QC1	021786	061578	GS	LT	PX	B08	T	R	U		LO-LO RX WTR LVL SW LIS-1-263-72A FAILD TO OPERATE	MERCOID SWCH MISALGND W CAM-MNTD MAGNET
G	QC1	021982*	071878	GS	LS	SD	A08	T	R	U	2	LO-LO RX WTR LVL SWS LIS-1-263-72A&B TRPD GT TS	MERCOID SWCH MISALGND W CAM-MNTD MAGNET
G	QC1	022188	072678	GS	PS	SN	A14	T	R	T		RX BLDG/SUP CHBR VAC BKR PS 1-1622A ACTUATE GT TS	SETPOINT DRIFT OF PRESSURE SWITCH
G	QC1	022191*	080178	GS	TG	NN	A14	T	R	T	5	5 OF 16 HPCI TURB AREA HI TEMP ISOL SWS SET GT TS	INSTRUMENT SETPOINT DRIFT
G	QC1	022814	092978	MO	RR	NN	B13	N	R	T		A SJAE OFF GAS LOG RAD MON FAILED DOWNSCALE	HI VLTG PS CAPCTRS LOOSENED-NO CNTCT W CH
G	QC1	023382	112278	GS	PT	PX	A14	T	R	T		EHC PRESS SW 1-5600-PS-3 TRPD AT 880 VS 900# DECRS	INSTRUMENT SETPOINT DRIFT
G	QC1	025053	010779	GS	FS	SQ	B13	N	R	T		HIGH SL FLOW SWITCH DPIS-1-1360-1 FAILED CAUSED //	ISOLATION. FAILED MICRO SWITCH IN PR SW
G	QC1	025427*	021479	RE	XS	SA	B14	T	R	T	2	ADS TIMERS 287-105A & B FOUND OOC HIGH	INSTRUMENT DRIFT--ONE TIMER REPLACED
G	QC1	027104	072479	GS	PS	IC	A14	T	R	T		SUPPRESSION CHAMBER RB VACUUM BKR PRESS SW PS 1-//	1622B FOUND OOC HI. INSTRUMENT DRIFT
G	QC1	027103	081379	GS	TS	SH	A14	T	R	T		HPCI TURBINE AREA HI TEMP SWITC TS 1-2371A OOC HI	SETPOINT DRIFT
G	QC1	027559	092979	MO	RR	NN	B13	N	R	T		FALSE HIGH RADIATION SIGNAL RECEIVED	BURNED COIL IN RELAY
G	QC1	031102	041580	GS	LT	PX	A14	T	R	T		RX LO WTR LVL SW LIS1-263-57A OUT (LOW)	INSTRUMENT SETPOINT DRIFT
G	QC1	031103	042380	GS	PT	PX	A14	T	R	T		PRESS SW 1-5600-PS-3 TRPD BELOW TECH SPEC LIMITS	INSTRUMENT SETPOINT DRIFT
G	QC1	033867	090380	GS	TS	SN	A14	T	R	T		TEMP SW TS-1-2371A TRPD ABOVE TECH SPEC LIMITS	INSTRUMENT SETPOINT DRIFT
G	QC1	037448	011681	GS	LT	PX	A14	T	R	T		RX LOW-LOW LEVEL SWITCH LS-1-263-57A FOUND OOC HI-	-8.7 5IN. INSTRUMENT DRIFT
G	QC1	165990	040781	GS	FS	SQ	B13	N	R	U		RCIC HIGH STEAM FLOW SW DPSI 1-1360-1B FAILED	MICROSWITCH FAILED

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPES	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	QC1	037925	062481	GS	PT	PX	A14	T	R	T		ELECTROHYDRAULIC FLUID LOW PRESS SW FOUND OOC LOW-	-BY 3 LBS. INSTRUMENT DRIFT OF 1-5600PS3
G	QC1	039210	102781	GS	PT	PX	A14	T	R	T		ELECTROHYDRAULIC CONTROL LP SW 1-5600-PS-3 FOUND -	-OOC LOW 4PSI. INSTRUMENT DRIFT
G	QC2	018162*	072476	GS	PT	PX	A14	T	R	T	2	TURB FRST STG PRES SWS PS-2-504A&B EXCEEDED TS LMT	SETPOINT DRIFT-SETPOINT SAME AS LCO
G	QC2	018118	011877	GS	PT	PX	A14	T	R	T		TURB FRST STG PRES SW TRIPPED AT 407-TS LIMIT-400	INSTRUMENT SETPOINT DRIFT
G	QC2	017466	022877	MO	RR	NN	B13	N	R	U		"A" FUEL POOL RAD MON INTERMTNT SPIKING	FAULTY COMPONENT REPLACED
G	QC2	018120*	042277	GS	PT	PX	A14	T	R	T	2	TURB FRST STG PRES SWS PS-2-504C&D EXCEED TS LIMIT	INST SETPOINT DRIFT - STPT TOO CLSE LCO
G	QC2	018577*	072277	GS	PT	PX	A14	T	R	T	2	"A" RPS TURB FRST STG PRES SWCHS EXCEEDED TS LIMIT	INSTRUMENT SETPOINT DRIFT
G	QC2	018578	072877	GS	PS	IC	A14	T	R	T		RX BLDG/SUP CHMBR VAC BKR TRIPD AT 0.5137 VS 0.5	INSTRUMENT SETPOINT DRIFT
G	QC2	019103	082277	GS	PT	PX	A14	T	R	T		TURB FRST STG PRES SW TRIPPED AT 409 VS 400 PSI	INSTRUMENT SETPOINT DRIFT-INST REPLACED
G	QC2	020583*	020778	GS	TS	SQ	A14	T	R	T	3	RCIC TURB AREA HI TEMP SWS TS 2-1360-14B,15B&17B	TRPD GT TS LMT - INSTRUMENT SETPOINT DRFT
G	QC2	021111*	032078	GS	PG	SD	B11	T	R	T	2	HI DRYWL PRS SPRAY PRMSV SWS PS 2-1001-83A&C HAD	BLOCKD SENSG LINES-ORIGIN IN CONTMT SUSPC
G	QC2	021983	071778	GS	LS	SD	A08	T	R	U		RX LO-LO WTR LVL SW LIS-2-263-72A PRVD INCORR DATA	ROTATING MAGNET RUBNG AGNST MERCOID SWTCH
G	QC2	022192	072678	GS	PS	SN	A14	T	R	T		RX BLDG/SUP CHBR VAC BKR PS-2-1622B TRPD .33 GT TS	SETPOINT DRIFT
G	QC2	022668	091078	LS	DT	PX	B08	T	R	U		MSIV 2-203-3C FLD TO GIVE HALF SCRM IN RPS CH "B"	ARM ON LMT SW SLIPPING ON SHAFT-TIGHTENED
G	QC2	022818	101678	GS	LS	SD	B08	T	R	U		#1 CORE SPRY LO-LO LVL INI SW 2-263-72A FLD TO TRP	SHIFT OF MERCOID SWITCH IN ITS HOLDER
G	QC2	025052A	010479	GS	FG	NN	A14	N	R	T		"A" SBGT FLOW SWITCH SECURED INLET AIR HEATER	INSTRUMENT DRIFT
G	QC2	025052B	010579	GS	FG	NN	A14	N	R	T		"A" SBGT FLOW SWITCH SECURED INLET AIR HEATER	INSTRUMENT DRIFT
G	QC2	026220A	051479	MO	RR	NN	B13	N	R	T		2A FUEL POOL RAD MON FAILED UPSCALE	GM TUBE FAILED
G	QC2	026220B	060179	MO	RR	NN	B14	N	R	T		2A FUEL POOL RAD MON FAILED UPSCALE	SENSOR CONVERTER RECALIBRATED
G	QC2	026220C	060279	MO	RR	NN	B13	N	R	T		2A FUEL POOL RAD MON FAILED UPSCALE	GM TUBE REPLACED WITH AN AMPEREX 18529
G	QC2	026558*	072479	GS	PS	IC	A14	T	R	T	2	PRESSURE SWITCHES FOR VACUUM RELIEF VLVS PS2-1622A	//& PS2-1622B FOUND OOC. SETPOINT DRIFT
G	QC2	027249	091079	MO	RR	NN	B13	N	R	T		2A RB VENT MONITOR FOUND FAILED DOWNSCALE	FAILED CAPACITOR IN POWER SUPPLY
G	QC2	028052*	120579	GS	TS	SQ	A14	T	R	T	4	HI TEMP SW'S TS-2-1360-14B,16C,16D,& 17D OOC HI	INSTRUMENT SETPOINT DRIFT
G	QC2	030442	021980	RE	XS	SN	A14	T	R	T		AUTOMATIC BLOWDOWN TIMER 287-105A TIMED OUT OOT HI	INSTRUMENT SETPOINT DRIFT
G	QC2	032234	072380	GS	PS	IC	A14	T	R	T		PS-2-261-30C TRPD BELOW TECH SPEC LIMIT	INSTRUMENT DRIFT
G	QC2	032235	072480	GS	PS	IC	A14	T	R	T		PS-2-1622B TRPD ABOVE TECH SPEC	SETPOINT DRIFT
G	QC2	033139	102780	GS	PS	IC	A14	T	R	T		PS-2-1622A TRPD ABOVE TECH SPEC LIMIT	INSTRUMENT SETPOINT DRIFT
G	QC2	036134	011681	GS	PG	NN	A14	T	R	T		MICROSWITCH FOR PRESS CONTROLLER FOR RELIEF VALVE-	-2-203-3B FOUND OOC HI 51PSI. INST DRIFT
G	QC2	036428*	022081	GS	PT	PX	A14	T	R	T	4	ALL 4 LOW CONDENSER VACUUM RX TRIP SW'S FOUND OOC	INSTRUMENT SETPOINT DRIFT
G	QC2	038146	071581	GS	PG	NN	A14	T	R	T		PRESSURE SWITCH 2-203-3B FOUND OOC HIGH	INSTRUMENT DRIFT (CONTROLS RELIEF VALVE)
G	QC2	038087	072481	GS	PS	IC	A14	T	R	T		VACUUM BKR ACTUATION PRESS SW PS-2-1622B FOUND OOC	INSTRUMENT DRIFT
G	QC2	038458*	082381	LS	DG	IC	B08	T	R	T	2	POSITION INDICATION FOR VLV 2-160 -32C FAILED	LIMIT SWITCHES MISALIGNED
G	QC2	039126*	101981	GS	TS	SQ	A14	T	R	T	3	TEMP SWITCHES 2-1360-17B,16C & 17C FOUND OOC HIGH	INSTRUMENT DRIFT
G	VY1	014296	022576	GS	LS	SN	A14	T	R	T		1 OF 4 LO-LO LEVEL SWITCHES TRIPPD AT -51IN VS.44.	SETPT DRIFT;PREV OCCURANCE
G	VY1	014583	042176	GS	LG	SH	B08	T	R	U		CST/HPCI LO SUCT VLVE SWITCHING CKT LEVL SW FAILED	LS23-74 HAD DISLODGD WIRE;REPAIRD SAME
G	VY1	014762	051976	GS	LG	SH	B08	T	R	D		CST/HPCI LEVEL SW. LS23-74 DIDNT ACTUATE AT SETPNT	IMMOBILITY OF PIVOT PLATE,ALSO MOISTURE
G	VY1	014923	051976	GS	LS	SN	B07	T	P	T		HI SUPPRESSION CHAMBR WATR LEVL SWITCH 23-91A	SCALE ACCUMULATION & CORROSION IN CHAMBER
G	VY1	015028	061476	GS	LS	SN	B07	T	R	T		HI SUPPRSN CHAMBR WATR LEVL SW 23-91A DIDNT ACTUAT	SCALE & CORROSION BUILDUP IN SWITCH CHMBR
G	VY1	015066	062976	GS	DC	NN	B12	T	R	U		ONE CONTRL ROD BLOCK INOP,DUE TO PERMIT CKT MALFUN	POS.IND. SW ON ROD 22-43 STUCK IN CLOSED
G	VY1	015255*	071076	GS	TS	SH	A14	T	R	T	2	HPCI HI STEAM LINE TUNNL TEMP SWS.TS23-101A &102A	FAILD TO ACTUAT AT SETPT; SETPOINT DRIFT
G	VY1	015264	072476	ZZ	DC	NN	B13	T	R	U		ONE CONT ROD WITHDRWL PERMIT CKT INOPRBLE;ROD34-07	FAILD POS.IND.PROBE & PROBE BUFFER CARD
G	VY1	015740	082676	RC	TG	IC	B13	N	R	T		DRYWELL ATMOSPH.TEMP RECORDR TR-1-149 FAILD	HUB BROKE ON CHART DRIVE MECHANISM
G	VY1	016273A	101976	GS	LS	SN	B07	T	R	T		TORUS WTR LEVL SW 23-19A FAILD TO ACTUATE;"B"OPERB	CORROSION OF FLOAT CHAMBER; CLEANED
G	VY1	016273B	101976	GS	LS	SH	B07	T	R	T	2	HPCI/CST LEVL SWITCHS 23-74 & 75 DID NOT ACTUATE	CORROSION PREVNTD PIVOT PLATE OPERATION
G	VY1	016271	102876	GS	PS	SQ	A14	T	R	T		RCIC HI STEAM DIFF.PRESS.SW.13-83 FAILD TO ACTUATE	SETPT DRIFT;BARTON MODEL 288
G	VY1	017646	042077	GS	LS	SN	B07	T	R	T		HI SUPPRSSN CHAMBR WATR LEVL FAILD TO TRIP AT SETP	SCALE & CORROSION IN SW.CHAMBR (23-19A)
G	VY1	017740*	042577	GS	FS	SN	A14	T	R	T	2	MAIN STEAM FLOW SWS. DPIS 2-120B & C FAILD TRIP	SETPOINT DRIFT; BARTON MODEL 278
G	VY1	019856	082277	GS	LS	SN	B08	T	R	D		1OF4 RX WTR LEVL ECCS INIT/ISOL SWICHS FAILD TO AC	MECURY SWITCH STUCK IN POSITION;REPLACED
G	VY1	019106*	091377	GS	TS	IC	A14	T	R	T	4	4 TEMP SWS. TS-23-101A,102A,103A,104A NOT ACTUATE	AT TECH SPEC LIMIT; SETPOINT DRIFT
G	VY1	019104	091777	GS	PS	SN	B02	T	R	D		1/4 INIT/ISOL. SWS. ON DELTA P SW.2-3-72A FAILD	MECURY BOTTLE NOT POSITIOND PROPERLY

RECURRING FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE&CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	VY1	019851	100977	MO	RR	NN	B13	N	R	T		AIR SAMPLNG PMP BEARNG FAILURE GRAPHITE VANES	CARBON BUILDUP INCRSNG PMP FRICTION
G	VY1	020465	012578	GS	LS	SN	808	T	R	D		1 SWITCH ECCS INITIATN/ISOL LEVL FAILD TO ACTUATE	POINTR COUNTERWEIGHT INTERFRNC WITH WIRNG
G	VY1	020678	021678	GS	PS	SH	A14	T	R	T		HPCI DP SWITCH DPIS 23-77 TRIPPD AT 197 INCHS	SETPOINT DRIFT--STEAM LINE BREAK HPCI DET
G	VY1	021810	061278	RC	TG	IC	B13	R	R	T		DRYWELL ATMOSPH TEMP RECORDR TR-1-149 INOPERABLE	FAILD IDLER ASSMBLY--DETECTD 7/5/78
G	VY1	021773*	062578	RC	TG	IC	B13	N	R	T	5	DRYWELL ATMOS TEMP RECORDR TR-149 INOPERABLE	BROKEN CORD ON CHART DRIVE MECHANISM
G	VY1	025812	031679	MO	RR	NN	B13	N	R	T		CONTAINMENT AIR MONITOR FAILED	SAMPLE PUMP SEIZED
G	VY1	026495	071279	MO	RR	NN	B13	N	R	T		CONTAINMENT AIR MONITOR FAILED	SAMPLE PUMP SEIZED
G	VY1	026585	073179	MO	RR	NN	B13	N	R	T		CONTAINMENT RAD MONITOR FAILED	SAMPLE PUMP SEIZED
G	VY1	032174	072180	GS	FS	IC	A14	T	R	T		MS-DPIS-2-120C SETPOINT OOT HIGH	SETPOINT DRIFT
G	VY1	032785	090880	MO	RR	NN	809	N	R	U		CONTINUOUS SAMPLE NOT BEING DRAWN AT SAMPLE STATN	STATION MAIN FUSE BLEW
G	VY1	032817	092980	GS	DG	NN	B12	T	R	T		POS [illegible] 6 ROD BLOCK ON CNTRL ROD 38-35 INOP	ROD POS IND SW FOR ROD 38-35 STUCK
G	VY1	033610A	113080	MO	RR	NN	809	N	R	U		CONTINUOUS SAMPLE NOT BEING DRAWN AT SAMPLE STATN	STATION MAIN FUSE BLEW
G	VY1	033610B	120880	MO	RR	NN	809	N	R	U		CONTINUOUS SAMPLE NOT BEING DRAWN AT SAMPLE STATN	STATION MAIN FUSE BLEW
G	VY1	033610C	120980	MO	RR	NN	B09	N	R	U		CONTINUOUS SAMPLE NOT BEING DRAWN AT SAMPLE STATN	STATION MAIN FUSE BLEW
G	VY1	036360	012081	MO	RR	NN	808	N	R	T		SAMPLE PUMP FOR A RIVER STATION MONITOR FAILED	BEARINGS SEIZED
G	VY1	036615*	031781	MO	RR	NN	B13	N	R	U	3	SAMPLE PUMPS AT STATIONS 1.3,1.5,&1.4 FOUND FAILED	NO CAUSE GIVEN FOR PUMP FAILURES
G	VY1	037331A	050581	MO	RR	NN	805	N	R	D		SAMPLE PUMP AT STATION 1.4 FOUND INOPERABLE	DEFECTIVE WINDINGS
G	VY1	037331B	051381	MO	RR	NN	805	N	R	D		SAMPLE PUMP AT STATION 1.4 FOUND INOPERABLE	DEFECTIVE WINDINGS
G	VY1	039096	101181	SE	DC	NN	808	N	R	D		IRPI FOR ROD 34-27 FAILED	PROBE WAS REPLACED,NO CAUSE GIVEN

COMMAND FAULT

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPES	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	CR3	025935	040479	MO	RR	NN	A00	N	S	D		BKR FOR RX BLDG RAD MON FOUND OPEN	NO CAUSE FOUND
B	CR3	027271	092579	SE	NT	PX	A07	N	S	D		POWER RANGE INST CH NI-5 WAS ERRATIC	LOSS OF AREA COOLING AROUND DETECTOR
B	CR3	037477	052281	TX	FG	CT	B09	N	S	U		EMERG FW ULTRASONIC FLOWRATE IND WOULD NOT RESET	FAILD POWER SUPPLY BOARD IN TRANSMITTER
B	DB1	019378	101177	PS	NT	PX	B06	N	S	D		RPS CHANNEL 1 ACCIDENTALLY DEENERGIZED DURING TEST	ERROR IN MAINTENANCE WORK ORDER
B	OE1	033363	112480	IN	LG	AS	A07	N	S	T		LOST LVL INDICATION TO STATION EWST	WTR IN AIR COMPRESSOR PROVIDES INSTRU AIR
B	OE3	030567	030280	TX	LG	NN	B07	N	S	U		BWST LVL CH 1 FAILD HI LVL XMITR BELLOWS FROZE	XMITR BOX CVR REMOVD REASON UNDETERMINED
B	TI1	014677	021976	HS	RR	NN	B03	N	S	D		FLOW RECORDR FR-123 NO OUTPUT TO CLOSE WDG-V47	TEST SWITCH FOR RECORDR LEFT IN TEST POS.
C	CC1	014901	051176	IN	NG	PX	A04	N	S	D		CH A RPS VOPT RESETTING AUTOMATICALLY	ELECTRICAL NOISE FROM ANNUNCIATOR
C	CC1	0236518	080178	LM	DC	NN	B13	N	S	T		COMPUTER FAILED CAUSING LOSS OF CEA PULSE COUNT PO	COOL. FAN FAILURE CAUSING SUPPLY CBK OPEN
C	CC2	026396A	061979	MO	RR	NN	A00	N	S	D		CONT GASEOUS AND PART RAD MON SAMPLE PUMP TRIPPED	THOUGHT TO BE SPURIOUS HIGH FLOW ALARM
C	CC2	026396B	061979	MO	RR	NN	A00	N	S	D		CON GAS AND PART RAD MON STBY PUMP FAILED TO START	THOUGHT TO BE SPURIOUS HIGH FLOW ALARM
C	CC2	031031	042880	TX	LG	NN	A08	M	S	T		ERRATIC LVL IN PRESSRZR LVL CNTRLS LT-110X/Y	XMITTR 2-LT-110Y DRAIN VLVS LEAKING THRU
C	FC1	026653	072479	PS	NT	PX	B00	N	S	D		'D' CHANNEL WIDE RANGE NUC INST FAILED	MAIN POWER FUSES,2 BUSS MDL-I'S BLOWN
C	PA1	031394	052180	TX	FS	SN	B00	N	S	U		LOOP 2A HPSI FLO INDCTN (FT-0312) INOP	RUPTURED BELLOWS CAUSED FLO XMITR TO FAIL
C	SL1	014849	050476	IM	DC	NN	B04	T	S	D		DATA PROCESSOR MALFUNCT. CAUSN LOSS OF CEA PULSE	CONT. PROGRAM SKIPPED 160K OF WORDS
C	SL1	014350	051276	ZZ	DC	SN	B04	N	S	D		POWER DEPEND. INSERTION LIMIT CHANGN IN NONCONSERV	DIR. AS POWER INCREASD;ERROR IN WIRING D.
C	SL1	017921	071276	LM	XG	NN	B02	N	S	D		DIGITAL DATA PROCESSOR MOMENTARILY DEENERGIZED	PERSONNEL TURNED OFF POWER SUPPLY
C	SL1	017871	050577	CM	PS	SN	A06	T	S	D		SETPOINT OF BISTABLE TRIP FOR S/G PRESS LT. TS LMT	SETPOINT NOT CHECKED DUE TO ERROR IN PROC
C	SL1	033188	081380	TI	XG	NN	B07	N	S	T		CEDM 7 FAILED CAUSG ITS DUAL CEAA TO FULLY INSERT	TIMING MOD OVERHEATD LACK OF VENTILATION
W	BV1	014691	051376	CM	TT	PX	B02	T	S	D		LOOP 1A OVERTEMP DT BISTABLE TRIPPED CAUSING RX TR	VOLTAGE SPIKE CAUSED BY PERSONNEL(MAIN.)
W	BV1	015915	083076	CA	XG	NN	B05	T	S	D		CONTROL SYS. DID NOT SHUT VALVE WHEN REQUIRED	WIRING DID NOT COFORM TO SYSTEM LOGIC
W	BV1	017694	042777	SE	NC	NN	B01	N	S	D		DECTOR #2 ALIGNED TO WRONG THIMBLE OF APDM SYSTEM	OPERATOR SELECTED WRONG THIMBLE
W	BV1	020794	022878	HS	NT	PX	B01	N	S	D		POWER RANGE CHANNEL N43 INDICATED ZERO	POWER SUPPLY NOT RESET AFTER LOSS OF PWR
W	DC1	016386	111976	MO	FG	NN	B02	N	S	D		TOTAL CHLORINE RESIDUAL INDICATED ABOVE LIMITS	PERSONNEL ERROR-RATE CONTROLLER SET HIGH
W	IP2	032932	101780	SE	NT	PX	B07	N	S	T		PWR RNG NI CHNL N42 DRIFTING INDICATION	DFCTV DET DUE TO MOISTURE IN ITS CONNECTR
W	JF1	026716	062779	MO	RR	NN	B00	N	S	D		FUEL STORAGE RAD MONITOR R-5 DECLARED INOPERABLE	FEED BREAKER FOUND OPEN,NO CAUSE FOUND
W	JF1	027182	091279	MO	RR	NN	B07	T	S	T		CNTNMNT GAS ACT-PURGE & EXHAUST MON R24-B INOP	VIBRATION CLOSED EXHAUST BYPASS VLV
W	JF1	030458	022980	CM	PT	PX	B12	T	S	T		B/S ERRATIC SETPT PZR PRESS CHNL DECLRD INOP	DIRTY GAIN POTENTMTR FOR LEAD/LAG CONTRLR
W	JF1	032917B	100980	PS	XG	NN	B13	T	S	D		NO MANUAL CNTRL OF D/G FREQ BLOWN FUSES IN PWR SUP	SHORT CKT IN VOLTAGE REGULATOR
W	JF1	036874	040481	TX	FT	PX	B08	T	S	U		FW FLO LOOP FT-486 INOP FAILD TOLERANCE REQUIREMNT	XMTR FT-486 ROOT VLV PLUG ASSMBLY CLOSED
W	JF1	038363	081381	MO	RR	NN	B09	N	S	U		R-11,-12 DEENERGIZED	MCC 600/280V POWER XFMR FAILED
W	JF2	038184	072781	TX	FT	PX	B08	N	S	U		2B S/G STM FLO XMTR FT-485 INOP	VLV PLUG CLOSD WHEN VLV HANDWHEEL OPEN
W	JF2	038532	080181	TX	LG	NN	B00	N	S	T		RWST LT-501 INOP WHEN LI-4075A FAILED HIGH	MOIST IN XMTR JUNCTN BOX DURG RAINSTORM
W	MG1	038416	081481	TX	LT	PX	B12	N	S	D		PZR LEVEL CH 3 FOUND INDICATING 30% HIGH	FITTING IN REFERENCE LEG FOUND LEAKING
W	NA1	030511	020880	CM	PS	SN	B09	T	S	D		CNTNMNT HI-HI PRESS CHNL 2 B/S FAILED TO TRIP	CRD COMP REGULATES 15V PWR SUP SHORTED
W	NA1	031436	061280	TX	LT	PX	A08	N	S	T		"A" SG LVL IND LI-1474 READ 5% HIGH	STM LEAK ON UPPR XMITR ISOL ROOT VALVE
W	NA1	032860	092680	TX	LT	PX	B08	N	S	U		PZR LVL XMITTER LI-1461 FAILED HIGH	FAILURE IN TEMP COMPENSATOR ON D/P UNIT
W	NA2	031827	07108C	IN	DG	NN	A14	N	S	T		MORE THAN 12 STEP DIFF BTWN RPI N7 & GRP DEMND IND	VOLTAGE DRIFT IN SIG CONDITIONING CARD
W	PR2	018818	081977	IN	XG	SN	B04	T	S	D		AUX BLDG VENT "NOT READY" MON LITES DID NOT ENERGZ	OPENING FAN BRKR DEGNRGZS LITE-DESIGN ERR
W	PR2	019895	120877	TX	PS	SN	A03	R	S	D		HEAD CORRCTN FOR PSZR PRESS XMITRS NOT APPLIED-CAL	PERSONNEL ERROR IN ESTAB CAL DATA-INI S/U
W	PT1	025586	033079	LM	NG	NK	B01	N	S	D		PLANT COMPUTER INITIALIZED INCORRECTLY RESULTING//	IN AXIAL FLUX NOT MONITORED. PERSONNEL
W	SA1	017017	012077	ZZ	FT	PX	B05	N	S	D		NO 12 RX COOLANT FLOW CHANNEL 1 BECAME INOPERABLE	SWAGELOK TUBE FITNG BACKED OFF-CONST EROR
W	SE2	171661	111281	SE	PG	NN	B11	N	S	D		2-PI-68-69 RCS WIDE RANGE PRESS HOTLEG WAS INOP	LEAK IN THE TUBING DUE TO A LOOSE FITTING
W	SU1	015548*	072176	GS	PG	NN	B06	R	S	D	2	2 PRESS.SW. JUMPERED OUT--CLS CONTNMENT HI SIGNAL	JUMPER LOG NOT REVIEWD AT PROPER TIME
W	TR1	014252*	011876	TX	FS	SN	B03	N	S	D	2	"C" STEAM LOOP FLOW XMTR ISOLATED CAUSN CONST OUTP	DID NOT RETURN XMTRS TO SERVICE
W	TR1	019113	090377	SE	NT	PX	B13	N	S	U		SOURCE RANGE CHAN N-31 FAILD TO ENERGIZE AT 10-10A	REMOVED& REPLACED FUSES;OPERATED OK THEN
W	TU3	032888	092680	ZZ	FG	CT	A07	N	S	T		"A" AFWP FAILD TO COMPLETELY DELIVER REQUIRED FLOW	IA DRYER OOS WTR IN AIR CNTRL FRM IA SYS
W	YR1	020973*	032378	MO	RR	NN	A02	T	S	D	4	ALL 4 STEAM GEN RAD.MONTR.SET AT 100 CPS VS 80 CPS	SETPTS NOT RETURND TO TS LIMIT AFTER TEST
G	BF1	016053	092376	GS	FS	SD	B02	T	S	C		CORE SPRAY SPARGER/VESSEL DP INST FOUND ALARMING	DP SWITCH FOUND VALVED OUT (LOOP 2)
G	BF1	033812	100780	RC	TG	NN	B13	N	S	U		AIR DIFF TEMP REC TDR-90-103/104 FAILED	COMP FAILURE IN MODEL 3450 DIGIT VOLTMTR

COMMAND FAULT

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE&CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	BF2	016211	101376	MO	RR	NN	B02	T	S	D		OFF-GAS POST-TREATMENT MON#(2-RM-90-265) IND WRONG	SENSING LINES REVERSED
G	BF2	036547	031181	TX	FS	SN	B00	T	S	U		CS SYS I 2-FI-75-21 FAILED TO INDICATE FLOW	XMTR FAILED RESULTED IN NO FLO INDICATION
G	BF3	016058	091476	CA	TG	NN	B02	T	S	D		THRMO. WIRING FOR TI-64-52 FOUND OPEN	PENETRATION CONNECTOR NOT TIGHTENED
G	BF3	033053	101980	TX	FG	CT	B07	N	S	T		FLO BIAS CKT OF APRM HI FLUX DRIFT HI DECLRD INOP	FT-68-5A(5B) SHRTD BY RHR H/X HEAD WTR
G	BF3	037425*	052581	GS	LT	PX	B00	N	S	U	2	RX WTR LVL INSTRUMENTATN 3LIS3-203A/B IND UPSCALE	LOST REF LEG ON THE WATER COLUMN
G	BR1	038855	100381	TX	LG	NN	A00	N	S	U		SUP CHMBR WTR LVL RECORDER 1-CAC-LR-2602 RDG ERR	TRICKLE FLO TO XMTR WET REF LEG CHANGED
G	BR1	039403	111881	TX	LG	NN	A00	N	S	U		SUP CHMBR WTR LVL RECORDER 2CAC-LR2602 ODT (LOW)	FLO TO 2CAC-LT2602 WET REF LEG CHANGED
G	BR1	172033	122881	TX	LG	NN	A00	N	S	U		SUPPRESSION CHAMBER LVL INDICATION INCORRECT	TRICKLE FLO TO IND XMTR WET REF LEG CHNGD
G	BR2	014633	021176	MO	RR	NN	B01	N	S	D		CONTAINMENT RAD MONITOR RECORDER SHOWED LOW FLOW	TX INLET VALVE CLOSED,2-CAC-AR-1261
G	CO1	017300	020377	GS	PG	SA	B08	T	S	U		ADS VALVE BELLOWS LEAK DETECTOR SWITCH FAILED	LOOSE LOCKNUT ALLOWED SETPOINT TO CHANGE
G	CO1	017519	030377	GS	PG	SH	A06	N	S	D		HPCI STEAM LINE ISOLATED WHEN PS VALVED INTO SERVI	PS VALVED INTO SERVICE TOO QUICKLY
G	DA1	014586	042776	GS	TS	SN	B03	T	S	D		MSL HI TEMP SW ELEMENT 4444 SHORTED-OUT	PERSONNEL ERROR DURING TESTING
G	DA1	015075*	062276	CM	TS	SN	A03	T	S	D	4	MSL HI TEMP TIS4445 4 SUBCHANNELS EXCEEDED LIMIT	PERSONNEL-MISCALIBRATION DURING TESTING
G	DR2	018181*	060377	GS	PG	SL	A02	T	S	D	2	LPCI VALVES E11-F017B & 2-1501-3A OP IMPROPERLY	PERSONNEL FEEDBACK POT MISADJUSTED
G	DR2	022590	092678	GS	FS	SN	B01	T	S	D		MSL(A) FLOW SWITCH 261-2D VALVED OUT	PERSONNEL ERROR-SURVEILLANCE NOT DONE
G	DR2	172754	122881	RE	PI	PX	B08	T	S	U		590-123B/AUX RELAY IN REACTOR PROTECT SYSTEM FAILS	MECH BINDING OF ACT MECH FAILED TO UP
G	DR3	021509A	052078	SE	NT	PX	B13	T	S	D		SRM 24 FAILED TO INSERT TO STARTUP POSITION	FAULTY DRIVE CABLE
G	DR3	022073	072078	GS	FS	SN	A02	T	S	D		MSL HI FLOW ISOL SW DPIS3-261-2C EXCEEDED SETPOINT	PERSONNEL-POINTER BENT DURING MAINTENANCE
G	EN1	014780	030476	SE	FG	SN	B03	N	S	D		FLOW RACK NOT VALVED BACK INTO SERVICE CORRECTLY	PERSONNEL ERROR
G	EN1	017096	011777	GS	PS	SA	B01	T	S	D		ADS PERM PRESS SW E11-N016A FOUND VALVED OUT	PERSONNEL ERROR
G	EN1	031728	070580	TX	PG	NN	B13	N	S	U		D/W PRESSURE RECORDER 1T48-R608 INOP	XMITR 1T48-N008A FAILED DUE TO BAD AMP
G	EN1	171632	120381	SE	PS	SN	B05	N	S	D		VCUUM RELIEF ISOL VLV 2T48-F310 DIDNT CLOSE	ERR INSTAL TOR/REACT BLDG.PRESS SENS LINE
G	EN2	022207	081778	RC	PG	IC	B04	T	S	D		TORUS PURIF SYS ISOL VALVE COULD NOT BE OPENED	WIRING TO PRESS RECORDER SW REVERSED
G	EN2	022735	100978	TX	LG	NN	B05	N	S	U		LEVEL INDICATOR 2C82-R005 READING HIGH	LEVEL XMTR SENSING LINES BACKWARDS
G	EN2	036735	032981	MO	RR	NN	B09	N	S	U		POST TREATMENT MON 2D11-K615A DRIFTING DWNSCL	24/48VDC BATT CHRGR 2AB NOT CARRYING LOAD
G	FP1	030342	020580	MO	RR	NN	A11	N	S	T		PLANT STACK GAS MON SYS INOP DUE TO FROZEN SAMPLE/	/ LINE. COLD WEATHER & HUMID AIR & VAPOR
G	FP1	032006	041880	TX	LG	CT	A13	T	S	T		FW CNTRL SYS LVL XMITTR [illegible]-LT-52A OOC	SEAT LEAK ON INSTR BYPS (EQUALIZING) VLV
G	FP1	037710	060481	SE	FS	IC	A12	N	S	T		MSL HI FLO INSTRUMENT DON'T RESPOND PROPERLY	LP SENSG LINE PRESS SNUBBER PLUGD W/ RUST
G	MI1	025388	022279	GS	PG	NN	A08	N	S	U		BELLOWS MONITOR ON 1-MS-3A WAS INOPERABLE	CRACKED TUBING
G	OC1	014524	041476	GS	FG	NN	B02	M	S	D		SENSING LINES IN STBY GAS TMT SYS REVERSED	UNKNOWN-THOUGHT DURING INITIAL INSTALLATN
G	OC1	014575	042576	GS	PG	SD	B11	T	S	D		CORE SPRAY SYS-SENSING LINE TO RV-8B PRESS SW LKNG	COLD CYCLE FATIGUE FAILURE
G	OC1	015086	070176	MO	FG	IC	A02	T	S	D		O2 CONCENT IN TORUS IND 5.4- TS IS 5.0 PERCENT	FOLLOWING CAL, SAMPLE FLOW ADJ INCORRECT
G	PB2	019020	091377	TX	LG	SN	B02	N	S	D		LO LVL GRP I LVL XMTR LT-2-3-99B FOUND OUT OF SERV	VALVING ERROR BY INST MECH AFTER CALIBRAT
G	PB2	019322	100577	SE	TG	NN	B02	N	S	D		TEMP ELE TE-4931D FOUND NOT INSTLD-MN STM TNL EXH	NOT REINSTLD FLWNG REPLCMT OF DUCTWORK
G	PB2	020481	020678	RE	RR	NN	B07	T	S	D		VALV AO-308 & HI FLOW ALARM DID NOT ACTUATE; TEST	INITIATING RELAY NAME TAG BETWEEN CONTACT
G	QC2	015157	062876	MO	RR	NN	B06	N	S	D		REFUEL FLOOR RAD MON 2B WAS FOUND OUT OF SER GT 24	PROCEDURE INADEQUACY-OUTG RPT QOS 1700-1
G	VY1	022252*	081478	GS	FS	SN	B01	N	S	D	5	HI STEAM FLO SWITCHS DPIS 116,117,118,119,120A-D	INOPERBLE DUE TO WRONG VALV LINEUP
G	VY1	023302	121078	TX	LG	IC	B00	N	S	U		TORUS WTR LEVL INDICATION INCREASN;TRANSFRD 3000GL	WTR LOST FROM REFERENCE LEG OF XMTR
G	VY1	026787	080679	MO	RR	NN	B02	M	S	D		RADIATION MONITOR FOUND INOPERABLE	SAMPLE PUMP WASN'T TURNED ON AFTER MAINT

RECURRING COMMAND FAULT

NSSS	PLANT	CONTROL NUMBER	EVE IT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPES	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	CR3	032855A	102880	MO	RR	IC	A06	N	T	D		RAD MON-A1 NOT CRRCTLY SAMP RX BLDG ATMOS DUE TO//	MAINT PROC W/ DET REMOV/REPLAC. DFCT PROC
B	TI1	014066	020476	MO	RR	NN	A01	N	T	D		TECHNICIAN LEFT COVER PLATE AJAR FOR 22 HOURS	INAD. PROCDRS PERTAIN TO REMOVAL/REPLCMNT
C	AR2	025216	010779	PS	DG	NN	A00	N	T	U		SPURIOUS CEA POSITION INDICATIONS	WEAK POWER SUPPLY,NO CAUSE GIVEN
C	AR2	025217	010979	CM	PS	SN	B00	N	T	U		"C" PPS FAILED RENDERING "C" PZR LP TRIP INOPERABL	BISTABLE #6 REPLACED, NO CAUSE GIVEN
C	CC2	036191B	011381	IN	PG	SN	B00	M	T	U		ESFAS ZD DEVIATION IN PRESS CHNL INDICATIONS	#22 ZD SG PRESS B/S METER WOULD NOT CAL
C	SL1	022302	081678	IM	NG	NN	A01	N	T	D		NONCONSERV. INCORE ALARM SETPOINTS USED FOR 61/4HR	USED INCORRECT FLUX INPUTS FOR SETPOINTS
W	DC1	027193B	092379	SE	NG	NN	A13	N	T	T	2	DETECTOR NOT MOVED WHEN REQUIRED. RELAY ON #4 //	DETECTOR DRIVE MOTOR STICKING
W	DC1	027193D	092479	SE	NG	NN	A13	N	T	T	2	DETECTOR NOT MOVED WHEN REQUIRED. RELAY ON #4 //	DETECTOR DRIVE MOTOR STICKING
W	IP2	172037	122381	MO	NT	PX	A01	T	T	D		IN-CORE FLUX TILT INSTR CHNL N44 CAL VALUE WRONG	TRANSCRIPTION ERROR IN CALIBRATION VALUES
W	JF1	021874	060478	MO	RR	NN	A01	N	T	D		PUMP FOR RAD MON R11 AND R12 TRIPPED ON LOW FLOW	LOW FLOW CUTOUT SWITCH SET .OO LOW
W	NA1	033176	111480	TX	LT	PX	A07	N	T	T		LI-1474 INDICATED HIGH	HI XMITR OUTPT DUE TO LEAKG ROOT ISOL VLV
W	NA1	033288	120180	TX	LT	PX	A07	N	T	T		LI-1474 SG A LVL CHNL I INDICATED HIGH	HI XMITR OUTPT DUE TO LEAKG ROOT ISOL VLV
G	BF1	019324A	100477	GS	LS	SN	B02	T	T	D	2	A NUMBER OF CRD ACC LEVEL SWITCHES FAILED TO ALARM	LUBRICANT ON SW FLOAT & FLOAT GUIDE SPOOL
G	BF2	019324C	100477	GS	LS	SN	B02	T	T	D		CRD ACCUMULATOR LEVEL SWITCH FAILED TO ALARM	FOREIGN MATERIAL IN LEVEL SWITCH
G	BF2	030268	012580	GS	LS	SN	A12	N	T	D		SW 1,2,&4 ON LIS-3-58A DID NOT OPER AT PROP SETPT	SW 4 HANGING ON MAGNET IMPROPER CLEARANCE
G	BR1	030897	040580	TX	FG	NN	A14	N	T	T		DYWL EQUIP DRAIN INTGRTN ERRONEOUS INDICATIONS	XMITTR DRIFT AIR IN INSTRMNT LINE
G	DR2	022777	101278	GS	PS	IC	B02	T	T	D		DPIS2-1622A ISOLATION VALVE FOUND CLOSED	MAINT PERS DID NOT OPEN VALVE AFTER SURVE
G	DR3	019987	121677	GS	PS	SH	B01	N	T	D		PS 3-263-53A WAS FOUND VALVED OUT-ISOL COND LOGIC	OPERATOR ERROR-VALVED OUT WRONG SWITCH
G	DR3	022772	101278	GS	PS	IC	B02	T	T	D		DPIS 3-1622A ISOLATION VALVE FOUND CLOSED	PERSONNEL-MAINTENANCE LEFT VALVE CLOSED
G	EN1	172143	121681	MO	RT	PX	A13	N	T	T		MSL RAD MON 1D11-K603B INOP HV REDUCED BELOW TRIP/	/LVL. DIRTY HV CONNECTOR
G	EN2	038798	091781	GS	DS	SN	B12	N	T	T		TORUS VA RELIEF VLV 2T48-F310 FOUND OPEN	EXPOSURE TO PROCESS ENVIRONMNT/CORROSION
G	FP1	028051	122379	MO	RR	NN	B07	N	T	D		DRYWELL ATMOS MON 'A' FAILED WHILE 'B' WAS OOS	MOISTURE IN SAMPLE LINES FAILED DET & PMP
G	FP1	030362	020880	MO	RR	IC	A07	N	T	T		DRYWL ATMOS MON A INOP TO INVSTGT EXCESS NOISE IN/	/ SAMPLE PUMP. MOISTURE IN THE SAMPLE
G	FP1	030840A	032580	GS	LS	SN	A12	N	T	T		CONDENSATE STORAGE TNK 23-LS-74A SET OOT	DIRT CAUSED PROBLEM
G	FP1	030840B	040180	GS	LS	SN	A12	N	T	T		CONDENSATE STORAGE TANK 23-LS-74A SET OOT	DIRT CAUSED PROBLEM
G	QC2	033684*	121080	ZZ	XG	NN	B00	N	T	U	6	2A RX RECIRC PMP MG SET FIELD BRKR TRIPPED	DFCTV TACHOMETER CONTROLS PUMP SPEED

COMMON CAUSE COMMAND FAULT

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE	CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	AR1	038482	080481	ZZ	NT	PX	A02	M	U	D			B RPS SCALD DIFF IN AMP GAIN SETTING ERRONEOUS	WRNG POTENTIOMETER ADJSTD IN PREVIOUS CAL
B	CR3	036319	020981	IN	LG	NN	A07	T	U	T			RC DRAIN TANK LVL IND ERRATIC	VAPOR CONDENSATN IN INSTR SENSING LINES
B	CR3	037941*	072281	ZZ	NT	PX	A14	T	U	D	4		ALL PWR RNG NI LESS CNSRVTY THAN ACCEPT CRITERIA	ROD INDEX CHANGD IN END-OF-CYC CR W/DRAWL
B	CR3	173642	092181	MO	RR	NN	B02	M	U	D			RAD MON RM-A5 RENDERED INOPERABLE	PERSONNEL SHORTED FUSE
B	DB1	030262	012280	SE	NC	NN	B04	N	U	D			NI-7 IND ON CMPTR GRP 38 RDG BELOW HEAT BALNC PWR	DESIGN ERROR EXTRMLY TGHT 100% CAL BAND
B	DB1	031417	053180	IN	FG	SH	A03	T	U	D			LOSS OF DECAY HEAT FLOW IND FI-DH28	TEST PERFORMED W/O SHIFT SUPER KNOWLEDGE
B	DB1	031472	060680	IN	LG	NN	A04	T	U	D			SPENT FUEL POOL LVL BELOW TECH SPEC	IMPROPER ALARM SETPOINT
B	DB1	031897	070980	MO	RR	NN	B02	T	U	D			SHRT CKT LOST Y3 THUS SFAS CHNL 3 CNTNMNT RAD INOP	PERS ERROR WRONG INSULATED ALLIGATOR CLIP
B	DB1	031906	080380	CM	XS	SH	B02	N	U	D			B/S BA413 REMOVED & CLOSED DH11 STOPPING FLOW	ERROR BY MAINTENANCE SPECIALIST
B	DB1	033097	102780	SE	PT	PX	B02	N	U	D			RPS-1 TRIPPED ON S/D/BYPASS HP TRIP	CNSTRCTN PERS BUMPED PRESS DET HOUSING
B	DB1	037654	061681	MO	RR	NN	B02	N	U	D			CNTNMNT RAD POST ACCIDENT MON RE5030 NOT RUNNING	BYPS DSCHRG HOSE KNOCKED OFF DURING MAINT
B	DB1	036395B	071281	PS	XS	SN	B00	T	U	U			DEFECTIVE CURRENT BUFFER	RAD -24 VDC POWER SUPPLY
B	DB1	038238	071781	SE	XG	CT	A06	R	U	D			AFW PUMP DSCHRG VLV SPEED ODC (HIGH)	SPEED ELEMENT PROBE NOT ADJSTD/PROC INADQ
B	OE3	019884	122877	TX	PT	PX	B06	N	U	D			XMTR LEFT VALVED OUT AFTER REPAIR TO TEST TEE	INCORRECT/INCOMPLETE VALVE CHECKLIST
B	RS1	032315	081380	CM	NT	PX	A01	N	U	D			RPS IN S/D BYPASS MODE & NUC OVERPWR TRP SETPT IN/	/CORRECT. OPERATOR ERROR
B	RS1	172867	121181	ZZ	XT	PX	B03	T	U	D			RPS CHANNEL INOP DUE TO TESTING ERROR	MAINT PERS INCORRECTLY TRPD BRKR
C	AR2	025208	012779	CA	DG	NN	A02	T	U	D			CEAC DEVIATION ALARMS WERE RECEIVED.//WHILE TROUBL	E SHOOTING CPC "B" CABLES IN CEAC1 DSTRBD
C	AR2	027033	090479	PS	LG	NN	B01	N	U	D			CNTNMNT BLDG SUMP LEVEL IND 2LI-5645-1 INOPERABLE	POWER TURNED OFF FROM POWER SUPPLY
C	AP2	033376A	120180	IM	XT	PX	B02	M	U	D			CPC "A" FAILED ON LOW VOLTAGE	MAINT PERS SHORTED SIGMA FLOW INDICATOR
C	AR2	033376B	120180	SE	DT	PX	B02	M	U	D			CEAC #1 FAILED ON LOSS OF REED SW POSITION IND	MAINT PERS SHORTED SIGMA FLOW INDICATOR
C	AR2	037472*	052081	SE	NG	NN	A05	N	U	D	2		SOURCE RNG NEUTRON FLUX MON SIG INCRSD NOISE INT//	RFRNC. DUE TO WELDER INTERFERENCE
C	CC1	037178	042481	CN	PS	SN	B02	M	U	D			ESFAS ZD CNTNMNT PRES. SENSOR OOS LOST +15 PWR SUP	ISOLATOR FAILD. INDUCED IN MODIFICATION
C	CC1	037290	052781	IN	FG	NN	B02	N	U	D			PZR SAFETY VLV ACOUSTIC FLO INDICATOR INOP	HEAVY OBJECT SEVERED HARDLINE CABLE
C	CC1	037494	061281	GS	LS	SN	A02	N	U	D			RWT LEVEL SWITCH 1-LS-4142C WAS ISOLATED	FAILURE TO RETURN LVL SW TO PROPER LINEUP
C	CC2	027535	102279	TX	PS	SL	A02	N	U	D			TECHNICIAN INSERTED DUMMY SIGNAL TO WRONG PRESS //	XMITTER CAUSING SI-651-MOV TO GO SHUT
C	CC2	036027	011881	TX	PG	NN	B02	N	U	D			PRESS XMTR 2-PT-103-1 FAILD HI CAUSG PORV TO OPEN	LOOSE OSCILLATOR/AMP ASSEMBLY W/ IN XMTR
C	CC2	038272	080481	ZZ	NT	PX	B02	N	U	D			NI POWER SPIKES CAUSG SPURIOUS RPS TRIPS	OVERTIGHT FUSEHOLDER INTERNALS BROKEN
C	MI2	033801	040380	CM	PT	PX	A04	N	U	D			A-RPS LO SG PRES BYPS REMVL B/S CARD HIGH SETPOINT	HI SENSTVTY TO CHANGE IN INPUT RESISTANCE
C	MI2	033118	102580	CM	NT	PX	A02	N	U	D			B/S SETPOINT DRIFTED HAD BEEN LEFT AT HI LIMIT	NONLIC. OPERATION PERSONNEL ERROR
C	MI2	172388*	122981	MO	RR	NN	B01	M	U	D	3		REQ # OF CNTNMNT RAD MON NOT OPERABLE	OPERATOR ERROR
C	MY1	026021	052479	CM	PT	PX	A02	R	U	D			RPS S/G LOW PRESSURE BISTABLE SETPOINT FOUND LOW	INCORRECTLY SET DURING PAST CALIBRATION
C	MY1	027009	091079	MO	RR	NN	A04	R	U	D			LIQUID RAD WASTE RAD MONITOR DID NOT RESPOND PROP	INSTALLED CHECK SOURCE TO SMALL
C	PA1	031954	071080	IN	XG	NN	A06	N	U	D			NI-03 NOT DCLRD OPERABLE PRIOR TO RX S/U	ADMIN CNTRL MECHANISM (EOR) NOT CLEARED
C	PA1	032156	071980	IN	FG	SN	B06	N	U	D			HSPI FLO TO LOOP 2B (FT-0313) INOP	INSTRMNT EQUALZG VLV NOT CLOSD AFTER CAL
C	SL1	031397	041980	MO	RR	NN	B01	N	U	D			LIQ WASTE DISCHARGE MONITOR ISOLATED	OPER PERS UNAWARE MONITOR WAS DISABLED
C	SL1	031695	050780	RE	XG	NN	B02	T	U	D			1A D/G DIDN'T SYNCHRONIZE TO EMERGENCY BUS	FREQ PERMISSIVE RELAY K49 SET INCORRECTLY
C	SL1	031646*	052080	LM	DG	NN	B00	N	U	D	2		DDPS MALFUNC LOST CEA BACK-UP POSITION INDICATION	PROGRAMMING ERROR
C	SL1	172200	121081	SE	NG	NN	B04	T	U	D			IN-CORE DETECTOR ALARM SET POINTS INCORRECT	COMPUTER SOFTWARE USED WRONG FLUX INPUTS
W	BV1	014606A	051276	CM	NT	PX	B01	N	U	D			OVERPOWER BISTABLE NOT TRIPPED WHEN REQUIRED	OPERATOR FAILED TO TRIP BISTABLES
W	BV1	014606B	051276	CM	TT	PX	B01	N	U	D			OVERTEMP BISTABLE NOT TRIPPED WHEN REQUIRED	OPERATOR FAILED TO TRIP BISTABLES
W	BV1	027398	111079	MO	RR	NN	B02	R	U	D			PARTICULATE RAD MON DECLARED INOP CNTNMNT ACCESS//	COVER NOT INSTALLED PROPERLY
W	BV1	033253A	112180	CL	FG	CT	A02	N	U	D			CNTRL PROB WITH BYPASS & MAIN FEED REG VLVS	CNTRL MODIF FOR VLVS NOT PROPERLY TUNED
W	BV1	033308	112280	TX	FT	PX	B01	N	U	D			MAIN STM FLO IND FI-MS-484 FAILED LOW	TRANSM BYPS VLV NOT CLOSED PERSNL ERROR
W	BV1	033487	120580	SE	TS	SN	A05	N	U	D			LO THERMOCOUPLE RDNGS BY BIT OUTLET ISOL VLVS NOT/	/ IN FULL PIPE CONTACT. CONSTRCTN ERROR
W	BV1	036045*	010881	SE	TS	SN	A06	T	U	D	2		RWST RECIRC LINE FROZEN	HEAT TRACE CKT THERMOSTATS IN OFF POS
W	BV1	038232	071981	GS	XS	SN	A06	M	U	D			B SSPS INOP DUE TO ERRATIC RX TRP & SI SIGNALS	WIRING CHANGE TO OUTPUT RELAY SELECTOR SW
W	BV1	171812	111681	HS	FT	PX	B02	N	U	D			RCP UNDERVOLTAGE RX TRIP FOUND DISABLED BY SWITCH	PERSONNEL ERROR
W	DC1	026820	012279	GS	NS	SN	A02	N	U	D			APDMS ALARM SETPOINT SWITCH SET AT WRONG SETPOINT	PERSONNEL ERROR
W	DC1	026506A	072079	SE	FG	AG	A02	N	U	D			BORIC ACID FLOWMETER NOT INDICATING PROPERLY	METER WAS NOT PROPERLY CALIBRATED
W	DC1	027607	111179	CM	FT	PX	A02	N	U	D			WRONG STEAM FLOW CHANNEL PLACED IN TRIPPED CONDIT/	/ION. LABELS WRONG OR PERSONNEL ERROR

COMMON CAUSE COMMAND FAULT

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	DC1	027932	122179	ZZ	NG	SN	A01	N	U	D		APDMS F(Z) SETPOINTS SET WRONG DUE TO PERSONNEL //	NOT USING APPROPRIATE THIMBLES
W	DC1	030746	032180	ZZ	NG	NN	B03	N	U	D		UNIT 1 APDMS & P-250 APDMS LIMITS INCORRECT	NUCLEAR SECTN PERS USED U-2 LIMITS
W	DC1	039122	102181	SE	XG	NN	B01	N	U	D		CD D/G RM FLOOR PEAK ACCELERATION RECORDER REMOVED	OCCURRED DURING CONSTRUCTN IN AREA
W	DC1	171681	112381	MO	RR	IC	A02	M	U	D		CONT RAD BYPASS VLVS WERE FOUND OPEN	MAINTENANCE PERSONNEL ERROR
W	DC2	033495	120680	CA	DG	NN	A02	N	U	D		ROD POS IND FOR N-9 INCORRECT	CONNECTOR DAMAGED BY BEING STEPPED ON
W	DC2	036727	033181	GS	LS	SN	A01	N	U	D		REC'D LO LVL ALRM ON SPRAY ADDITIVE TANK	ALARM WIRED BACKWARDS/CNSTRCTN IN AREA
W	DC2	037005	041581	CM	PT	PX	B04	R	U	D		TURB IMPULSE CHAMBR PRESS B/S SETPT IN ERROR	ERROR IN ENGR. DOC & T.S. TABLE
W	IP2	031690	062180	GS	XG	CT	A01	N	U	D		#23 AUX FW PUMP CNTRL SW IN LOCAL POSITION	UNAUTHRZD ACTUATN OF SW BY SECURITY PERS
W	JF1	026249*	062379	SE	NT	PX	B06	T	U	D	2	BOTH SOURCE RANGE CHANNELS INADVERTENTLY DEENERGIZ	//ED DURING TEST. DEFECTIVE PROCEDURE
W	JF1	027480*	110777	CM	PT	PX	A03	T	U	D	2	BISTABLES ASSOCIATED WITH PZR PRESS TX PT455 NOT//	TRIPPED WHEN ISO VLV CLOSED. PERSONNEL
W	JF1	031334	050180	MO	RR	NN	B02	N	U	D		RAD MON R25A INOP DUE TO PWR LOSS	CNNCT/DISCNNCT TEST EQUIP BLEW FUSE
W	JF1	031326	051680	RC	XG	NN	B02	N	U	D		1-2A D/G INOP DUE TO SPEED CNTRL FAILURE	WRONG RECORDER INSTALLED BLEW FUSE
W	JF1	031302	051980	GS	XG	NN	A01	N	U	D		D/G 2C INOP SJWCP SW IN RUN VICE AUTO POSITION	NONLIC. OPERATIONS PERSONNEL ERROR
W	JF1	038367	081281	MO	RR	NN	B02	M	U	D		VAC PMP PWR SUP BRKR TO R11-R12 INADV RACKED OUT	MAINT/REPAIR PERSONNEL ERROR
W	JF2	038186	071781	TX	FT	PX	B04	N	U	D		STM FLO XMTR FT-474 INOP BREAK IN XMTR VENT PIPE	OVERSIZED VLV USED IN SENSG LINE
W	JF2	038185	071881	RC	PG	NN	B02	T	U	D		TEST PERS CNNCTD 14 INSTR ISOL OUTPUT SIG TO TAPE/	/RECORDING EQUIP. ALL SIG SHORTED TO GRD
W	JF2	038183	072081	MO	RR	NN	B05	N	U	D		TDAFWP EXHST RAD MON R60D INOP PC CARD FAILURE	SHORT BTWN MOUNTG HARDWARE & PC CARD
W	JF2	172099	122881	SE	XS	SN	B05	M	U	D		BLOWN CNTRL PWR FUSE MADE "A" BIT HEAT TRACG INOP	INSTALLATION ERROR
W	KE1	031476	061980	MO	RR	SN	B01	N	U	D		SG BLOWDWN RAD MON R19 OOS	PERS ERR ISOLATED MONITOR
W	KE1	033012	092580	ZZ	XG	NN	B00	N	U	D		OVERPWR/TEMP DELTA-T RPS CHNLS INOP	MECH CNNCTN BTWN VLV PLUG/STEM FAILED
W	MG1	038911	082281	PS	NT	PX	B02	T	U	D		NUCLEAR INST PWR RANGE CH N-44 POWER SUPPLY TRIP	N-44 CIRCUITRY ACCIDENTLY GROUNDED
W	NA1	025765	030879	CN	NT	PX	A02	T	U	D		NONCONSERVATIVE GAIN FOUND ON DELTA-FLUX SIGNAL	PERSONNEL ERROR
W	NA1	026093*	060879	ZZ	DG	NN	B03	N	U	D	2	IRPI'S M-10 AND D-10 INADVERTANTLY TAKEN OUT OF //	SERVICE. PERSONNEL TESTING
W	NA1	026566	062079	ZZ	LT	PX	B09	N	U	D		PZR LEVEL CH LT-1460 DECLARED INOPERABLE	ENERGIZING OF WELDING MACHINES
W	NA1	033650	123080	CM	LT	PX	A01	N	U	D		SG WTR LVL LO-LO RX TRP SET OOT (LOW)	ADMIN PERS OVRSGHT LOLO LVL COMPRTR RECAL
W	NA1	036116	011781	MO	RR	NN	B02	N	U	D		POWER WAS LOST TO RAD MON COMMON ALARMS PANEL	PERSONNEL TRIPPED SUPPLY BREAKER
W	NA1	036859	040681	CA	TT	PX	A02	N	U	D		THE IND FOR CH III OT/TAVG FOUND READING HIGH	PERSONNEL FAILED TO TIGHTEN LUGS
W	NA1	0373938	051881	SE	NG	NN	B01	N	U	D		INCORE DETECTORS NOT USED WHEN REQUIRED	PERSONNEL OVERSIGHT
W	NA2	0323868	082280	TX	FG	NN	A02	N	U	D		LOOP C STM FLO CH XMITTR ERRONEOUS INDICATION	IMPROP XMITR VLV LINEUP RESULT OF PERS ER
W	NA2	032945	091880	ZZ	NT	PX	A03	R	U	D		NUCLEAR POWER RANGE CHNLS INDICATED OOT (LOW)	SHIFT SUPERVSR MISINTERPRETED PT CRITERIA
W	NA2	037046	042381	MO	XG	NN	B03	N	U	D		CH "A" REACTOR COOLANT SYS SUBCOOLING MON DECLARE-	-D INOP. PERSONNEL ERROR
W	NA2	038355	080881	HS	XG	SN	A03	N	U	D		A MISALIGNED SWITCH CAUSED INADVERTANT SI	PERSONNEL TESTING
W	NA2	171657	120981	HS	XT	PX	A01	T	U	D		SSPS B TRN INPUT ERR SWITCH IN INHIB POSITION	LICENSED CPERATOR ERROR
W	PR1	0204318	011078	SE	NT	PX	B03	T	U	D		CONTROL ROOM LOST ALL SOURCE RANGE INDICATION	TEST PRSNL DISCONN CH N32 VS CH N31
W	PR1	026267*	052579	PS	NT	PX	B06	N	U	D	2	BOTH NIS CHANNELS DEENERGIZED AS SAME TIME	PROCEDURE DIDNT STATE HOW MANY
W	PR1	031703*	063080	SE	NT	PX	A01	N	U	D	2	2 NIS PWR RNG HI PWR TRP SETPTS SET OOT (HIGH)	PERS ERR PRESCRIBG T.S. SETPT
W	PT2	023123*	120978	SE	TT	PX	B02	N	U	D	4	LOOP "A" RTD MANIF ISOLATED WHILE RX WAS CRITICAL	PERSONNEL OVERSIGHT
W	PT2	030846	040880	SE	PT	PX	B03	T	U	D		PZR LVL CHNL 427 FAILED LOW BY I+C TECH	PERS ERR DURING TESTING OF LOGIC CHNLS
W	RG1	0368258	040281	MO	RR	NN	B06	N	U	D		RAD MONITOR R-10A NOT PLACED IN SERVICE AFTER FAI-	-LURE OF R-11 & 12. DEFECTIVE PROCEDURES
W	RO2	026054	050579	SE	NT	PX	B01	N	U	D		POWER WAS LOST TO N-32 SOURCE RANGE DETECTOR	PERSONNEL ERROR
W	RO2	027652	073179	HS	PG	SN	B06	R	U	D		ON 111279 DISCOVERED THAT A SAFEGUARD TEST SW IN//	B SL HI DP TRAIN LEFT IN TEST. PROCEDURAL
W	RO2	031119*	042480	PS	NT	PX	B06	T	U	D	2	SOURCE RNG CHNLS N31 + N32 INADVRTNT DEENERGIZED	OCCURRD DURING PT-PROCEDURE DFCTV PROC
W	RO2	031215	051780	SE	NT	PX	A01	N	U	D		PWR RNG HI FLUX SETPT NOT RESET AS REQUIRED	PERSONNEL MISINTERPRETED TECH SPEC REQ
W	SA1	025074	011679	MO	RR	IC	B06	T	U	D		RMS CHANNEL NOT RESET AT RMS(1R11A)	PROCEDURE DIDNT STIPULATE RESETING
W	SA1	028007*	112179	MO	RR	IC	B04	N	U	D	2	RADIATION MONITORS MADE INOPERABLE	OVERLOAD FROM TEMP EQUIPMENT TRIPPED BKR
W	SA1	030699	011780	IN	PG	IC	A01	N	U	D		CNTNMNT PRESS ALLOWD TO INCRS ABOVE TECH SPEC LMT	A DESIGN CHANGE HAD NOT BEEN INCORPORATED
W	SA1	030376	020580	GS	XG	NN	B01	N	U	D		FILTER FAILURE ALARM REC'D FOR APD	MICRO-SW FAILD BUMPED BY PERSONNEL
W	SA1	030621	031980	MO	RR	NN	A02	M	U	D		POWER SUPPLY GROUNDED BY INSTRUMENT PROBE	PERSONNEL ERROR
W	SA1	166709A	052181	ZZ	LG	IC	B04	N	U	D	2	PARTIAL BLACKOUT CAUSED LOSS OF CNTNMNT SUMP LEVEL	DESIGN ERROR IN D/G BREAKER
W	SA1	039199	072281	TX	PT	PX	B07	N	U	D		CNTNMNT PRESSURE HI-HI CH 1 KEPT SPIKING	NEARBY STEAM LEAK AFFECTED TRANSMITTER

COMMON CAUSE COMMAND FAULT

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	SA2	1667098	052181	ZZ	LG	IC	B04	N	U	D	2	PARTIAL BLACKOUT CAUSED LOSS OF CNTNMNT SUMP LEVEL	DESIGN ERROR IN D/G BREAKER
W	SA2	171736*	122281	IN	LC	NN	B00	N	U	D	2	BAST BAZEL INDICATORS FOR BAST'S 21 & 22 FAILED	NITROGEN SUPPLY DEPLETED
W	SE1	031968*	071180	MO	RR	NN	B11	N	U	U	2	U/L CNTNMNT AIR RAD MON INOP SAMP AIR VLVS CLOSED	UNKNOWN CAUSE OF LOSS OF CONTROL AIR
W	SE1	032975*	101480	GS	PG	NN	B04	N	U	D	2	ERCW MON 0-RE-90-134/141 INOP SPURIOUS HI SPIKES	PS-3-138A/B CHATTER PRODUCED ELEC PROBLEM
W	SE1	033141	102980	TX	PG	NN	B05	N	U	D		AUX CNTRL RM CNTNMNT 1-PI-30-30C RDG ERRONEOUS	XMITR SENSE LINE IMPROPERLY INSTALLED
W	SE1	033143*	110180	CM	TT	PX	B07	N	U	T	2	LOOP 1 OT DELTA T & OP DELTA T B/S OOT	ELEVATED RM TEMP DUE TO NO AIR CONDITIONG
W	SE1	033604	121680	RE	XG	NN	B00	T	U	U		D/G 1A-A FAILED TO START	FAULTY RELAY IN D/G CNTRL CKT BLEW A FUSE
W	SE1	033686*	122880	IN	LG	NN	B07	N	U	T	2	REMOTE S/D MON 1-LI-68-325C/326C RDG HIGH	VLV LEAKG IN COMMON DRAIN LINE FOR XMITRS
W	SE1	036073	010281	ZZ	LG	CT	B11	N	U	D		CONDENSATE STORAGE TANK LEVEL FAILED LOW	IMPROPERLY TIGHTENED FITTING
W	SE1	037608*	053181	TX	PT	PX	B01	N	U	D	3	INADVERTENT SI OCCURRED WHEN TWO-WAY RADIO USED A-	-ROUND PZR PRESSURE TRANSMITTERS
W	SE1	039265	102881	PS	NT	PX	B03	N	U	D		POWER RANGE CHANNEL N-41 DECLARED INOP	POWER SUPPLY NOT RETURNED TO SERVICE
W	SE2	171655	110581	PS	NT	PX	B06	N	U	D		THE NIS PR CHANNEL III N-43 WAS INOP	INSTRUM PWR FUSE TO CHANN N-43 WAS PULLED
W	SO1	031058*	042080	SE	NT	PX	B05	N	U	D	2	LEAK THRU RX VESSEL TO REFUELING CANAL FLANGE CAU/	/SD SOURCE RNG NI 1201/2 FAILR. INSTL ER
W	SO1	031075	050680	ZZ	XG	NN	B04	N	U	D		INCORE FLUX THIMBLE BENT OUTWARD DEGRADTN OF PRIM/	/ARY COOLANT BDRY. DESIGN ERROR
W	SO1	037803*	061881	CL	PG	NN	A02	N	U	D	2	PORV OPENED TWICE DUE TO CONTROLLER MALFUNCTION	TIME CONSTANT TURNED OFF
W	SU1	037547	060381	IN	LG	NN	B01	N	U	D		HIGH LEVEL ALARM FOR SPENT FUEL PIT DEFEATED AND -	-AN UNPLANNED RELEASE OCCURED
W	TR1	032816	092480	SE	FT	PX	A06	R	U	D		RX TRP SETPTS INCRRCTLY SET FOR HI STEAM FLOW	ERROR IN PROCEDURES MANUAL
W	TR1	036302C	013081	SE	NT	PX	B13	N	U	D	2	"A" & "B" SOURCE RANGE CH'S FAILED TO ENERGIZE	FAILED SURGE PROTECTION DEVICE
W	TR1	037903	062681	ZZ	LG	NN	B01	N	U	D		PZR LEVEL WAS LOST	IMPROPERLY VENTED PZR
W	TU3	037161*	042081	CM	NT	PX	B06	N	U	D	2	ALL BISTABLES FOR NI N-43 WERE NOT PLACED IN TRI-	-P NI INPUT TO COMPUTER. PROCEDURAL
W	YR1	025460	030379	SE	PS	SN	B06	N	U	D		LOW MAIN COOLANT PRESSURE SENSOR PLACED IN AUTO TO	//SOON. DEFECTIVE PROCEDURES
W	YR1	032987	101280	TX	LT	PX	A04	M	U	D		LOW LEVEL SCRAM SETPOINTS BELOW TECH SPEC LIMITS	HARD TO VENT XMITR DUE TO LINE CONFIGRIN
W	ZI1	032441*	081280	GS	XT	PX	A06	T	U	D	2	RX TRIP SW SET 11 PSIG OFF IN CONSERVATIVE DIRCTN	FAULTY TEST GAUGE USED BY INSTR MECHANICS
W	ZI2	038055*	071081	RE	XS	SN	B01	T	U	D	2	COMPONENTS DID NOT ACTUATE FROM TRAIN "A" SI	PS BRKR SWITCH FOR RELAYS SX/29-1 WRONG
G	BF1	030549	031280	RE	LS	SH	B02	T	U	D		RELAY 23A-K42 WIRED WRONG NO HPCI RX HI WATER LVL/	/ TRIP. MAINTENANCE PERSONNEL ERROR
G	BF1	030909	040680	GS	TS	SH	B02	N	U	D		HPCI STM LINE SPACE HT SW TS732A WRNG TYP SW INSTA	MAINT PERS ERROR
G	BF1	031758	062480	GS	PT	PX	B02	N	U	D		CNTRL VLV FAST CLSR PS-47-144 WAS MISWIRED	MAINTENANCE PERSONNEL ERROR
G	BF1	032408	081480	ZZ	TG	SL	A02	N	U	D		1A RHR AREA COOLER FAN THERMAL OVERLOAD IMPROP SET	CONSTRUCTION PERSONNEL ERROR
G	BF1	037474	060981	PS	XS	IC	A02	N	U	D		PWR SUP STOPD TO SECONDRY CONT DOOR INTERLOCKS	WIRES LIFTED FROM PWR SUP CNSTRCTN PERS
G	BF1	039358	110381	GS	PG	NN	A02	N	U	D		RECIRC PUMP "A" TRIPPED	PERS SHRTD PS-3-204A AT TERMINAL STRIP
G	BF1	039336	110681	MO	RR	IC	A06	N	U	D		D/W AIR SAMPLER HI ALRM SET ABOVE 3X BACKGROUND	SETPT NOT REVISED DOWN AFTER BCKGRD DECRS
G	BF1	172489	112381	MO	RR	NH	B01	R	U	D		CAM 1-RM-90-250 WAS INOP/REQ SAMPS NOT TAKEN	PERSONNEL ERROR
G	BF2	018632*	081477	GS	LT	PX	A01	T	U	D	2	TWO RX WATER LOW LEVEL SCRAM SWITCHES WERE +20 IN.	REFERENCE LEVEL COLUMN B WAS NOT FULL
G	BF2	036021*	011981	GS	LT	PX	A02	T	U	D	5	RX WTR LIS-3-203A #1;-3-A-D #2 FOUND OOT	DRIFTED DUE TO AIR IMPACT DRILLING
G	BF2	039009	101081	IN	PG	SQ	A02	T	U	D		2-PI-75-48 INDICATED OOT (LOW)	ISOL VLV TO XMTR LEFT CLOSED
G	BF2	172402	110681	MO	RR	NN	A01	N	U	D		D/W AIR SAMPLER SETPOINT INCORRECT	PROCEDURAL ERROR
G	BR1	027676*	120779	GS	PS	SA	B03	T	U	D	2	CORE SPRAY/RHR RUNNING ANNUN NOT REC'D. ISO VLVS/	/FOR SW'S 1-E21-PS-N008B & 98 FOUND SHUT
G	BR1	036088	011581	HS	XG	SQ	A01	T	U	D		SYS OIL COOLER INLET ISOL VLV INOP FROM RTGB	KEY LOCK SW NOT FULLY TURNED TO NRML POS
G	BR1	036583	022081	TX	LG	NN	A02	N	U	D		SUPPRESSION POOL 1-CAC-LT-2602 ERRONEOUS READING	INSUF VENTG OF HI SIDE SENSING LINE
G	BR1	168051	070681	CA	DG	NN	B02	N	U	D		RPI CABLE CONECTOR CAUSED ERRATIC RPI FOR ROD22-07	NOT TIGHTENED AFTER MAINTENANCE
G	BR1	172765*	123181	PS	LS	SD	B06	T	U	D	2	AUTO START AND INJECT OF 1A AND 1B CORC SPRAY SYST	LOSS OF INSTR POWER PROCEDURAL DEFICIENCY
G	BR2	014197	011676	GS	PG	SL	B01	N	U	D		CS AND RHR VALVE OPENING PERM SW FOUND ISOLATED	PERSONNEL ERROR,B21-PS-N021C LEFT ISOLATE
G	BR2	032104*	073180	PS	NT	PX	B09	N	U	D	4	IRM'S B,C,D,&F RDG HIGH FROM EXCSSV AC RIPPLE	DEFCTV INSTR DRW PS INPUT FILTR CAPACITOR
G	BR2	032708A	091580	ZZ	LG	SN	A03	T	U	D		SUPPRESSION POOL LVL EXCEEDED TECH SPEC	NOT CONSTANTLY MONITORING PERSONNEL ERR
G	BR2	037115	051381	GS	XS	IC	B01	M	U	D		ECCS ACTUATION INSTR ISOLATN NOT RECOGNIZED	LICENSED & SENIOR OPERATORS ERROR
G	BR2	172078*	121681	TX	LS	SN	A00	N	U	U	2	RTGB INSTR 2-CAC-LR-2602,LI-2601-3 RDG INCORRECTLY	TRICKLE FLO TO XMTR WET REF LEG CHANGED
G	CO1	027966	120679	GS	FS	SH	A02	M	U	D		HPCI-DPIS-76 CAUSED HPCI ISOLATION AFTER MAINT.	INST IMPROPERLY PLACED BACK IN SERVICE
G	CO1	030012	010280	GS	PS	SH	B01	T	U	D		HPCI AUX OIL PUMP SW IN "PULL-TO-LOCK" POSITION	INSTRUMNT/OPERATION PERS IMPROPR PROCEDUR
G	CO1	031415	051880	RE	XS	SN	A05	T	U	D		CNTCTS 52B/EG/62 LEFT CNNCTD IN CORE SPRY PMP CKT	PERS ERR INADEQUATE CNTRL OF CNSTRCTN
G	CO1	037236A	041481	TX	XC	NN	B05	T	U	D		3 OR 4 SCRAM DSCHRG HEADER CMS CHNLS FAILED	MARGINAL CRYSTALS USED IN TRANSMITTER

COMMON CAUSE COMMAND FAULT

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	DA1	015036	061476	RE	XG	SH	B03	N	U	D		RELAY BLOCK LEFT IN HPCI ISOLATION TRIP RELAY	PERSONNEL DID NOT REMOVE BLOCK AFTER TEST
G	DA1	021862*	061778	RE	XT	PX	B05	T	U	D	7	7 RPS RELAY AUXILIARY SW FAILED CLOSED,CAUSE SCRAM	SCRAM RETAINING SCREWS NOT TIGHTENED PROP
G	DA1	033411*	121780	TX	LG	NN	A02	N	U	D	2	SUPPRESSION CHAMBER LT-43638,2325 MISCALIBRATED	PERS NOT FOLLOWING ESTAB CAL PROCEDURE
G	DA1	171889	120881	PS	LS	IC	B02	N	U	D		TORUS LEVEL INDICATION ASSOCIATED WITH LT-2325 WA-	-S LOST. SUPPLY FUSES INADVERTANTLY PULL
G	DR2	171576	121481	IN	PG	SH	A02	N	U	D		REAC VESSEL ECCS PERM L-PRESS ALARM WOULDNT RESET	INSTR MECHANIC DIDNT REOPEN ISOL VLV
G	EN1	030205	012080	RC	PG	NN	A06	N	U	D		TORUS TO D/W D/P RECORDER 1T48-R631B RDG LOW	DFCTV PROC ALLOWED WTR INTO SENSING LINE
G	EN1	030229*	020180	RE	XG	NN	B00	I	U	T	2	1C71-K3G/H SCRAM RELAYS DEENERGZD ASSOC MSIV OPEN	MSIV LMT SW ACTUATING ARM VIBRATED LOOSE
G	EN1	033851	042380	GS	PS	SN	B04	N	U	D		DRYWELL/TORUS D/P RELIEF VLV OPENED OOT (HIGH)	DESIGN PRBLM W/ PRESS SW SENSING LINES
G	EN1	037721*	063081	GS	PG	NN	A02	N	U	D	3	D/P INSTR T48-N081,N082,N083 ISOLATED	FAILURE TO FOLLOW PROCEDURE
G	EN1	037952	070181	GS	LS	SA	A02	T	U	D		RX RECIRC PMP TRPD/RX WTR LVL INSTR 1B21-N042B IN/	/SERVICE. TECH VALVED INSTR IN TOO FAST
G	EN1	037953	070781	IN	LG	NN	A02	N	U	D		TORUS WTR LVL INDICATOR 1T48-R522B INOPERABLE	INSTR SENSG LIN NOT PROPERLY BACKFILLED
G	EN1	167605*	070881	GS	PS	SN	B01	M	U	D	2	ROOT VLV FOR LOW CONDENSER VACUUM SW'S B21-N056A&-	-B FOUND OOA. PERSONNEL ERROR
G	EN1	038895*	100981	GS	PS	SN	B04	N	U	D	3	TORUS TO RX BLDG DP SW 1T48-N211,2T48-N210/N211 //	OOC. MISAPPLICATION OF SW DURING DESIGN
G	EN2	025989*	051779	IM	FS	SN	A06	N	U	D	2	ISO TRIP SETPOINT OF ALARM UNITS 2631-K603A&B SET/	/INCORRECTLY. PROCEDURAL ERROR
G	FN2	025990*	052379	SE	FG	CT	A05	M	U	D	2	FEEDWATER FLOW TAPS FOR FLOW ELEMENTS 2C32-N001A&B	//PIPED UP TO WRONG TAP. CONSTRUCTION
G	EN2	026193	061179	MO	RT	PX	A02	T	U	D		MSL HIGH RAD TRIP SET POINT FOR 2D11-K603D OOC	SET INCORRECTLY ON 060379
G	EN2	030192	012980	ZZ	DG	NN	B04	N	U	D		RSCS INOPERABLE	ERRONEOUS DESIGN CHANGE
G	EN2	030899	040580	TX	LG	NN	B02	N	U	D		TORUS WTR LVL INSTR 2T48-R070 DWNSCL	XMITTR INSTALL BCKWRD 3-11-80 MAINT ERR
G	EN2	030983	041180	ZZ	XG	NN	B03	M	U	U		"B" SBGT FILTER TRAIN 2T46-D001B WOULDN'T AUTO ST/	/ART. PREVIOUSLY TRIPPED DURING TESTING
G	EN2	030951	041680	LS	DG	NN	B05	R	U	D		NON-QUALIFIED MSIV LMT SW WHERE A QUALIFIED IS REQ	ERROR IN INSTALLATION
G	EN2	031320	052480	GS	PS	IC	B02	M	U	D		PRIMARY CONT PRG VAC BRKR PS 2T48-N211 INOP	SW INCORRECTLY WIRED MAINT/REPAIR ERROR
G	EN2	033892	072280	GS	LT	PX	B01	N	U	D		SCRAM DSCHRG VOL HI LVL ROD W/DRWL BLCK LVL SW 2C/	/11-N013E INOP. VALVING ERR BY OPERATOR
G	EN2	032135	072480	RE	XS	SH	B02	N	U	D		SPURIOUS HPCI ISOLATION	MAINT PERS HIT HPCI STM LEAK DETCTN RELAY
G	EN2	036630*	032381	GS	PS	SN	A02	N	U	D	12	HI D/W PRESS SW 2C71-N002A-D;2E11-N010A-D;2E11-N//	011A-D INOP. PERS CLOSD PANEL VALVES
G	EN2	037905	062281	TX	LS	IC	A02	N	U	D		LO FLUID LVL IN XMTR 2T48-N010A	REF LEG SENSG LINE IMPROPERLY BACKFILLED
G	EN2	172207	121181	LS	DG	SQ	A01	T	U	D		RCIC INOP DUE TO TURB STM INLET VLV TESTING	MIS-POSITIONED LIMIT SW ON STM INLET VLV
G	FP1	016777	011277	GS	PS	SL	A06	T	U	D		RHR AND LPCI SETPOINTS HIGH UPON INCREASING PRESS	SETTING MADE ON DECREASING PRESSURE
G	FP1	023098*	121578	GS	TG	SH	A02	T	U	D	8	8 TEMP SW SETPOINTS 178F VICE 140F	TECH USING WRONG TEST EQUIP AND TABLES
G	FP1	030115*	011080	SE	TG	NN	A02	T	U	D	2	RECIRC LOOP TEMP INSTRUMENTS OOC	MAINT PERS USED WRONG TYPE OF TEST SIG
G	FP1	030316	020580	ZZ	DG	SN	A06	N	U	U		ROD SEQUENCE CNTRL SYS DIDN'T COME INTO SERVICE //	AT EXPECTED PWR LVL. CALIBRTN PROC ERROR
G	FP1	031014	041780	SE	NT	PX	B01	N	U	D		LPRM C BYPASSED MAKING APRM F INOPERABLE	LICENSED/SENIOR OPERATORS ERROR
G	FP1	031164	042880	TI	XG	NN	A01	N	U	D		OFF-GAS TIMER OOT (HIGH)	ACCIDENTAL BUMPING/LOOSEN OF ADJST KNOB
G	FP1	031162*	043080	GS	PS	SL	A06	N	U	D	2	SHUTDOWN COOLING PERMISSIVE SW SET OOT (HIGH)	RESULT OF A PROCEDURE ERROR
G	FP1	031166	050180	GS	TS	SQ	B02	N	U	D		RCIC HI AMBIENT TEMP SW 13-TE-89B INOP	WIRE ON SW INPT BROKEN DURING HOOKUP
G	FP1	031771	071080	IN	LG	NN	A03	N	U	D		AIR IN LVL XMITR &/OR SENSING LINES CAUSD WRNG LV/	/L IND. INADQ VENTG OF LVL IND SYS
G	FP1	033109	111880	CA	NT	PX	B02	N	U	D		APRM OP BELOW MIN CHNLS DUE TO LPRM SYS WIRING ERR	INSIDE CNTNMNT WHEN REPLCD LPRM STRINGS
G	FP1	171673	082181	MO	RR	NN	B06	N	U	D		ISOL VLVS FOR CONT ATM GAS AND PARTIC MO CLSD 22HR	PROC ERR NOT TO OPEN ISOLATION VALVES
G	FP1	038979	100781	GS	LS	SN	A06	N	U	D		CST LVL SW 23-LIS-75B DAMAGED NEEDED REPAIR	SCREW CAUGHT & DAMAGED WIRE INSULATION
G	MI1	030833	040780	GS	PS	SN	A01	N	U	D		PRESSURE INDICATING SW FOUND ISOLATED	I&C PERS FAILD TO RETURN SW TO SERVICE
G	MI1	032046	080380	MO	RR	NN	B06	N	U	D		AIR EJCTR OFF-GAS SYS RAD MON INOP SAMP LIN MAN //	STOP VLV CLOSD. VLV NOT ON LINE-UP LIST
G	MI1	168043	081381	MO	RR	NN	A01	N	U	D		UNMONITORED RELEASE OF LIQUID EFFLUENT	MONITOR LEFT IN CALIBRATION MODE
G	MI1	172758	111781	GS	PT	PX	A01	T	U	D		PRESS SWTCH PS-39 WAS LEFT ISO(TURBINE OIL PRESS)	PERSONNEL ERROR IN PERF OF ROUTINE SURV
G	MO1	031282	051580	RE	XS	SQ	B02	T	U	D		RCIC CNTRL PWR FUSE OPENED CAUSG RCIC SYS INOP	AC RELAY INADVRTNTLY INSTLD INSTEAD OF DC
G	MO1	039427*	111081	GS	FS	IC	B09	N	U	D	4	4 CH "A" MSL FLOW SWITCHES FAILED	FAILED RELAY CAUSED EXCESSIVE CURRENT
G	NM1	038196*	072981	HS	FG	SQ	B02	N	U	D	2	HIGH STEAM FLOW FUNCTION OF #11 & #12 EMERGENCY C-	OND INADVERTANTLY TAKEN OOS. PERSONNEL
G	OC1	027014	082279	CM	NC	SN	A06	R	U	D		ROD BLOCK TRIP FROM SOURCE RANGE TRIP FOUND OOC LO	TRIP SETPOINT TO CLOSE TO TECH SPEC
G	OC1	027699*	110679	GS	PS	SN	B05	N	U	D	2	EVR NR 108A OPENED TWICE WITH NO APPARENT REASON	PRESSURE SWITCH NOT CONDITIONED
G	OC1	030482	021980	ZZ	FG	IC	B01	T	U	D		ERRONEOUS SYS FLO SIG CAUSED SGTS #1 TO S/D	FLO SENSING LINE CRACKED WAS STEPPED ON
G	OC1	033850A	051680	ZZ	DC	NN	A01	M	U	D		GREEN-GREEN RPI REMAINED LIT WHEN W/DREW ROD 10-23	LICENSED/SENIOR OPERATOR ERROR
G	OC1	033850B	051680	ZZ	DC	NN	A06	M	U	D		GREEN-GREEN RPI REMAINED LIT WHEN W/DREW ROD 10-23	PROC IN BYPS OF 2 CNTRL ROD INTERLOCKS

COMMON CAUSE COMMAND FAULT

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	QC1	032485	081980	SE	PS	IC	A02	N	U	D		PRESS SENSOR PN-4 NOT SENSING FLOW PROPERLY	MISALIGNED DUE TO WELD LEAD ACROSS TUBING
G	QC1	038699*	090581	ZZ	LT	PX	B00	N	U	U	2	DEVIATION OCCURED BETWEEN INDEPENDENT LEVEL IND	HEAD CHANGE OF REFERENCE COLUMN
G	QC1	172614A	120381	PS	PS	SA	B02	R	U	D		ONE ADS TRIP SYSTEM INOPERABLE	REMOVAL OF DIR CURR CONTROL POWER FUSES
G	PB2	025742*	032379	PS	TS	SH	B12	N	U	U	4	C TRIP LOGIC TEMP SWITCHES(TS-4941C,2C,3C,4C) FO//	UND READING LOW. DIRTY CONTACTS IN PS
G	PB2	025663*	042879	MO	RR	SN	B13	N	U	T	2	CH D,REFUELING AREA & RB AREA VENT RAD MON'S FAIL	DEFECTIVE CONVERTER IN COMMON POWER SUP.
G	PB2	025882	050379	CL	TG	NN	A06	N	U	D		TEMP OF SOLUTION IN SBLCS FOUND OUT OF SPEC	TEMP CONTROLLER SETPOINT SET WRONG
G	PB2	036346	012781	MO	RR	NN	B03	N	U	D		DRYWELL RAD MONITOR FOUND OUT-OF-SERVICE	SAMPLE FLOW VALVE NOT REOPENED AFTER TEST
G	PB2	036797*	040181	TX	PT	PX	B02	N	U	D	3	3 OF 8 DRYWELL PRESSURE TRANSMITTERS FOUND ALMOST-	-VALVED OUT. PERSONNEL
G	PB3	032052	052080	GS	PT	PX	A02	T	U	D		PS-5121B NOT CAL WITHIN TECH SPEC LIMITS	INSTR TECH TESTED WRONG PRESSURE SWITCH
G	PI1	031761	071680	SE	PG	NN	A01	R	U	D		RX PRESS BNDRY LEAK DETCTN MON C-19 INOP	PERS CLOSD CNTNMNT SAMP ISOL VLVS
G	PI1	032227	081880	GS	XT	PX	B04	N	U	D		MODE SW IN S/D TRP FUNC OF RPS FAILD WHEN B VITAL/	/ MG SET TRPD. DESIGN CHANGE IN PROGRESS
G	PI1	038832*	092681	SE	LG	NN	B07	N	U	D	2	YARWAY LEVEL INDICATORS STARTED OSCILLATING	EXTREME TEMPERATURES INDUCED FLASHING
G	QC1	026049A	042779	GS	PS	IC	B02	N	U	D	2	SUPPRESSION CHAMBER PRES SW ES,PS-1-1622A&B MADE//	INOPERABLE. PERSONNEL VALVED OUT
G	QC1	026049B	042779	TX	PS	IC	B02	N	U	D		TORUS PRESS INDICATING TRANS PIT-1-1623 MADE INOP	PERSONNEL VALVED OUT
G	QC1	030261	011180	TX	PS	SN	A01	T	U	D		D/P XMITR 1-8741-51 DID NOT INDICATE PROPERLY	PERSONNEL ERROR
G	QC1	032394	081880	CL	FG	SQ	A01	N	U	D		FLOW CONTROLLER INADVERTENTLY LEFT IN MANUAL	LICENSED OPERATOR FAILD TO PLACE IN AUTO
G	QC2	039250	032281	LS	DT	PX	B12	T	U	D		LIMIT SWITCH FOR MSIV AO-2-203-2A CH B FAILED TO -	-GIVE HALF SCRAM. CONTACTS STICKING

RECURRING COMMON CAUSE COMMAND FAULT

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	CR3	025934	040479	MO	RR	NN	A02	M	V	D		DISCOVERED SENSOR FOR RX BLDG RAD MON MIS-POSITION	NOT POSITIONED CORRECTLY AFTER MAINTENAN.
B	CR3	030297	013080	TX	TS	SN	B05	N	V	D		TEMP XMITTR CI-563-TT STUCK DUE TO OPER OUT OF TE/	/MP RNG. IMPROPERLY LOCATED XMITTER
B	CR3	032855B	102980	MO	RR	IC	A02	N	V	D		RAD MON-41 NOT CRRCTLY SAMP RX BLDG ATMOS	VALVE MISALIGNMENT PERSONNEL MAINTENANCE
B	CR3	038102	071881	IN	FG	NN	A04	N	V	D		EMERG FW ULTRASONIC FLO IND OUT OF ZERO CHECK LO//	LMT. UNABLE TO CONSISTENTLY IND ZERO FLOW
B	CR3	172159	120881	IN	FG	CT	A04	N	V	D		EMERGENCY FW ULTRANONIC FLO IND FW-313-FI DRIFTED	DESIGN ERROR
B	DB1	033357	120380	ZZ	XG	SN	B04	T	V	D		SHRT CKT LOST Y3 THUS RPS-3 & SFAS-3 INOP	DESIGN ERROR ALLIGATOR CLIPS TOO SMALL
B	OE1	022174A	080678	CM	NI	PX	A01	N	V	D	4	POWER TO FLOW TRIPS NOT RESET	OPERATOR FAILED TO RESET TRIP
B	OE1	022174B	080678	CM	NI	PX	A01	N	V	D	4	OVERPOWER TRIPS NOT RESET	OPERATOR FAILED TO RESET TRIP
C	CC1	030227	012980	TX	PS	SN	A03	N	V	D		SPURIOUS HI PRESSURE SIG FROM XMITTR PT-103-1	XMITTR JOLTED BY REMOVAL OF CVR IN REVIEW
C	CC1	037997	071681	TX	PG	NN	A01	N	V	D		PORV OPENED ON AN ERRONEOUS HI PRESSURE SIGNAL	XMTR PT-103-1 WAS BUMPED & SENT SIGNAL
C	CC1	038329	080381	IM	XC	NN	B07	N	V	T		FAILED PLANT COMPUTER CAUSG INOP INCORE DET SYSTEM	RAD XMISSION ERROR DUE TO HI AMBIENT TEMP
C	CC1	038582	082681	IM	XC	NN	B07	T	V	D		PLANT COMPUTER FAILD CAUSG INOP INCORE MON SYSTEM	RAD XMISSION ERROR DUE TO HI AMBIENT TEMP
C	FC1	032471*	080480	MO	RR	IC	A03	N	V	D	2	STACK PRTCLT RMO-61 SETPT SELCTR SW IN WRONG POS	PERS ERR SW NOT RETURND TO POS AFTER TEST
C	MY1	036856	041779	MO	RR	NN	B01	N	V	D		VLV IN TEMP LINE OFF CNTNMNT APO FOUND OPEN 9 DAYS	VLV NOT RETURNED TO NORMAL STATIS
C	MY1	037567A	071281	MO	RR	NN	B01	N	V	D		PRIMARY VENT STACK PARTICULATE SAMPLE FILTER FOU//	ND NOT INSTALLED. PERSONNEL ERROR
C	MY1	037567B	071681	MO	RR	NN	B01	N	V	D		PRIMARY VENT STACK PARTICULATE SAMPLE FILTER FOU//	ND NOT INSTALLED. PERSONNEL ERROR
W	DC1	172094A	121081	IN	TG	NN	B04	N	V	D	2	2 RCS HOT LEG TEMP INDICATIONS RDG LOW	DESIGN ERROR IN MODIFICATION
W	DC1	172094B	121081	IN	PG	NN	B04	N	V	D	2	2 RCS WIDE RANGE PRESS INDICATN RDG LOW	DESIGN ERROR IN MODIFICATION
W	DC2	172093A	121081	IN	TG	NN	B04	N	V	D	2	2 RCS HOT LEG TEMP INDICATION RDG LOW	DESIGN ERROR IN MODIFICATION
W	DC2	172093B	121081	IN	PG	NN	B04	N	V	D	2	2 RCS WIDE RANGE PRESS INDICATION RDG LOW	DESIGN ERROR IN MODIFICATION
W	JF1	172222A	121581	MO	RR	NN	A06	M	V	D		CNTNMNT PURGE VLV NOT CLOSD WHEN RAD MON R24A INOP	PROCEDURAL INADEQUACY
W	JF1	172222B	121781	MO	RR	NN	A06	M	V	D		CNTNMNT PURGE VLV NOT CLOSD WHEN RAD MON P24A INOP	PROCEDURAL INADEQUACY
W	MG1	173312	122481	ZZ	PS	SN	B02	M	V	D		TECHNICIANS INADV INITIATED LO STM LIN PRESS SI	PROCEDURAL DEFICIENCY
W	NA1	032275A	080780	TX	LT	PX	A04	N	V	D		PZR PROTCTN CH 3 LVL INDICATION RDG HIGH	STM IMPINGED ON LVL XMITR CAUSING DRIFT
W	NA1	032275B	080880	TX	LT	PX	A04	N	V	D		PZR PROTCTN CH 3 LVL INDICATION RDG HIGH	STM IMPINGED ON LVL XMITR CAUSG DRIFT
W	NA1	032275C	080980	TX	LT	PX	A04	N	V	D		PZR PROTCTN CH 3 LVL INDICATION RDG HIGH	STM IMPINGED ON LVL XMITR CAUSG DRIFT
W	SE1	032167	072880	MO	RR	NN	B02	N	V	D		WST GAS EFF 0-RM-90-118 INOP	MAINT PERS REMVD MON FROM LINE IMPROPERLY
W	SE1	032876A	100480	TX	LG	NN	B04	N	V	D		PZR RELIEF TANK LI-68-312C INOP	XMITTER DRY LEG FULL OF WATER
W	SE1	032876B	101180	TX	LG	NN	B04	N	V	D		PZR RELIEF TANK LI-68-312C INOP	XMITTER DRY LEG FULL OF WATER
W	SE1	036296	020781	MO	RR	NN	B02	N	V	D		RAD MON 2-R-90-100 DISCOVERED INOP WHILE DISCHR	POWER SUPPLY BKR WAS DEENERGIZED
W	SE1	036842	040881	MO	RR	NN	B02	N	V	D		CONDENSATE DEMIN DISCHR RAD MON 0-RM-90-225 FAILED	FUSE IN POWER SUPPLY NOT INSTALLED
W	SE1	037219*	050481	TX	LT	PX	B02	N	V	D	3	PZR LEVEL CH 1-L-68-339,325C & 326C DECLARED INOP	ERROR IN SENSING LINE TUBING
W	SE1	037554	052281	MO	RR	NN	B01	N	V	D		CONTROL ROOM INTAKE TO TURBINE BLDG RAD MON ALARM-	-ED,FOUND DEENERGIZED. PERSONNEL
W	SU1	027331*	102979	MO	RR	NN	B06	T	V	D	2	RADIATION ALARM SETPOINT FOR CCW SYS MONITORS FO//	UND GREATER THAN TWICE BACKGROUND.
W	SU1	036670*	031680	MO	RR	NN	B02	N	V	D	6	POWER LOST TO SIX RADIATION MONITORS	TEST LEAD SHRTD TO GRND BLEW SUPPLY FUSE
W	SU1	033034*	101980	MO	RR	NN	A01	N	V	U	2	RM-CC-105/106 ALRM SETPTS GREATER THAN TWICE BACK/	/GROUND. SETPTS RESET NO CAUSE GIVEN
W	SU1	033606*	122380	MO	RR	NN	A01	N	V	U	2	RM-CC-105/106 ALRM SETPTS GREATER THAN TWICE BACK/	/GROUND. SETPTS RESET NO CAUSE GIVEN
W	SU1	036221	012281	MO	RR	NN	A01	T	V	D		RAD MON RM-CC-105 FOR CCW ALARM SETPOINT FOUND OOC	ALARM SETPOINT NOT REDUCED W/BACKGROUND
W	SU1	036222*	012981	MO	RR	NN	B01	T	V	D	2	RAD MON'S RM-CC-105 & 106 SETPOINT FOUND TOO HIGH	SETPOINTS NOT REDUCED WITH BACKGROUND
W	SU1	037067*	041581	MO	RR	NN	B01	T	V	D	2	ALARM SETPOINTS FOR RM-CC-105 & 106 FOUND OOC	SETPOINTS NOT REDUCED WITH BACKGROUND
W	SU1	038771*	091581	MO	RR	NN	B01	M	V	D	8	ALARM SETPOINTS FOR CCW RAD MON RM-CC-105,106 OOC	SETPOINTS NOT CHANGED WITH BACKGROUND
W	SU1	170035A	100281	MO	RR	NN	A01	T	V	D		CCW RAD MON RM-CC-105 AND 106 SET PTS EXCEED BCKGR	FLUCUATIONS IN CCW ACTIVITY
W	SU1	170035B	100981	MO	RR	NN	A01	T	V	D		CCW RAD MON RM-CC-105 AND 106 SET PTS EXCEED BCKGR	FLUCUATIONS IN CCW ACTIVITY
W	SU1	171165	112681	MO	RR	NN	A01	T	V	D		CCW RAD MON RM-CC-105 AND 106 SETPTS EXCEED BCKGRD	FLUCUATIONS IN CCW ACTIVITY
W	SU2	020546	012978	TR	RR	NN	B13	N	V	T		SOLA TRANSFRMR SUPPLYNG PWR TO RAD.CAB. 2-2 FAILD	CAPACITOR RUPTURED IN ONE OF THE 2 TRNFMR
W	SU2	032198*	081980	TX	FG	NN	A03	N	V	D	6	STM FLO XMITRS FI-474/5,484/5,494/5 ISOLATED	LEFT ISOLATED AFTER TYPE A TESTING
W	SU2	163635*	010681	MO	RR	NN	B13	N	V	D	4	4 LIQUID WASTE RAD MON FAILED(RM-CW-101,102,RM-VG-	--103,104,RM-SW 107&RM-LW-108). FUSE FAIL
W	SU2	036380	021281	MO	RR	NN	B01	N	V	D		ALARM SETPOINT FOR RM-CC-106 FOUND OOC HIGH	SETPOINTS WERE NOT PROPERLY VERIFIED
W	SU2	036648	032081	MO	RR	NN	B01	T	V	D		CCW RAD MONITOR RM-CC-106 ALARM SETPOINT FOUND OOC	SETPOINT NOT REDUCED WITH BACKGROUND
W	SU2	037325	051581	MO	RR	NN	B01	T	V	D		ALARM SETPOINT FOR CCW RAD MON RM-CC-106 FOUND OOC	SETPOINT NOT REDUCED WITH BACKGROUND

RECURRING COMMON CAUSE COMMAND FAULT

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE&CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	SU2	172097*	123181	IN	FG	NN	A01	N	V	D	2	STM FLO INSTR FI-474,-485 ON MSL A & B ISOLATED	LEFT ISOLATED AFTER REFUELING OUTAGE
W	ZI1	033795	112080	MO	RR	NN	B01	N	V	D		CLASS I PIPE TUNNEL PRTCLT/IODINE RAD MON FAILED	PERS CHANGD MAGNAHELIC SET CAUSG HI FLO
W	ZI1	039312	031781	MO	RR	NN	B01	N	V	D		SAMPLE PMP FOR TURBINE BLDG RAD MON FOUND OFF	PERSONNEL ERROR
W	ZI1	037555	052281	MO	RR	NN	B01	N	V	D		ESF CUBICLE VENT RAD MON FOUND INOPERABLE	PERSONNEL
G	BF3	033696A	123180	GS	LC	NN	B00	M	V	T		SCRAM ACCUMULATOR LEVEL SWITCH REPLACED	UNKNOWN
G	BR1	031410A	052680	SE	NC	NN	B13	T	V	U		SRM B COUNT RATE DIDN'T DECR WHEN DET OUT OF CORE	FUSES ON DRIVE MECHANISM FOUND BLOWN
G	BR2	031888*	070780	SE	NG	NN	B13	M	V	D	2	SRM'S A & D INOPERABLE	PWR SUPPLY FUSES TO DET DRIVE MTR BLEW
G	CO1	019119	081677	GS	LS	SN	B02	N	V	D		CRD LEVEL SWITCH ISOLATION VALVE FOUND CLOSED	PERSONNEL-VALVE CLOSED DURING SURVEILLANC
G	DA1	033570	120780	RC	XG	SN	A04	N	V	D		D/W PRESS & TORUS WTR LVL RECORDER PR/LR-4384 INOP	POOR CABNT VENT/HI TEMP CAUSE PS OUT VARY
G	DA1	166018	042781	MO	RG	NN	B13	M	V	U		OFF GAS STACK RAD MON SAMP PMP IP-247A,B INOP	BREAKER 1Y2319 FOUND OPEN
G	DA1	037700A	061581	MO	RR	NN	B01	N	V	D		CAMS B OPERATING W/O SELECTED SAMPLE POINT	RADIATION PROTECTION PERSONNEL ERROR
G	DA1	038024	070181	MO	RR	NN	B01	T	V	D		CAMS "A" OPERATING W/O RESELECTED SAMPLE POINT	CR OPERATOR DIDN'T FOLLOW PROCEDURES
G	DA1	038493	081281	MO	RR	NN	B01	N	V	D		CAMS A,B OPER W/O RESELECTED SAMPLE POINTS	H/P PERS DIDN'T SELECT PTS
G	DR1	014078	010276	TX	LG	NN	A02	N	V	D		LEVEL INDICATOR DID NOT INDICATE PROPER LEVEL	LEVEL TRANSMITTER ZERO SETSCREW LOOSE
G	DR1	016323	010276	TX	LG	NN	A02	N	V	D		LEVEL INDICATOR DID NOT INDICATE PROPER LEVEL	PERSONNEL ERROR-SETSCREW NOT TIGHTENED
G	DR2	172277	121481	GS	PG	NN	A02	M	V	D		ISOL CONDENSER PRESS SW 2-263-53C VALVED OOS	INSTR MECH FAILD TO OPEN PRES SW ISOL VLV
G	DR2	172259*	121681	GS	PT	PX	A02	M	V	D	2	ATWS PRESSURE SW VALVED OUT OF SERVICE	VALVING ERRORS BY INSTRUMENT MECHANIC
G	EN2	022019*	081078	GS	PS	IC	B05	M	V	U	2	SW 2T48-N211 AND N212 INOPERABLE	SENSING LINES BACKWARD, WIRING WRONG
G	EN2	022211	081078	GS	PS	IC	B05	N	V	U		SW 2T48-F310 INOPERABLE	SENSING LINES BACKWARD AND WIRING WRONG
G	EN2	025273*	020979	TX	FG	NN	A06	T	V	D	2	DRYWELL EQUIP & FLOOR DRAIN SUMPS FLOW XMITTERS //	FOUND SET INCORRECTLY. PROCEDURAL ERROR
G	EN2	026640*	071879	TX	FG	CT	A06	N	V	D	2	2C32-N002A&B,FW FLOW TRANSMITTER,FOUND OUT OF CAL	CALIBRATION ERROR, PROCEDURAL ERROR
G	EN2	039261	110781	GS	PS	IC	A05	N	V	D		RX BLDG-TORUS VAC BRKR ISOL VLV 2T48-F311 INOP	MOIST IN SENSG LINES OF D/P SW 2T48-N211
G	EN2	172230	122581	GS	PS	SH	B05	M	V	D		HPCI INOP DUE TO SPURIOUS TURBINE ALARMS	INCORRECTLY INSTALLED PRESSURE SWITCH
G	FP1	033203*	110380	GS	LT	PX	A01	N	V	D	6	RX WTR LVL SW 02-3-LIS-101B/D OUT ON 3 OCCASIONS	PERS ERR AIR IN LVL SENSING LINES
G	MO1	030958	041180	GS	LG	NN	B05	N	V	D		THRU-WALL CRACK ON MOIST SEPARATR LS-1188 FITTING	FAILURE CAUSED BY IMPROPER WELD PROCEDURE
G	NM1	032309	080480	MO	RR	NN	A09	N	V	D		OFF GAS MON SYS INADVRTNTLY PLCD IN PURGE MODE	RADIATION PROTECTION PERSONNEL ERROR
G	NM1	033896	102880	MO	RR	NN	A01	N	V	D		STACK GAS MON SYS IN PURGE MODE TOO LONG	TECH FAILD TO RETURN SYS TO NORMAL OPER
G	PB2	014490	040576	GS	PS	SN	B03	T	V	D		DRYWELL HI PRESS SWS PS-2-10-101C&119C VLVD OUT	PERSONNEL ERROR-NOT PUT BACK IN SERV-TSTG
G	PB2	019323B	100777	MO	RT	PX	B02	N	V	D		2C MN STM LINE RAD MON ON SCL TRP IND FLD TO CLEAR	INADEQUATE INST WARMUP PRIOR TO CALIBRTN
G	PB2	036165B	011781	MO	RT	PX	B02	N	V	D		"A" MSL RAD MONITOR INADVERTANTLY TAKEN OFF LINE	PERSONNEL ERROR
G	PB2	036424	020281	GS	PS	SA	B01	T	V	D		"C" CORE SPRAY PUMP DISCHR/ADS INTERLOCK PRESS SW-	-PS-2-14-44C FOUND VALVED OUT. PERSONNEL
G	PB3	018159	060377	GS	PG	SD	B03	N	V	D		CORE SPRAY ADMSN VLV SW PS3-2-52D VALVED OUT OF SV	INADVLY LEFT SHUT FOLLOWING SURV TESTING
G	PB3	025013	011179	GS	PS	SN	B02	N	V	D		PRESSURE SWITCH(PS3-2-3-52D)FOUND ISOLATED	PERSONNEL ERROR
G	PB3	039140	102381	MO	RR	NN	B02	N	V	D		NO FLOW NOTED TO OFF-GAS SAMPLING SYSTEM	APPARENTLY ROOT VLV NOT OPENED
G	VY1	026959*	081679	TX	LS	IC	A01	T	V	D	2	BOTH TORUS LEVEL TRANSMITTERS HAD ZERO SHIFT	REFERENCE LEG NOT FILLED
G	VY1	027295*	092079	TX	LS	IC	B02	N	V	D	2	CH A & B OF TORUS LEVEL INDICATION FAILED HIGH	PERSONNEL DISLODGED FITTINGS ON REF LEG

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	AR1	014495	032376	GS	PT	PX	A14	T		T		RX BUILDING PRESSURE SWITCH FAILED TO TRIP	INSTRUMENT DRIFT
B	AR1	017234C	021977	TX	FG	AG	A14	T		T	2	FLOW TRANSMITTERS ON HPI SYS (LOOP B) OUT OF CAL.	NORMAL DRIFT
B	AR1	021416	042678	RE	XG	NN	B09	T		D		EMERGENCY SUPPLY FANS FAILED TO START AUTOMATICAL.	GROUND AT ACTUATING SOLENOID
B	AR1	026910	081379	RE	XT	PX	B13	N		D		TURBINE LOCKOUT FAILED	LOOSE TERMINALS AND BROKEN LUG ON RELAY
B	CR3	017169	020477	ZZ	PG	NN	B01	N		D		LOW RANGE OVERPRESSURE PROTECTION CIRCUIT NOT ARME	PERSONNEL ERROR-FAILED TO FOLLOW PROCEDU
B	CR3	018406	040677	CA	DC	NN	B13	N		U		INOPERABLE POSITION INDICATOR FOR ROD 5 GROUP 8	AMPHENOL CONNECTOR FAULTY PIN CONNECTIUN
B	CR3	018398	070277	PS	DC	NN	B09	T		U		ROD 3 GROUP 6 API FOR ALL REG RODS WAS LOST	15 VOLT POWER SUPPLY SPIKE-CAUSE UNKNOWN
B	CR3	018555	071277	TX	LG	SN	A14	N		T		A AND B LEVEL CHANNELS OF BWST DISAGREED	CALIBRATION SHIFT OF LEVEL IND TRANSMITTE
B	CR3	019011	082977	IN	DG	NN	B00	N		U		API FOR ROD 6 GROUP 7 FAILED AND DECLARED INOPERAB	CAUSE UNKNOWN-SELF CORRECTED
B	CR3	019009*	090277	TX	FT	PX	A14	R		T	4	4 RCS FLOW INSTRUMENTS OUT OF CALIBRATION	CALIBRATION DRIFT OF D/P TRANSMITTERS
B	CR3	019886	120777	GS	FG	SL	A14	T		T		DHV FOR ECCS PUMP WOULD NOT CONTROL FLOW AT 3000 G	CALIBRATION SHIFT OF FLOW SWITCH
B	CR3	019885	120877	MO	RR	NN	B00	T		U		CONTROL COMPLEX RETURN DUCT RAD MONITOR UP UNSATIS	CAUSE UNKNOWN-COULD NOT DUPLICATE
B	CR3	020753*	020378	GS	PS	SN	A14	N		T	2	B STEAMLINE RUPTURE MATRIX ACTUATED	DEAD BAND SHIFT OF PRESSURE SWITCHES
B	CR3	021164	040878	MO	RR	NN	A00	N		U		FUEL POOL AREA RAD MONITOR SPIKING HIGH INTERMITTE	CAUSE UNKNOWN-STILL UNDER INVESTIGATION
B	CR3	022041	080178	SE	NS	SN	B13	N		T		STARTUP RATE AND COUNT RATE FOR NI2 OSCILLATING	FAILED SOURCE RANGE DETECTOR (NI-2)
B	CR3	022710	091578	IN	DG	NN	B06	T		D		RELATIVE POSITION INDICATOR INOPERABLE(GP-7 ROD-8)	PROCEDURE-REACTIMETER TERMINATION TO RPI
B	CR3	023422	100578	RE	XS	IC	B08	T		D		M RELAY IN ACTUATION CH CABINET 2A WAS STICKING	IMPROPER RELAY ALIGNMENT,CABLE STRESS
B	CR3	023167	111578	MO	RR	NN	B01	T		D		CONTAINMENT ATMOS RAD MONITOR IN PURGE MODE(RMA-1)	PERSONNEL ERROR-WRONG MODE OF OPERATION
B	CR3	025351	022079	SE	TS	SL	B00	N		U		RTD DH-2-TE FOR DH-39-TI,DH COOLER OUTLET TEMP,//	FAILED. NO CAUSE GIVEN
B	CR3	025350	022379	RC	XG	AG	B13	N		T		TRACE RECORDER HTRT-5 FOR CON BORIC ACID FLOW-PATH	//FOUND INOPERABLE. FAILED DRIVE WHEEL
B	CR3	025545	022379	IN	PG	CT	A07	N		D		MOTOR DRIVEN AUX FEED PUMP DISCH PRESS GAUGE FOUND	// OOC. INOPERABLE DAMPING SNUBBER
B	CR3	025629	032179	SE	DG	NN	A12	N		T		POSITION INDICATION FOR ROD 8 GROUP 6 WAS LOST	REED SWITCH FOUND STICKING
B	CR3	025630	032179	IN	PG	CT	B00	T		U		MOTOR DRIVEN AUX FEED PUMP DISCH PRESS GAUGE FAIL	NO CAUSE GIVEN
B	CR3	025632	032779	RC	XG	AG	B13	N		T		TRACE RECORDER HTRT-5 FOR CON BORIC ACID FLOW-PATH	//FOUND INOPERABLE. FAILED DRIVE CORD
B	CR3	025634	033079	RC	XG	AG	B00	N		U		HEAT TRACE RECORDER HTRT-1 PERFORMED ERRATICALLY	CAUSE UNKNOWN
B	CR3	025991A	050979	AM	NT	PX	A14	T		T		NUCLEAR SOURCE RANGE INS NI-1 FOUND OOC	COUNT-RATE AMP HAD DRIFTED
B	CR3	025991B	050979	AM	NT	PX	A14	T		T		NUCLEAR SOURCE RANGE INS NI-1 FOUND OOC	RATE OF CHANGE AMP DRIFTED
B	CR3	025992B	051079	AM	NT	PX	A14	T		T		NUCLEAR SOURCE RANGE INS NI-2 FOUND OOC	RATE OF CHANGE AMP DRIFTED
B	CR3	026603	071179	TX	FS	SH	A14	T		T		B LOOP HPI TRANSMITTER FOUND OOC (MU-23 DPT-1)	INSTRUMENT DRIFT
B	CR3	027119	080779	CM	NT	PX	B13	T		U		RPS CH D HIGH FLUX BISTABLE DID NOT TRIP RESPECTIV	/IE CHANNEL. FAILED BISTABLE RELAY ASSEM
B	CR3	027267	091679	GS	PT	PX	A12	N		T		CH D RX BLDG HP BISTABLE	CORROSION BUILDUP ON PRESSURE SWITCH
B	CR3	027269	092279	SE	TS	SL	B00	N		U		DHR COOLER OUTLET TEMP CHANNEL FAILED	RTD HAD FAILED
B	CR3	027270	092479	TX	TG	NN	B00	N		U		RX BLDG TEMPERATURE CHANNEL READING HIGH	FAILED TRANSMITTER
B	CR3	033577	101680	RE	PS	SN	B00	T		U		FUSE IN CHANNEL RB2 BLEW	CAUSE OF FAILED ES CABNT 5B RELAY UNKNOWN
B	CR3	036096	011981	IN	DG	IC	B00	N		U		POSITION INDICATOR FOR CNTNMNT ISO VLV CAV-2 FAIL-	-ED. NO CAUSE FOUND
B	CR3	036511	030181	RE	XS	SH	B00	T		U		RELAY IN ES HIGH PRESSURE ACTUATION CH B GROUP 3 -	-BLOCK 4 FAILED. NO CAUSF GIVEN
B	CR3	037652	061781	IM	NT	PX	A14	T		T		RPS C DELTA-FLUX MODULE METER IND LESS CNSRVTV	INSTRUMENT DRIFT
B	CR3	037865*	070181	IN	NG	NN	A00	N		U	2	SOURCE RNG INSTR NI-1,-2 NOT RESPONDING AS EXPECTD	CAUSE INDETERMINATE
B	CR3	037764	070381	IN	TG	NN	B12	N		T		REMOTE RX COOLANT TEMP INSTR RC-4A-TI2 INOPERABLE	DUST & LINT IN THE METER CAUSG STICKING
B	CR3	037942	071081	TX	PG	NN	B14	N		T		RX BLDG PRESS IND BS-17-PI WAS INOPERABLE	INSTRUMENT DRIFT
B	CR3	038476*	082281	AM	TG	NN	B00	T		U	2	AIR TEMP DELTA-T INSTRUMENT INOPERABLE	FAULTY AMPLIFIERS IN DELTA-T CIRCUITRY
B	CR3	039001	100781	TX	PS	SN	A14	T		T		ESFAS RC PRESS XMTR RC-3A-PT3 OUT-OF-TOLERANCE	INSTRUMENT DRIFT
B	CR3	039007A	100881	TX	LG	NN	A14	T		T		TRANSMITTER SP-1A-LT2 OUT-OF-TOLERANCE	INSTRUMENT DRIFT
B	CR3	039032A	100881	TX	PG	NN	A14	T		T		REM S/D MON INSTR SP-6A-PR OUT-OF-TOLERANCE	INSTRUMENT DRIFT
B	CR3	039007B	100981	TX	LG	NN	A14	T		T		TRANSMITTER SP-1B-LT2 OUT-OF-TOLERANCE	INSTRUMENT DRIFT
B	CR3	039032B	100981	TX	PG	NN	B13	T		U	2	REM S/D MON INSTR SP-6B-PI1,-PI2 OOT	FAULTY CAPACITOR IN THE POWER SUPPLY
B	CR3	039371A	101081	TX	PT	PX	B00	T		U		RPS INSTR RC-14A-DPT4 OUT-OF-TOLERANCE	BELLOWS FAILURE
B	CR3	039371B	101181	TX	PT	PX	A14	T		T		RPS INSTR RC-14A-DPT1 OUT-OF-TOLERANCE	INSTRUMENT DRIFT
B	CR3	039032C	101281	TX	LG	NN	A14	T		T		REM S/D MON INSTR SP-1B-LT4 OUT-OF-TOLERANCE	INSTRUMENT DRIFT
B	CR3	039371C	101381	TX	PT	PX	A14	T		T	2	RPS INSTR RC-14B-DPT4,-DPT1 OUT-OF-TOLERANCE	INSTRUMENT DRIFT

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	CR3	039187B	101481	SE	NG	NN	A14	T		T		RATE OF CHANGE AMP OOT	INSTRUMENT DRIFT
B	CR3	039187C	101481	SE	NG	NN	A14	T		T		SOURCE RANGE DETECTOR LOOP OUT	INSTRUMENT DRIFT
B	CR3	039032D	101581	TX	LG	NN	A14	T		T		REM S/D MON INSTR RC-1-LT1 OUT-OF-TOLERANCE	INSTRUMENT DRIFT
B	CR3	039371D	101781	TX	PT	PX	A14	T		T		RPS INSTR RC-14B-DPT2 OUT-OF-TOLERANCE	INSTRUMENT DRIFT
B	CR3	039371E	102081	TX	PT	PX	A00	T		U		RPS INSTR RC-14B-DPT3 OUT-OF-TOLERANCE	LOOSE TEST POINT OUTPUT TERMINAL
B	CR3	039371F	102681	TX	PT	PX	A14	T		T	2	RPS INSTR RC-3B-PT1,-PT2	INSTRUMENT DRIFT
B	CR3	039371G	102781	TX	PT	PX	A14	T		T		RPS INSTR RC-3A-PT1	INSTRUMENT DRIFT
B	CR3	171140	120581	RE	FT	PX	B00	N		U		B RPS CHNNL TOT FLOW NOT PROPERLY FUNCTIONING	RELAY FAILURE
B	CR3	172133	121881	AM	LG	NN	B00	N		U		S/G LEVEL SENSOR FAILS	LEVEL TRANSMITTER AMPLIFIER FAILED
B	DB1	019380	092477	ZZ	DG	NN	A00	N		U		HALF TRIP OF STEAM & FEEDWATER RUPTURE CONTROL SYS	CAUSE UNKNOWN-POSSIBLE LOOSE CONNECTORS
B	DB1	019637	110777	CN	XT	PX	B13	T		T		RPS CHANNEL TWO DECLARED INOPERABLE AND TRIPPED	CURRENT TO VOLTAGE TRANSDUCER FAILED
B	DB1	020268	010378	SE	DC	NN	B13	N		T		CONTROL ROD GROUP 5,ROD 12 POSITION IND INOPERABLE	FAILURE OF REED SWITCH
B	DB1	020292	010778	AM	PG	NN	B13	N		T		CH 1 S/G TO FEEDWATER D/P TRIP	NO.2 CIRCUIT ON INPUT BUFFER FAILED
B	DB1	020276	011578	SE	XT	PX	B13	T		T		RPS CH 1 REACTOR COOLANT PUMP MONITOR OUT OF TOLER	DEFECTIVE PUMP MONITOR MODULE
B	DB1	020450	013178	GS	PG	NN	A14	T		T		FEEDWATER SG 1 CH 2 D/P SWITCH 2686D DID NOT ACTUA	DRIFT-PCIS 2686D OUT OF TOLERANCE
B	DB1	020703	022478	IN	TG	PX	A12	N		T		RPS CH 2 HIGH TEMP INDICATION SPIKED TRIPPING CHAN	DIRTY CONTACTS ON LINEAR BRIDGE MODULE CU
B	DB1	021174	041778	CM	RR	SN	A14	T		T		HIGH RAD TRIP FOR SFAS CH 4 OUT OF TOLERANCE	BISTABLE DRIFTED FROM MANUAL SETPOINT
B	DB1	021175*	041778	MO	RR	NN	A00	N		U	3	RAD MONITORS RE5029 A,B,C AIR FLOW OSCILLATING	CAUSE UNKNOWN
B	DB1	021586	042878	CA	PG	NN	B13	T		D		RCS PRESSURE FELL TO ZERO AFTER TEST SWITCH MOVED	BROKEN WIRE ON TEST SWITCH SFAS CH 2
B	DB1	021571	060278	AM	LG	SN	B13	N		T		CH 2 BWST LEVEL INDICATION FAILED HIGH	AMP ASSEMBLY OF LEVEL TRANSMITTER FAILED
B	DB1	021855	061878	CL	XG	SF	B13	T		U		CONT SPRAY PUMP FAILED TO START AUTO ON SEQUENCE	SFAS OUTPUT MODULE FAILED
B	DB1	021856	061978	CM	LS	SN	A14	T		T		SFAS CH 1 BWST LOW LEVEL TRIP OUT OF TOLERANCE	LEVEL TRIP MODULE FAILED-LIMIT SW DRIFTED
B	DB1	021854	062078	RE	XS	SN	B05	T		U		SFAS CH 2 LOGIC TO SEQUENCER WIRING ERROR (E648)	FACTORY WIRED RELAY SOCKET INCORRECTLY
B	DB1	023238	120878	IN	DG	NN	B13	N		T		GROUP 3 ROD 4 API ERRATIC	POSITION INDICATOR TUBE FAILURE
B	DB1	023239	121578	CL	LS	SN	B13	N		U		SFAS CH 3 BWST LEVEL FAILED-FROZEN	ELECTRICAL OPEN CIRCUIT-HEAT TRACE CONTRO
B	DB1	023423	123078	AM	DC	NN	A12	N		U		GROUP 5 ROD 4 ASYMMETRIC INDICATION RECEIVED	DIRTY CONTACTS ON API AMPLIFIER MODULE
B	DB1	026807*	010279	MO	RR	NN	A14	R		T	2	STATION VENTILATION MON RE2024&2025 ALERT SETPOINT	//FOUND OOC. INSTRUMENT DRIFT
B	DB1	025059C	010679	RE	XS	SN	B00	T		U		OUTPUT RELAY K51A IN SFAS CHANNEL 4 FOUND FAILED	RELAY REPLACED
B	DB1	025527	030379	RE	XS	SN	B00	T		U		OUTPUT RELAY K21B IN SFAS CH 4 FAILED CAUSING 7 //	OUT OF 4 LOGIC TO BE SAT WITH ONLY ONE CH
B	DB1	025529	031079	AM	NT	PX	A14	T		T		RPS CHANNEL 3 INTERMEDIATE RANGE RATE OF CHANGE //	AMP VOLTAGE FOUND OOC. INSTRUMENT DRIFT
B	DB1	025939	042379	CM	PT	PX	B12	T		T		RELAY K-4 DID NOT RESET RX COOLANT PRESS BISTABLE/	/BA103. RELAY WAS STICKING
B	DB1	026256B	052179	GS	PG	CT	A14	T		T	3	AFW SUCTION PRESS SW'S PSL4929A&4929B&4931A SET-//	POINTS FOUND OOT. INSTRUMENT DRIFT
B	DB1	026598	070579	PS	XG	NN	B00	N		U		24 VDC POWER SUPPLY PS02 IN SGLIC CHANNEL 1 FAILED	NO CAUSE GIVEN
B	DB1	026594	070779	GS	PG	CT	B04	T		D		PSL-4929B AFW PUMP 1-2 SUCTION BEFORE STRAINER SW/	/FAILED. WRONG MATERIAL USED IN DIAPHRAM
B	DB1	027332	091779	AM	XG	CT	B00	N		T		INOPERABLE OPTICAL ISO FOUND ON RELAY DRIVER BOARD	NO CAUSE GIVEN
B	DB1	027334A	092579	IN	DG	CT	B09	T		T		MS 106(INLET VLV TO AFP) INDICATION WAS LOST	LOOSE LAMP RETAINER RING GROUNDED
B	DB1	027334B	092679	RE	XG	CT	B00	T		U		MS106A(CROSS-CONNECT) WOULDN'T OPERATE DUE TO A //	FAULTY R2 RELAY. NO CAUSE GIVEN
B	DB1	027336	100479	PS	XG	CT	B00	N		U		SFRCS CHANNEL 4 15 VDC POWER SUPPLY FAILED	NO CAUSE FOUND.
B	DB1	027925A	121279	PS	XG	CT	A13	N		D		SFRCS CHANNEL 4 15 VDC POWER SUPPLY FAILED	OVERVOLTAGE TRIP SETPOINT TO LOW (PS-4)
B	DB1	027916	121779	SE	TT	PX	B13	N		U		RPS CH 2 TH INDICATION FAILED LOW	ELEMENT SHORTED OUT DUE TO INLEAKAGE
B	DB1	030052	010380	IN	DG	NN	B00	N		T		DEMIN WTR VLV & SAM LIGHT IND IMPROPERLY	POS IND SW OUT OF ADJST LOOSE LOCKING NUT
B	DB1	027925B	010680	PS	XG	CT	B00	N		U		SFRCS CHANNEL 4 15 VDC POWER SUPPLY FAILED (PS-4)	NO CAUSE FOUND
B	DB1	030299	013180	PS	XG	CT	A09	N		T		HALF TRIP ON SFRCS CHANNELS 1/3	ERRATIC TRP OF PWR SUPP PS/3 IN SGLIC
B	DB1	030371	020880	ZZ	DG	NN	B00	N		U		CNTRL ROD 5-11'S API NOT RESPONDING	BLWN FUSE F14 FOR 5 VAC API SUPPLY
B	DB1	030781	032780	PS	DC	NN	B09	N		T		CNTRL ROD GRPS 3,4 MOVED IN ON THEIR OWN	"B" PS FAILED IN PROGRMR CNTRLLR DRW
B	DB1	030869	033180	PS	XG	CT	B09	N		T		HALF TRP OF SFRCS CHNL 1/3	FAILURE OF PS PS03 IN SG LVL INSTR CBNT 1
B	DB1	030932	040780	RE	NT	PX	B09	N		T		RPS CHNL 2 INOP	K1 RELAY CONTCTS DIDN'T MEET IF REENERGZD
B	DB1	030930	041180	GS	PG	CT	B14	T		T		AUX FEED PMP TURB 1 STM INLET PSL-U068 OOC	INSTRUMENT DRIFT
B	DB1	031019*	041880	TX	LG	CT	A14	T		T	2	SG LVL XMITTR-SP9A6/B6 OOC	ZERO SHIFT
B	DB1	031184	051180	ZZ	NC	NN	B00	T		U		SOURCE RANGE CHNL 1 NI-2 OOC & DECLRD INOP	COMPONENT FAILURE IN TEST MODULE

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	DB1	031895	062780	SE	NC	NN	B00	N		U		OUTPUT OF NI-1 FAILED TO ZERO	EXACT CAUSE IN UNKNOWN
B	DB1	031896	070980	ZZ	DG	SN	B00	N		U		POS IND FOR ECCS RM VENT EXHST DAMPER HA5441 LOST	UNKNOWN
B	DB1	032831	100880	TX	LG	CT	A00	N		U		SG LVL INSTR TO SFRCS 3 RDG WRONG CAUSED BY ZERO//	SHIFT IN XMITTER. CAUSE OF SHIFT UNKNOWN
B	DB1	033272	111680	RE	LG	NN	B00	N		U		SG 1-1 LVL EXCEEDED TECH SPEC REC'D FALSE IND TH//	AT #1 MAIN FW BLCK VLV CLOSED. BAD RELAY
B	DB1	033274	112880	TX	LS	SN	B00	N		T		BWST CHNL 2 LVL IND INOP	LOOSE CNNCTN AT BWST LVL TRANSMITTER
B	DB1	033359	120580	PS	XS	SN	B00	M		U		SFAS-1 FAILED DUE TO SHRT BETWN PS COMMON & CABNT/	/CAUSING DFCTV PS TO FAIL. UNKNOWN
B	DB1	033401A	120580	CM	LS	SN	A14	T		T		BWST LO LVL B/S BA312 OUT OF TOLERANCE	INSTRUMENT DRIFT
B	DB1	033401B	120680	CM	PS	SN	A14	T		T		CONTAINMENT PRESSURE B/S BA309 OUT OF TOLERANCE	INSTRUMENT DRIFT
B	DB1	033615	121980	RE	PS	SN	B00	T		U		AUX FEEDWATER TRAIN 1-1 INOP	CAUSE OF FAILED COUCH RELAY R1 NOT GIVEN
B	DB1	036395A	020581	IN	FG	SN	B00	N		U		HPI PUMP 1-2 FLO IND FYI-HP38 RDG W/ PUMP OFF	BAD CURRENT BUFFER
B	DB1	036848	040181	PS	LG	CT	B00	N		U		1/2 TRP FROM SFRCS CHNL 1 LO SG LVL TRIP OCCURRED	+24 VDC POWER SUPPLY PS02 FAILED
B	DB1	037078	042881	TX	FT	PX	B09	N		U		RPS-1 LOOP A TRPD ON FLUX/DELTA FLUX/FLOW	FLO DP XMTR PRIMARY PWR XFMR SHORT/GROUND
B	DB1	037506	060481	IM	XG	NN	B00	T		U		TRIP OUTPUT TO AUX FW-1 FROM SFRCS-2 INOPERABLE	FAILED RELAY DRIVER CARD IN SFRCS CHNL 2
B	DB1	038409	081981	IM	NT	PX	B00	T		U		INTERMEDIATE LOGARITHMIC AMP PEGGED HI NI-4 INOP	COMPONENT FAILR ON BOARD PC-1
B	DB1	038808	091581	TX	LS	SN	A14	T		T		BWST LVL XMTR FOUND OOC	ZERO ADJUST DRIFTED CAUSG OOC OUTPUT
B	DB1	171874	112981	SE	TT	PX	B09	N		U		TE-RC3A2(REACTOR COOLANT TEMP SENSOR) FAILED	ELEMENT OPENED,AFFECTED RPS CHANNEL 4
B	OE1	022347*	091478	TX	LG	SN	A14	T		T	2	CFT 2A LEVEL INSTS OUT OF CALIBRATION HIGH	LEVEL INST OUTPUT DRIFT
B	OE1	022470	091978	TX	PG	SN	A14	T		T		BWST LEVEL INDICATION OUT OF CAL NONCONSERVATIVELY	DRIFT OF DP XMTR
B	OE1	025108	010279	TX	FT	PX	B13	N		T		RPS CH C LOOP A FLOW TRANSMITTER INDICATED HIGH	MALFUNCTIONING AMP IN TRANSMITTER
B	OE1	025338A	020579	TX	PS	IC	A14	N		T		ES CHANNEL A RX BLDG NARROW RANGE PRESS TRANSMITT/	/ER FOUND OOC. INSTRUMENT DRIFT
B	OE1	025342*	022879	GS	PT	PX	A14	T		T	3	RPS CH A,C, & D,CNTNMNT PRESSURE,FOUND OUT OF CAL	INSTRUMENT DRIFT
B	OE1	027823	120579	MO	RR	NN	B00	N		U		AREA MONITOR RIA-6 DISCOVERED INOPERABLE	NO CAUSE GIVEN
B	OE1	030597	022980	TX	PS	SN	A14	M		T		RPS CH B RC PRESSURE TRANSMITTER OOC (HIGH)	INSTRUMENT DRIFT
B	OE1	030598	030680	LS	DG	SL	A14	T		T		RHR COOLER 1B OUTLET VLV 1LP-14 FAILED TO OPEN	VLV POSITION LIMIT SWITCH OOC
B	OE1	032574	090280	CA	NT	PX	A00	N		U		ROD 8 OF GRP 7 DROPPED RX TILT IN EXCESS OF T.S.	PIN PUSHED OUT OF PLACE IN A CONNECTOR
B	OE1	036418	021281	IN	LG	SN	B00	N		U		ELEVATED WATER STORAGE TANK LEVEL INDICATION FAIL.	NO CAUSE GIVEN
B	OE1	036834	032881	LM	XG	NN	B13	N		U		COMPUTER FOUND FAILED,AFFECTED SUBCOOLING MARGIN -	-MONITORS. FAILED LOW LEVEL AMPLIFIER
B	OE1	037334*	051381	CA	DS	SL	B09	N		U	2	POSITION INDICATION AND CONTROL FOR VLV CCW-8 LOST	SEVERAL CONTROL CABLES FOUND OPEN
B	OE1	037839	071781	IN	LG	SN	B13	N		U		ELEVATED WATER STORAGE TANK LEVEL IND. FAILED	BLOWN FUSE
B	OE2	017224	021577	TX	PG	SN	A14	T		T		RX BLDG NAR RNG PRESS XMTR 2BS4-PT2 SET LESS CONSE	XMTR DRIFT ASSUMED
B	OE2	017820	050577	RE	XG	NN	B08	T		D		2A RX BLDG COOL UNIT FAIL TO START IN LOW SPEED	BENT CONTACT HI SPD STARTER "B"FINGER
B	OE2	019685	111777	TX	FS	SN	A14	N		T		NI PWR RANGE CHANNELS NON-CONSERVATIVE 5%	INCORRECT FEEDWATER FLOW XMTR OUTPUT
B	OE2	019970	120877	TX	PS	SN	B02	N		D		2PT60, ES CH3 RB PRESS XMTR VALVED OUT	MAINT PERSONNEL CLOSED WRONG VALVE
B	OE2	020263*	011378	TX	LG	NN	A14	T		T	2	BOTH LEVEL INST CORE FLOOD TANK 2A INDICATE HIGH	INST OUTPUT DRIFT
B	OE2	020346	011878	TX	FT	PX	A08	T		U		RPS CH D FLOW INDICATION HIGH	LEAK DUE TO BLOWN GASKET
B	OE2	026187	052279	GS	PT	PX	A14	T		T		RPS HIGH REACTOR BLDG PRESSURE SWITCH CH D OOC	SETPOINT DRIFT
B	OE2	031363	060380	GS	PT	PX	B00	N		U		RPS-C FAILD TO TRP ON HI RB PRESS AT PROP SETPT //	DURING ILRT. PHYSICALLY DAMGD PRESS SW
B	OE2	038705	090381	TX	FT	PX	A11	N		T		CH B OF LOOP A FLOW INDICATION	LEAK ON 2FT14C LP IMPULSE FITTING
B	OE2	172357	122681	IN	LG	NN	B00	N		U		CHNL A BWST LVL INSTRUMENTATION DECLARED INOP	ERRATIC INSTRUMENT INDICATION
B	OE3	017452	032577	ZZ	FT	PX	A00	T		U		FLUX/FLOW IMBALANCE, CH B RX.COOL.FLOW TRIPPED LOW	UNKNOWN NON-REPETITIVE
B	OE3	019485	090877	CM	PS	SN	A06	T		U		SHUTDOWN BYPASS TRIP 1726 VICE LESS THAN 1720	TEST PROCEDURE TOLERANCE EXCEEDS TS TOLER
B	OE3	019487	100577	CM	TT	PX	B13	T		T		CH B HIGH RX COOLANT FAIL TO TRIP ANY LEVEL	NORMAL USAGE FAILURE REPLACED
B	OE3	020864	030578	IN	NG	PX	A00	N		U		PWR RANGE DET NI-5 SPIKING	UNKNOWN NON-REPETITIVE
B	OE3	023312	120878	SE	TT	PX	A07	T		U		RPS A RC TEMP READING LOW	MOISTURE FROM LEAKING VALVE ONTO RTD TERM
B	OE3	025124*	012579	TX	PS	SN	A14	T		T	3	ALL 3 CH,RB PRESSURE TRANSMITTERS,FOUND OUT OF CAL	INSTRUMENT DRIFT
B	OE3	025613*	032779	ZZ	FT	PX	A00	T		U	3	3 OUT OF 4 RPS FLUX/IMBALANCE/FLOW CHNLS OOC	VARIATION IN RC FLOW
B	OE3	030291	020180	TX	LG	NN	A07	N		T		BWST #2 FAILD HI WHEN LVL XMITR 3LT-6 FROZE	NEUTRAL PWR CBL WIRE TO STRP HEATRS FAILD
B	OE3	033291	111780	TX	LG	NN	B00	N		U		BWST LVL CH B INOP DUE TO ERRATIC INDICATION	NO CAUSE GIVEN FOR MALFUNC TRANSMITTER
B	OE3	036753	032481	TX	PT	PX	A14	T		T		CH "A" RCS HIGH PRESSURE TRIP FOUND OOC .087 VDC	INSTRUMENT DRIFT
B	OE3	171133	112581	CM	NT	PX	A13	T		T		RPS LINE CHAN B FLX INBAL-FLW BISTBL TRP OUTSD LMT	SCALED DELTA FLX AMP MODULE FAILURE

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
B	OE3	171540	120281	IM	FT	PX	B13	T		I		CHANNEL C PMP POWER MO FAILED TO SEND A TRIP SIGNL	A FAILED IC ON LOGIC BOARD OF PMP PWR MO
B	RS1	014503A	040576	TX	PT	PX	A14	T		T	3	3 RPS PRESS XMTRS READ OUTSIDE OF TS - LOW	INST DRIFT-VERITRAK MOD 59 PH 443-7050
B	RS1	014503B	040576	TX	PT	PX	A14	T		T		1 RPS PRESS XMTR READ OUTSIDE OF TS - HIGH	INST DRIFT-VERITRAK MOD 59 PH 443-7050
B	RS1	018006	041977	ZZ	NT	PX	A14	T		T		RPS CH A FLUX/IMBALNCE/FLOW TRIP ENVELOPE OUTSD TS	DRIFT OF FUNCTION GEN MOD 6625027A1
B	RS1	019581*	101977	RE	XT	PX	A00	T		U	2	2 OF 4 RCP "C" PHASE BAL RELAYS FOUND OUT OF CAL	NO CAUSE GIVEN - MOD 21-172(#'S 009, 011)
B	RS1	022607	092578	TX	FG	SH	B13	T		U		HPI LOOP A FLO XMTR FT-23807 WAS INOPERABLE	BROKEN BELLOWS IN THE FLOW TRANSMITTER
B	RS1	027887	121679	SE	FG	CT	A05	N		T		FLOW INDICATION APPARENTLY IN FEED AND CONDENSATE/	/SYS FOUND INACCURATE. EROSION WEAR
B	RS1	031459A	061980	CM	NT	PX	A14	T		T		OVERPOWER B/S VOLTAGE SETTING DRIFTED OUT	VOLTAGE RESET & DAILY CHECK INSTITUTED
B	RS1	031459B	062380	CM	XT	PX	B00	N		U		B/S VOLTAGE SETTING DRIFTED	B/S MODULE SEMI CONDUCTR VOLTG REG MALFUN
B	RS1	032581	082380	CL	XG	SN	A00	T		U		UNIT DID NOT ACHIEVE RATED VOLTAGE	ATTRIBUTED TO THE VOLTAGE REGULATOR
B	RS1	032580	091180	TX	FT	PX	B00	N		I		RCS B LOOP FLO IND FOR RPS D CHNL IND ZERO FLOW	AMP IN ELECTRONIC CKT OF XMITR FAILED
B	RS1	036285	020381	RE	XS	SF	A14	T		T		"B" RBS PUMP FAILED TO START WITHIN TIME LIMIT	TIMER RELAY WAS OOC
B	RS1	036470*	030381	GS	PT	PX	A14	T		T	4	RX BLDG PRESSURE TRIPS CH'S A,B,C & D FOUND OOC HI	INSTRUMENT DRIFT. MAY OOC WAS 0.05 PSIG
B	RS1	038793	093081	RE	XG	NN	B02	N		U		RELAY WHICH CONTROLS PZR HEATERS FAILED	TERMINAL SCREW WASHER WAS MISORIENTED
B	RS1	171761*	111881	TX	PT	PX	A14	T		T	2	RPS RX PRESSURE TX'S IN B & C CHANNELS FOUND OOC	INSTRUMENT DRIFT
B	RS1	171627	120881	TX	PT	PX	B14	N		T		XMTR IN RPC C FAILED (PRESSURE)	DRIFT
B	TI1	015866	083076	CA	NT	PX	B09	N		I		"D" CHANL TRIPPD (FLUX/IMBALANC/FLOW);"C" IN BYPAS	SHORT IN JUNCTION BOX;"C" PLACED IN NORML
B	TI1	015864*	083176	TX	PT	PX	A14	T		Y	2	R/X COOLNT PRESS SETPOINTS LESS CONSERV THAN T.S.	RPS CHAN B&C CALIB. DRIFT(MINOR)
B	TI1	016306	102776	CA	TT	PX	B12	T		I		RC HI TEMP BISTABLE CHAN "C" FAILD TO TRIP	DIRTY CONNECTOR ON BISTABLE; CLEANED CONN
B	TI1	022381	090178	TX	LG	SN	A14	N		T		DURIN CALIBRTN OF TRANSMITTR;BORAID WATR L.T. T.S.	ACT. LEVEL 12.42 FT ; T.S. LEVEL 12.55 FT
B	TI1	022380	090878	TX	LG	NN	A11	T		T		NAOH TANK LEVL XMTR LOW READING LEAKY O-RINGS	REPLACED O-RINGS & RECALIBRATED XMTR
B	TI2	021009	032878	AM	DC	NN	B13	N		U		FAILURE OF AMPLIFIER PRODUCD ERRONEOUS READINS-ROD	ROD 5 OF GROUP 8
B	TI2	021276	040878	TX	PS	SN	B07	T		T		RCS PRESS XMTR RC-3A-PT4 FAILD;TRIPD CHAN RC2A/B	MOISTURE INDUCD SHORT IN XMTR CIRCUIT
B	TI2	021612	041778	SE	NT	PX	B05	N		D		RPS CHAN C HI FLUX TRIP INTERMITTENT-DETECTOR NI-7	NI-7 DAMAGD DURN INITIAL INSTALLTN-REPLAC
B	TI2	021608	051278	GS	PS	IC	A14	T		T		SETTING OF BS-PS-3260 GT. TECH SPECS	INSTRUMENT DRIFT DURN SURVEILLNC TIME
B	TI2	022387	083178	CM	PS	SN	B13	N		U		SI CHANL "C" DID NOT TRIP LT. 1640# SETPOINT	FAULTY BI-STABLE REPLACED
B	TI2	023083	101478	PS	NS	SN	B13	N		U		CRD BKRS CLOSED WITH ONLY 1 SOURCE RANGE DETECTOR	INOPRBL PS FOR ONE SOURCE RANGE CHANNEL
B	TI2	023082*	110778	GS	LG	SN	A14	T		U	2	DURN CALIB. BWST LEVEL SETPOINTS EXCEEDED TECH SP.	TRIPPD IN CONSERVATIVE DIRECTION
B	TI2	023431	121578	MO	RR	NN	B07	N		D		PUMP FOR HP-R-227 SEIZED (AREA MONITOR)	WATER IN SAMPLE LINES
B	TI2	025504*	011779	GS	FG	CT	A14	T		T	2	FEEDWATER LINE RUPTURE SW'S,FW-DPIS-7883-1 & 2,FO/	/UND OUT OF CAL. INSTRUMENT DRIFT
C	AR2	023486	123078	CA	NI	PX	B06	N		D		UPPER AND LOWER NI LEADS SWAPPED	LEADS INITIALLY INSTALLED BACKWARDS
C	AR2	023487	123078	TX	PG	NN	B00	T		U		CONT. BLDG PRESSURE TRANSMITTER FAILED TO OPERATE	TRANSMITTER RETURNED TO SERVICE
C	AR2	025214	011379	IX	DT	PX	B13	T		T		CPC "B" WAS DECLARED INOPERABLE	BAD MULTIPLEXER CARD IN TRANSMITTER
C	AR2	025215	012179	RE	XT	PX	B00	T		U		CHANNEL "C" RPS TRIP PATH SOLID STATE RELAY FAILED	NO CAUSE GIVEN FOR FAILED RELAY
C	AR2	025210	012479	ZZ	LG	SN	A00	N		T		NAOH TANK LOW LEVEL ALARM AND INDICATING CIRCUIT//	WAS FOUND OUT OF ALIGNMENT. NO CAUSE
C	AR2	025820	032679	CA	PG	NN	A12	N		I		CH "D" PZR PRESSURE VARIABLE SETPOINT FAILED TO //	TRACK. DIRTY CONTACTS ON CARD EDGE
C	AR2	026062	051479	SE	PG	NN	A11	N		I		LEAK DISCOVERED IN REACTOR COOLANT PUMP SEAL CAVI/	/TY PRESSURE SENSING LINE FOR 2PT-6006
C	AR2	026296	052779	TX	PI	PX	B09	N		I		"A" S/G PRESSURE INDICATOR FAILED HIGH,2PI-1041-4N	ELECTRONIC PORTION OF TRANSMITTER FAILED
C	AR2	026547	070379	IN	NG	NN	A12	N		I		S/U RATE METER 2I1-9000 INDICATED INCORRECTLY	WIPER ARM CLEANED,INDICATOR EXCERCISED
C	AR2	026544	070879	ZZ	XT	PX	B07	N		D		"B" CPC FAILED TRIPPING DNBR AND LPD TRIPS	LOST BIT DUE TO FAILED AIR CONDITIONER
C	AR2	026891	080479	ZZ	XG	NN	B00	N		U		CEA #39 WOULD NOT MOVE DUE TO FAILED CEA ENABLE //	CARD. NO CAUSE GIVEN
C	AR2	026914	082079	CA	XC	NN	A12	N		T		CEAC SPURIOUS PENALTY FACTORS EXPERIENCED	DIRTY INPUT CARD CONTACTS
C	AR2	026907*	082179	PS	DG	NN	B00	N		U	2	RSPT GIVEN ERRONEOUS OUTPUT	NO CAUSE GIVEN FOR POWER SUPPLY FAILURES
C	AR2	027032	082879	ZZ	XT	PX	A02	M		D		INADVERTANT RAS TRIP SIGNAL WHEN LEAD LIFTED	WRONG RESISTOR REMOVED,PERSONNEL ERRCR
C	AR2	027184	092279	CA	FT	PX	B12	N		T		"C" CPC FAILED DUE TO RCP "D" SPEED INPUT FAULTY	SPEED INPUT PULSE SHAPER CONTACTS DIRTY
C	AR2	027806A	112879	PS	LG	NN	B00	N		U		CNTNMNT BLDG SUMP LEVEL INDICATOR PS FAILED	NO CAUSE GIVEN
C	AR2	027806B	112879	CN	LG	NN	B00	N		U		CNTNMNT BLDG SUMP LEVEL INDICATOR CONVERTER FAILED	NO CAUSE GIVEN
C	AR2	028077	123079	AM	NT	PX	B00	N		U		B PPS LOG POWER FAILED LOW	EX-CORE CH "B" PRE AMP FAILED,NO CAUSE
C	AR2	030225*	010780	SE	DG	AG	B00	N		U	2	CONTAINMENT ISOL VLV 2SV-5876-2 FAILED TO CLOSE	VLV POS IND FAULTY DUE TO TWO BAD REED SW
C	AR2	025218	010980	IM	XT	PX	B00	N		U		CHANNEL "B" CPC DECLARED INOPERABLE	ROOT CAUSE COULD NOT BE DETERMINED

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
C	AR2	030383*	012480	TX	LS	SN	A14	N		T	2	NAOH TANK LEVEL TRANSMITTERS READ HIGH	TRANSMITTERS OUT OF CALIBRATION (DRIFT)
C	AR2	036444	030480	IN	TG	NN	B00	N		U		RX CLNT SYS COLD LEG 2TI-4715A RDG HIGH	BAD SERVO MOTOR IN TEMP INDICATOR
C	AR2	031379	051680	PS	XS	SN	B06	N		U		"A" SG HI PRETRIP/TRIP ON CHANNEL "C" PPS	PS FAILURE ON BISTABLE CARD, BCP CARD #9
C	AR2	031677	053080	PS	PT	PX	B00	N		U		"C" PPS HI SG DELTA P TRIP BYPASSED	FAILED POWER SUPPLY ON THE BISTABLE CARD
C	AR2	031675	060180	GS	LG	NN	B13	N		D		CONT SUMP LVL IND 2LI-5641 READ HIGH	LIS-5641 MAGNETS OFF FLOAT BALL
C	AR2	031925	062480	MO	RR	NN	B00	N		U		RADIATION INDICATOR (2RITS-8750-1) FAILED LOW	UNKNOWN
C	AR2	031785	070880	IM	XS	SN	B04	N		D		"B" SG HI PRETRIP/TRIP ON CHANNEL "C" PPS	DEFECT B/S CRD (PPS "C" SG-2 HI LVL CARD)
C	AR2	032095	071780	IM	XT	PX	B00	N		U		"A" CPC FAILED	EXACT CAUSE UNKNOWN
C	AR2	032096	071980	TX	PT	PX	B00	N		U		CONT BLDG PI 2PI-5603-3 FAILED HI CURRENT REPEAT//	ER 2PY-5603-3B ERRATIC. CAUSE UNKNOWN
C	AR2	032100A	072080	IM	XT	PX	A00	N		U		"A" CPC REC'D 3 AUTO RESTARTS	UNKNOWN MAYBE HIGH CPC ROOM AIR TEMP
C	AR2	032097	072180	IM	DT	PX	B00	N		U		CEAC #1 FAILED	UNKNOWN
C	AR2	032099	072180	TX	XT	PX	A13	N		D		"D" PPS CHAN REC'D ERRATIC DNBR/LPD TRIPS	LOOSE ELEC LEADS ON TEMP TRANS 2TT-4711-4
C	AR2	032446A	081080	PS	PT	PX	B00	N		U		HP CONT TRP FRM PPS-A/TRP ON PPS-D FRM SG-8 LP CKT	B/S COMPARATOR CARD POWER SUPPLY FAILED
C	AR2	032448	081180	PS	PT	PX	B00	N		U		HI-HI CONT PRESS TRIP ON PPS "D"	PS ON B/S CARD FAILED
C	AR2	032824	100480	IN	LG	NN	A12	T		T		SG LVL IND 2LI-1031-2 FAILED SURV TEST CRITERIA	STICKING INDICATING NEEDLE
C	AR2	032894U	102380	ZZ	DT	PX	B00	T		U		CEAC #2 FAILED	FAILED OP MODULE CARD FOR TEST CIRCUIT
C	AR2	033044A	110380	IN	XG	CT	B08	N		T		S/U CHANNEL READING 2JI-9000 INOPERABLE	MECHANICALLY STUCK INDICATOR
C	AR2	033044B	110380	IN	LG	CT	B13	N		U		"B" SG LEVEL 2LI-1133 INOPERABLE	BAD SERVO MOTOR FOR THE INDICATOR
C	AR2	033199	111780	ZZ	DT	PX	B05	N		D		"A" CPC FAILED	DEFECTIVE DATA LINK CARD
C	AR2	032446B	120380	CM	LT	PX	B00	T		U		SG "B" LO LVL TRIP CIRCUIT FOR PPS "A" INOPERABLE	B/S COMPARATOR CRD LOGIC FAILURE
C	AR2	032100B	121880	IM	XT	PX	B07	N		U		CPC "C" FAILED	UNKNOWN MAYBE HIGH CPC ROOM AIR TEMP
C	AR2	036079	011381	PS	XG	NN	B09	N		D		PLANT COMPUTER FAILED RENDERING COLSS INOP	FLOATG PT PWR SUP CAP GEN NOISE FRM SHORT
C	AR2	037977	012481	AM	XT	PX	B00	M		U		"C" CORE PROTECTION CALCULATOR DECLRD INOP	FAILD PWR AMP FOR "C" EXCORE DET
C	AR2	036303	020481	LM	XG	NN	B00	N		U		PLANT COMPUTER FAILED RENDERING COLSS INOP	UNKNOWN
C	AR2	036304	020481	CN	LG	NN	B00	N		U		CNTNMNT SUMP 2LI-5645-1 INOP	DEFECTIVE CONVERTER
C	AR2	036306A	021281	IM	XT	PX	B00	N		U		CEAC-2 FOUND INOP	UNKNOWN
C	AR2	036980*	042481	SE	TS	SN	A00	T		T	29	RCS RTD'S DID NOT MEET REQ RESPONSE TIME	COUPLANT IN RTD WELLS DRIED OUT IN OPERAT
C	AR2	038369	072781	MO	RR	NN	B09	N		U		CNTRL RM VENT 2RE-8750 FAILD ABOVE HI ALRM SETPT	LOOSE CONNECTIION INTERNALLY
C	AR2	038890	081581	RE	FG	CT	B00	N		U		EFW FLO VLV 2CV-1038 FAILD "A" SG FLOWPATH INOP	RELAY FAILD BLEW PWR SUP FUSE
C	AR2	036306B	081781	CA	XT	PX	B00	M		T		CEAC-2 DISPLAY MALFUNCTIONED	LOOSE CABLE CONNECTOR
C	CC1	014263	021276	II	XS	SN	B13	T		T		CH B LOCI SEQUENCER UNBLOCKED TOO LATE	DEFECTIVE SEQUENCER MODULE
C	CC1	014284	021876	PS	FT	PX	B13	T		T		NON-CONSERVATIVE LOW FLOW TRIP,RPS CH B,FOUND	DEFECTIVE POWER SUPPLY CAUSED DRIFT
C	CC1	017454	031477	IN	PG	SN	A09	T		T		PRESSURIZOR PRESS,CH ZD,INPUT READING HIGH	BROKEN RESISTOR LEAD
C	CC1	017991*	032377	CM	PS	SN	A14	T		T	3	S/G BYPASS REMOVAL,B/S SETPOINTS TOO HIGH	INST DRIFT,S/G #12 CH C,D,S/G #11 CH C
C	CC1	017994	033077	CA	NT	PX	B02	N		D		POWER RANGE UPPER DETECTOR CIRCUIT,CH A, FAILED	DETECTOR DRAWER FIELD CABLE CONN. DISCONN
C	CC1	017711	050677	IN	XG	NN	B13	N		T		METRASCOPE LIGHTS DIMMED ABNORMALLY	CARD IN CONTROL CONSOLE FAILED
C	CC1	017817	050877	RE	FG	NN	B13	N		T		RMS PANEL INDICATED THAT SAMPLE PUMP HAD TRIPED	HIGH FLOW ALARM RELAY HAD FAILED
C	CC1	017796	052277	SE	TT	PX	B13	N		U		RPS CH B T-HOT FOUND READING HIGH	ONE OF THE TWO RTD'S HAD HIGH RESISTANCE
C	CC1	017908	052577	CA	XT	PX	B02	N		D		RPS CH B LOSS OF LOAD TRIP WAS RECIEVED	WORKER CUT CABLE E1C158A
C	CC1	018307	070177	CA	TT	PX	A07	N		T		RPS CH B TRIP UNITS BYPASSED DUE TO LOW TC IND.	DUST ON THE SLIDE LINK TERMINALS INC RES.
C	CC1	018860	081177	PS	NT	PX	B13	T		T		RPS CH C TRIP UNITS WERE BYPASSED	POWER SUPPLY REGULATING HIGH,REPLACED
C	CC1	019122	091577	IM	TT	PX	B13	N		T		RPS CHANNEL B TM/LP TRIM UNIT ACTUATED	THERMAL MARGIN/LOW PRESS CALCULATOR FAIL
C	CC1	019201	092777	ZZ	DC	NN	B06	N		D		CMI DECLARED INOP DUE TO METRASCOPE BEING INOP.	INCORRECT SIZE POTENTIOMETER SPEC. BY TM
C	CC1	019340	101377	CM	PS	SN	A14	T		T		RPS CH C S/G PRESS TRIP BYPASS REMOVAL SETPOINT OC	SETPOINT DRIFT DRIFT
C	CC1	019338	101877	ZZ	XS	SN	B00	T		U		RANDOM ACTUATION OF B CH SIAS & CSAS COMPONENTS	NO APPARENT CAUSE,DONE WHEN TEST ESFAS LO
C	CC1	019618	110877	MO	RR	NN	B08	N		T		CAM PUMP CYCLING, ON 40 MIN, OFF 20 MIN	SUCT FILTER DIRTY FRM UPSTM DRYER REMVL
C	CC1	019735	112377	GS	LG	NN	A12	N		T		CONTAINMENT SUMP HIGH LEVEL ALARM PID NOT CLEAR	LEVEL SWITCH WAS STUCK
C	CC1	019734	120577	TX	PT	PX	B13	N		T		RPS CH D #12 S/G PRESSURE READ HIGH	FAILED OSCILLATOR IN S/G PRESS XMITTER
C	CC1	021845	070878	IM	XS	SN	B13	N		T		SIAS B-8 LOGIC MODULE ACTUATING ALL SIAS B-8 EQUIP	FAILED LOGIC MODULE,MODULE B-8 REPLACED
C	CC1	022950	111378	MO	RR	NN	B02	N		D		CONTAINMENT PARTICULATE RAD MONITOR FAILED LOW	SIGNAL CABLE NOT CONNECTED PROPERLY

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
C	CC1	025593A	031879	GS	DC	NN	A14	T		T		CEA 27 WOULD NOT CAUSE MOTION INHIBIT WITHIN 7.5IN	INSTRUMENT DRIFT
C	CC1	025593B	031879	GS	DC	NN	A14	T		T		CEA MOTION INHIBIT FAILED TO PREVENT CEAS 35 & 36/	/FROM MOVING GREATER THAN 7.5 IN. DRIFT
C	CC1	026531	071279	SE	TT	PX	B00	N		U		RPS CHANNEL B T-HOT FAILED CAUSING TRIP FROM RPS//	CH B HI POWER. TEMP DETECTOR 1-TE-122HB
C	CC1	026535	071279	LM	DG	NN	B09	T		U		COMPUTER DID NOT OUTPUT POSITION FOR CEA 65 AFTER/	/POSITION 42". ELECTRONIC FAILURE IN RRT
C	CC1	026718	080679	GS	PG	AG	B13	N		T		#12 RHR PUMP WOULDNT START DUE TO FAULTY PRESS SW	LOW SUCTION PRESS SW INTERNALS WORN OUT
C	CC1	026784*	081279	CA	NT	PX	A00	T		D	2	WIDE RANGE NUCLEAR INST CH D WOULD NOT IND IN TEST	DISCONNECTED TEST AND POWER CABLES
C	CC1	027538	093079	AM	NT	PX	B00	N		T		CH A LOWER POSITIVE PWR DISTRIBUTION SETPOINT DE//	CREASING. FAILED BUFFER DUE TO EOL
C	CC1	027372	101979	SE	TT	PX	A00	N		U		SPURIOUS TRIPS RECEIVED FROM CH A HI POWER DUE TO/	/FAILED DETECTOR OR LOOSE TERMINATIONS
C	CC1	027798	112279	AM	PT	PX	A00	N		U		RPS CH C CNTNMNT PRESSURE SIGNAL DEVIATED BY .1 VO	//LTS DUE TO ISOLATOR 1-E/E-5313C FAILURE
C	CC1	027799	112679	SE	TT	PX	A00	N		U		SPURIOUS TRIPS ON CH A HI POWER OCCURED DUE TO //	SPIKES ON T-COLD INPUT. FAILED DETECTOR
C	CC1	030674	022580	AM	PT	PX	B00	T		U		"D" CNTNMNT HP TRIPPED OUT OF SPEC DECLARED INOP	FAILED SIGNAL ISOLATOR 1-E/E-5313D
C	CC1	031000	032580	PS	NT	PX	B00	T		U		"A" WRNI DID NOT RESPOND IN THE CALIBRATE MODE	PWR SUPPLY FAILED CAUSED PREAMP FAILURE
C	CC1	031042	043080	CM	NG	NN	B00	T		U		"B" WRNI B/S PRINTED CKT BRD A9 HAD NO OUTPUT RE//	LAY ACTUATION. CAUSE UNKNOWN
C	CC1	032462	080680	IM	PT	PX	B00	N		U		TRIP SIGNAL TO "B" CIS LOGIC MODULES	ACTUATION "B" ISOL MOD W/IN "ZE" FAILED
C	CC1	032760	092580	TX	PT	PX	B00	N		U		ESFAS PZR PRESS "ZD" OUT OF SPEC ISOL XMITTR /	/ 1-E/E-102A OUTPUT SIG OSCLLTNG. UNKNOWN
C	CC1	033560B	122180	SE	TI	PX	B00	N		U		RPS "B" HI PWR TM/LP AXL FLX BYPS TO FIX TCOLD IN/	/PUT. 1TE112CB HAD HI RESISTANCE CONNCTN
C	CC1	033705A	122280	CN	XS	SN	B00	N		U		CHANNEL ZG E/E CONVERTER WAS DEFECTIVE	UNKNOWN
C	CC1	033705B	122280	IN	XG	SN	A14	N		T		VOLTAGE DEVIATION	"D" B/S VOLTMTR ZERO SHIFTED OUT OF TOL
C	CC1	036268	011281	AM	PS	SN	B00	N		U		ESFAS SENSOR "ZE" FOR #12 SG PRESSURE PLACED OOS	ISOLATOR 1-E/E-1023B FAILED
C	CC1	037340	011481	TX	FG	CT	A00	N		U		FW FLO XMTR FAILED TO MAINTAIN CAL, OUTPUT LOW	NO REASON FOR SHIFT IN CALIBRATION
C	CC1	036390	021281	SE	PT	PX	A09	M		U		INTERMITTENT FAILURES OF RPS "D" PRESSURE SIGNAL	HI RESISTNC CNNCTN AT SIG DEV RESISTOR
C	CC1	036451	021781	AM	PS	SN	B00	N		U		ESFAS "ZD" #12 SG PRESS 1-E/E-1023A ISOLATOR OOC	ISOLATOR HAD NON-LINEAR OUTPUT
C	CC1	036675	030581	SE	TT	PX	B00	N		U		RPS B TCOLD INPUT TE-122CB RDG ERRATIC TM/LP TRIPS	CHANGING TEMPERATURE DETECTOR RESISTANCE
C	CC1	037495	060181	CA	NT	PX	B00	N		D		FAULTY "A" POWER RANGE INSTRUMENT	NORMAL USE CAUSED LOOSE CABLE CONNECTOR
C	CC1	037882	062681	CL	PG	NN	A00	N		U		PZR LVL GREATER THAN 5% PROGRAMMED BAND PZR LVL //	CONTROLLER ADJUSTED. NO SPECIFIC CAUSE
C	CC1	037996	070181	TX	PT	PX	A14	N		T		ESFAS ZE PZR PRESS & #11 SUBCOOLD MARGIN MON OOS//	ISOL XMTR NARROW RNG OUTPUT DRIFTED LOW
C	CC1	037881	070281	MO	RR	NN	A00	N		U		CNTNMNT RMS PUMP TRPD ON LO FLO LOST GAS/PART MON	NO CAUSE FOR MOMENTARY FLO DECREASE
C	CC1	038583	082681	GS	XC	NN	B00	M		U		CONTROL ELEMENT ASSEMBLY #1 DROPPED INTO THE CORE	CEDS CONTROL PANEL OFF SW FAILED
C	CC1	039025	100581	CL	DC	NN	B09	N		U		CEA #57 INSERTED FARTHER THAN OTHER GROUP 1 CEA'S	ELECTRONIC FAILR OF INDIVIDUAL CNTRL MOD
C	CC2	017111	120576	TX	LG	NN	A11	N		D		CH C S/G WATER LEVEL DISCOVERED ERRATIC	FOREIGN MATERIAL IN HIGH & LOW SIDE OF TX
C	CC2	016727	122176	TR	XS	SN	B13	N		D		#21 S/G ISOL TRANSFORMER TO ESFAS OUTPUT LOW	FAILED DIODE,2-E/E-101D CH ZG
C	CC2	016996*	011777	CA	TT	PX	A09	N		T	2	CHANNEL B THERMAL MARGIN/LP SPURIOUS TRIPS	TH SIGNAL LEADS WERE LOOSE
C	CC2	017206	012577	SE	NT	PX	B13	N		T		FLUX PROBLEMS EXPERIENCED IN CH B HI POWER, TM/LP	(CONT) & AXIAL FLUX OFFSET.FAIL DET TUBE
C	CC2	017207	012677	AM	NT	PX	B13	N		T		CH A AXIAL FLUX OFFSET POSITIVE LIMIT FAILED HIGH	FAILED AMPLIFIER
C	CC2	017005	021377	ZZ	FG	CT	A00	N		U		FEED WATER FLOW TO 22 S/G 600,000#/HR BELOW EXPECT	CAUSE UNKNOWN
C	CC2	017823	051677	IM	FT	PX	B13	N		T		RPS CH C RX COOLANT FLOW-LOW TRIP,TRIPPED	FAILED FLOW SIGNAL CHARACTERIZER
C	CC2	017825	051677	SE	TI	PX	B13	N		T		RPS CH D TC DISCOVERED READING HIGH	BROKEN LUG CONNECTION ON RTD,RTD REPLACED
C	CC2	017800	051777	SE	TT	PX	A09	N		U		SPURIOUS TRIPS ON RPS CH C RECIEVED	NOISE FROM TH RTD,CAUSE UNDETERMINED
C	CC2	018224	062077	TX	PT	PX	A14	N		T		CH A S/G PRESSURE,PI-1023A,INDICATED LOW	ZERO SHIFT IN PRESSURE TRANSMITER
C	CC2	018878	081877	AM	XS	SN	B13	N		T		CHANNEL A SIAS ACTUATION SIGNAL,ACTUATED	FAILED ISOLATION MODULE
C	CC2	018879	081977	IM	NT	PX	B13	T		T		CH A AXIAL FLUX OFFSET POS LIMIT TRIP FOUND INOP.	MULTPLIER/DIVIDER FOUND LIMITING APD SIG.
C	CC2	018948	082977	HS	PT	PX	B08	T		D		TEST INDICATION FOR CH B HI PZR PRESS TRIP INOP.	MOUNTING HARDWARE FOR PUSHBUTTON LOOSE
C	CC2	019028	090577	CM	PS	SN	B13	N		T		ESFAS S/G #2 SGIS CH ZD TRIPPED	CH ZD PRESSURE SENSOR BISTABLE MOD. FAIL
C	CC2	020560	022178	CA	NT	PX	B09	T		T		RPS CH B WIDE RANGE NEUT. INDI COULD NOT BE ALIGN	HIGH CAPAC CONNECTION
C	CC2	021846	070478	IN	XG	PX	B13	N		D		SMOKE ISSUED FROM RPSCIP PANEL FROM CH C RPS	FAILED DIODE CAUSE TRANSFORMER FAILURE
C	CC2	022245	081778	MO	RR	NN	B13	N		T		CONTAINMENT PARTICULATE MONITOR READING LOW	FAILED ISOLATOR COMP. ASSEMBLY BOARD
C	CC2	022604	092478	IN	LG	SN	A14	N		T		INADVERTANT RAS ACTUATION OCCURED	LEVEL INDICATOR 12" OOC ON RWT
C	CC2	023313	121278	MO	RR	NN	B13	N		T		CONTAINMENT SAMPLE PUMP TRIPPED REN RAD MON INOP	NORMAL END OF LIFE BEARING FAILURE
C	CC2	023315	121778	TI	DC	NN	B13	T		T		CEA-18 DID NOT DRIVE DOWN ELECTRICALLY	TIMER MODULE FAILURE
C	CC2	025171	012979	TX	FS	SN	A13	N		D		RPS CH D FLOW XMITTER OUTPUT LOW	HEAT DUE TO VLV LEAK WARPED BELLOWS

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
C	CC2	025224	020479	RE	DC	NN	B00	T		D		RELAY K2 ON RELAY CARD FOR 8 INCH GROUP DEVIATION/	/PORTION OF CMI. ABNORMAL WEAR
C	CC2	028048	071779	TX	PG	NN	B13	N		T		TRANSMITTER FOR RCP SEAL LEAKAGE FOUND LEAKING	LEAKED INTERNALLY FROM ELEMENT (RCP #21)
C	CC2	026713	080379	MO	RR	NN	B00	N		U		CNTNMNT PARTICULATE AND GASEOUS RAD MON RENDER //	INOPERABLE. BLOWN FUSE,NO CAUSE GIVEN
C	CC2	026961*	090379	SE	TT	PX	B00	N		U	3	SPURIOUS TRIPS ON RPS CH C ON THREE DIFFERENT OC//	ASSIONS APPAR FROM T-C OR T-H INPUT
C	CC2	027392	100579	IN	PG	IC	B13	T		T		CONTAINMENT PRESSURE SENSOR VOLTAGE METER FAILED	AGING OF METER MOVEMENT WINDINGS
C	CC2	027797A	112779	TX	PS	SN	A14	T		T		CH ZG PRESS XMITTER FOUND OOC 28" HIGH	ZERO SHIFT
C	CC2	027817	121279	CA	NT	PX	B00	N		U		ERRATIC INDICATION FROM CH A WIDE RANGE NUC INST	BROKEN CONNECTOR
C	CC2	028089	122179	ZZ	TT	PX	B13	N		U		CH B TC TAKEN OUT OF SERVICE DUE TO ERRATIC IND.	BROKEN LEAD ON CURRENT LOOP RESISTOR
C	CC2	030218	010780	IN	LG	NN	B00	N		U		RWT NARROW RANGE LVL IND ALRM CKT LED FAULTY	UNKNOWN
C	CC2	030396	012180	ZZ	PT	PX	A00	N		U		SPURIOUS LOSS OF LOAD TRIPS ON CHANNEL B	UNKNOWN
C	CC2	030397	012680	IN	NG	PX	A12	N		T		RPS "A" BYPSSD ERRATIC MTR RDG ON TEST PANEL METER	MTR INPT JACKS DIRTY/LOOSE CBL CNNCTR PIN
C	CC2	033855	021980	IM	XS	SN	B00	T		U		"A" CVCS ISOL LOGIC INOP	"A" CVCS ISOL LOGIC MOD INPUT CKT FAILED
C	CC2	030678A	022480	TI	XC	NN	B00	T		U		CEA 31 DROPPED INTO CORE	A FAULT IN TIMER MODULE CAUSE UNKNOWN
C	CC2	030678B	022480	RC	XC	NN	B00	T		U		CEA 34 DROPPED INTO CORE	VISICORDER "6" CNNCTD TIMER LOADING CKT
C	CC2	030682	030380	AM	PG	SN	B00	N		U		SENSOR CHNL IND DISPLYD VOLT DEVIATION	SIG ISOL 2-E/E-1023C OOC NONLINEAR RESPON
C	CC2	030997	031880	RE	XS	SN	B13	T		D		RELAY K63 DIDN'T ENERGIZE & START #23 SALTWTR PMP	BROKEN RELAY SOCKET PIN
C	CC2	030996A	032080	ZZ	NT	PX	B00	T		U		"D" LINEAR RNG PWR SIG INCRSD ABOVE RPS HI PWR TRP	UNKNOWN
C	CC2	030996B	040980	ZZ	NT	PX	B00	T		U		"D" LINEAR RNG PWR SIG INCRSD ABOVE RPS HI PWR TRP	UNKNOWN
C	CC2	031030	042880	LM	FG	NN	A09	N		D		ERRATIC CHANNEL A COMPUTER FLOW ALARMS CMPTR OPEN/	/ T/C DETCTN CRD PUT NOISE INTO FLOW SIG
C	CC2	031370	051280	LM	XG	NN	B09	N		D		COMPUTER SENSED I/O PWR FAILURE & SHUTDOWN	NOISE SPIKE GENERATED TO I/O POWER SUPPLY
C	CC2	032206*	072980	CM	XS	SN	B00	N		U	2	ESFAS "ZE" DEENRGZD ZE SIAS & CIS B/S MTR POINTER/	/S OSCILLATING. NO CAUSE FOUND
C	CC2	032551	082980	TX	PT	PX	A14	N		T		"C" PRESSURIZER PRESSURE HI TRP SETPT OUT OF SPEC	PRESSURE XMITTR 2-PT-102C ZERO-SHIFT LOW
C	CC2	032712	091480	ZZ	LG	NN	A00	N		U		22B SIT LEVEL INDICATION ERRATIC	UNKNOWN
C	CC2	032762	092680	AM	XG	SN	A00	N		U		ESFAS 22 SAFEGUARDS INITIATION SIG "ZF" OOC	SIGNAL ISOLATOR 2-E/E-1023C FAILED
C	CC2	033092	102480	AM	PT	PX	A14	T		T		CNTNMNT PRESSURE SIGNAL TO RPS "A" OOC	OUTPUT OF ISOLATOR 2-E/E-5313A DRIFTED LO
C	CC2	033093	102780	PS	NT	PX	300	N		T		WRNI "B" INOPERABLE	MAT'L END OF LIFE PWR SUP LO VDC OUTPUT
C	CC2	033094	110180	CL	TG	SN	B00	N		U		#21 CNTNMNT AIR COOLING FAN CONTROLLR FLASHED OVER	UNKNOWN
C	CC2	036026	010781	CA	XT	PX	A00	N		T		FAULTY DET OUTPUT DUE TO LOOSE UPPR SUBCHNL DET'S/	/FIELD CABL CNNCTR. WEAR & SERV HANDLING
C	CC2	036928	040481	AM	PT	PX	B00	N		U		HI SG PRESSURE DIFFERENCE TRP OF CHNL D TM/LP	LOAD ISOLATR FAILD HI OUTPUT SIG STATE
C	CC2	037182B	041981	CA	FG	NN	B00	N		U		FAULTY RMS LO FLO IND LITE SOCKET COMPOUNDED PMP//	FAILR. BURNED CONTACT/OPERATORS CAUTIOND
C	CC2	037759	060981	CM	TT	PX	A00	T		U		"A" RPS TRP UNIT FOR TM/LP MONITOR FOUND FAULTY	B/S TRP UNIT WOULD NOT TRP AT SIGNAL LVL
C	CC2	038066	070981	CA	TT	PX	A12	T		T		RPS "D" T-HOT INDICATION READING TOO HIGH	GRIT ENTERING A CONNECTION
C	CC2	038396	081081	SE	TT	PX	B00	N		U		CHANGING TEMP DET 2-TE-122CD RESISTANCE	POSSIBLE CAUSE DET OR LOOSE ELEC CONNECTN
C	CC2	038397	081381	CN	NC	NN	B09	N		D		PLANT COMPUTER FAILD MADE INCORE DET MON SYS INOP	CKT FAULT IN ANALOG/DIGITAL CONVERTER #1
C	CC2	171060	101781	GS	LS	IC	B12	N		T		CONT SUMP LVL ALARM WAS INOPERABLE	PROBABLY DIRT IN LEVEL SWITCH
C	CC2	039425	111381	IM	TT	PX	B13	N		T		B DELTA-T CAL POTENTIOMTR HAD SPURIOUS HI PWR SIG/	/SPIKES. NORMAL WEAR--MAT'L EOL FAILURE
C	FC1	014301	022776	CM	LT	PX	B14	N		T		RPS A STM GEN B LEVEL TRIP DID NOT ACTUATE	BISTABLE INPUT RESISTOR OUT OF TOLERANCE
C	FC1	014305	022776	TX	PT	PX	B13	T		T		PT/0902 PRESS CHANNEL OUT OF CAL	FOXBORO E-11GM XMTR HAD BAD AMP CARD
C	FC1	014499	040176	IM	NT	PX	A14	T		T		VHPM TRIP B AT 6 VICE 4.2	B&H 19-317-2X FBL MOD OUTPUT DRIFTED
C	FC1	016447	080176	MO	RR	NN	B01	T		D		WASTE LIQ PROCESS RAD MONITOR INOPERABLE	OPERATOR LEFT MONITOR IN CALIBRATE MODE
C	FC1	016335	110576	CM	PS	SN	A14	T		T		PZR PRESS LOW B SETPOINT LOW	ALARM SETPOINT DRIFT
C	FC1	016606	112076	CN	DG	SN	B08	T		D		HCV-401E WILL NOT OPEN ON LOSS OF POWER	ELEC TO PNEUMATIC CONVERTER STICKING
C	FC1	016667	121476	TX	TT	PX	A06	T		D		B CH COLD LEG TEMP HIGH	CALIBRATION PROCEDURE IN ERROR
C	FC1	016958	011177	CN	XG	SN	B13	N		D		SIRWT WATER PUMPED TO CONTAINMENT VIA CONT HEADER	E TO P CONVERTER FAILED,VALVE PART OPEN
C	FC1	017237	021677	CM	PT	PX	B13	T		T		RPS D TRIP 6 SG PRESS FAILED TO TRIP	TRIP INDICATION BULBS OUT OF TOLERANCE
C	FC1	017746	051677	GS	PS	SN	A14	T		T		RECIRC PRESS SW A/LC-383-1 OUT OF TOLERANCE	BARKSDALE D25-M1855 DRIFT OUT OF SPEC
C	FC1	014361	101177	GS	LG	SN	B04	T		T		SIRWT RECIRC LEVEL SW A/LC-383 FAILED TO TRIP	WRONG SWITCH FOR APPLICATION
C	FC1	019385	102077	CM	LT	PX	B13	T		T		RPS C TRIP 4 SG31 LEVEL OUT OF SPEC	TRIP UNIT ELD-240-0000-1F INTERNAL FAILUR
C	FC1	019436*	102477	TX	LG	SN	A14	T		T	4	SAFETY INJECT LEVEL IND INCORRECT OUTPUT	LEVEL XMTR E130M SETPOINT DRIFT
C	FC1	019973	112377	GS	PS	SN	A08	T		T		PRESS SW A/LC-383 OUT OF TOLERANCE 12NN-K6A-XIV	LOOSE SETPOINT ADJUSTING NUT

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
C	FC1	020345	011678	GS	PS	SN	A14	T		T		SW A/LC-383 SETPOINT OUT OF TOLERANCE	12NN-KK6A-XIV ADJUSTMENT OUT OF SPEC
C	FC1	020404*	012178	TX	LG	SN	A11	N		U	2	LEVEL INDICATION 6B & 6D DISAGREE WITH 6A & 6C	XMTR REFERENCE LEGS LOW
C	FC1	021739	060378	RE	XS	SN	B09	T		D		86A VIAS RELAY FAIL TO TRIP WITH ACTU OF 86A CRHS	COIL WIRE LUG SCREW OFF
C	FC1	021800	070378	CM	FT	PX	A14	T		T		"C" LOW FLOW TRIP SETPOINT OUT OF TOLERANCE	GEN ATOMICS ELD240-0000-1F B/S DRIFT
C	FC1	022544	091878	SE	TT	PX	B07	T		T		HOT LEG TEMP IND FAILURE	RTD 104VC HAD WATER IN POTHEAD
C	FC1	023133	112278	TX	LT	PX	A14	T		T		LEVEL XMTR "C" C/LT-901 OUT OF SPEC	GE/MAC 555 XMTR DRIFTED OUT OF TOLERANCE
C	FC1	025416	022679	CM	XT	PX	B13	N		U		'C' CHANNEL LOSS OF LOAD TRIP DID NOT ACTUATE	BISTABLE MULTIVIBRATOR HAD DRIFTED
C	FC1	026394	062579	PS	TT	PX	B00	N		U		HOT LEG TEMP INDICATIONS,C/TI-122H,FAILED LOW	GE/MAC POWER SUPPLY FAILED,CAUSE NOT GIV.
C	FC1	026654	072479	IN	PG	SN	B13	T		U		C/PIC-902 'A' SG PRES IND/CONTROLLER WOULDNT RESET	SIGMA METER HAD INTERNAL TRIP CIRC FAIL.
C	FC1	030212	011780	GS	DS	SN	B12	T		T		CNTNMNT SUMP SI RECIRC VLV HCV-383-4 FAILD TO CLOS	AUXILIARY INTERLOCK SW BINDING
C	FC1	031821	070880	ZZ	FT	PX	A14	T		T		TRP UNIT 3 (RX COOLANT FLO) TRP SETPT OOT	NORMAL DRIFT
C	FC1	031939	070980	TR	XG	NN	B09	N		D		TRANSFORMER T4 OF DG-1 FAILED	FAILURE CAUSED BY SHORTED COIL
C	FC1	031922	071080	PS	XT	PX	B00	N		U		TRP UNIT 4 (SG LVL) BECAME POSITIVE INSTEAD OF NEG	+/- 15 V PWR SUPPLY FOR TRP UNIT 4 FAILED
C	FC1	032507	090580	GS	FT	PX	A12	N		T		"D" AXIAL POWER DISTRIBUTION SETPOINTS OOT (HIGH)	FLO DEPENDNT SETPT SW MAKING POOR CONTACT
C	FC1	032631	090880	GS	XS	SN	A12	N		T		PWR TO 86A1/CPHS LOCKOUT RELAY COIL INTERRUPTED	DERIVED SIG CUT OFF SW OPEND DIRTY CNTCTS
C	FC1	032472	091080	TR	XG	NN	B12	N		T		TRANSFORMER T4 OF D/G-1 FAILED. IMMERSN HEATR CN/	/TCTR ARMATR LOOSE CAUSNG BINDG ON CNTCTR
C	FC1	032834	103080	RE	XT	PX	B00	T		U		AB-1 MATRIX RELAY FAILD TO TRP CLUTCH PWR SUPPLIES	RELAY DIDN'T BRK CONTACT TO TRP PWR SUPP
C	FC1	037769	062481	ZZ	NT	PX	B09	N		U		CURRENT LOOP B/122-H APPARENTLY IN NI SYS FAILED	GROUND IN CURRENT LOOP OF B RPS
C	FC1	038051	070681	SE	XG	NN	B00	N		U		FALSE IND THAT D/G-1 HAD TRIED TO START	FAULTY SPEED SENSING CONTROL UNIT
C	FC1	038569	081381	MO	RR	SN	B12	T		T		LOCKOUT RELAY FAILED WHEN RM-062 PLACED IN ALARM	DIRT AND GREASE BUILDUP ON LATCH
C	FC1	039238*	102781	GS	LS	SN	A14	T		T	4	D/LC-383-1 L/R & D/LC-383-2 L/R OOC	NO REASON FOR DRIFT
C	MI2	014017	011476	TX	LG	SN	A14	T		T		RWST LEVEL C INDICATING LOWER THAN OTHER 3	DRIFT OR LINE FREEZE GE/MAC551 LEVEL XMTR
C	MI2	014165	012676	TX	FT	PX	A11	T		T		LOOP 2 CH C STM GEN DP HIGHER THAN OTHER 3	MODEL 368 DP XMTR FOREIGN MATTER PRESENT
C	MI2	014460	030876	TX	FT	PX	B13	T		T		LOOP 2 CH C STM GEN DP HIGHER OUT OF SPEC	MODEL 368 DP XMTR BAD ZERO ADJ POT
C	MI2	014689	041276	TX	LG	AG	B11	T		T		BAST "B" INDICATING HIGH LEVEL	E130M DIP TUBE PLUGGED BORIC ACID CRYSTAL
C	MI2	015079	061376	AM	TT	PX	B13	N		T		TM/LP CALCULATOR ERRATIC NON-CONSERVATIVE TRIP PT	B&M DUAL BIPOLAR AMP 381441-01 FAILURE
C	MI2	015580	080676	CM	LT	PX	A14	T		T		CH A STM GEN LEVEL HIGH TRIPS HIGHER THAN SPEC	ELD-240-0000-IF BISTABLE INST DRIFT
C	MI2	016756*	010377	TX	PS	SN	A14	T		T	3	3 OF 4 PZR PRESS XMTRS LESS CONSERVATIVE THAN T.S.	INST DRIFT CAUSE UNKNOWN 1 OF 4 REPLACED
C	MI2	017556	032577	IN	NG	PX	A00	N		U		CH B LIN PWR RNG LOWER FAILED DOWN SCALE	SPURIOUS, RETURNED TO NORMAL
C	MI2	018339	061577	SE	TG	NN	B13	T		T		LOOP 1 CH A COLD LEG RTD TIME CONSTANT TOO LONG	RTD DEFECTIVE REPLACED
C	MI2	018340	061777	TX	PT	PX	A14	T		T		CH B PZR PRESS TRIP POINT LESS CONSERV THAN T.S.	E11GM XMTR INSTRUMENT DRIFT
C	MI2	018736*	080477	CM	FT	PX	A14	T		T	2	2 OF 4 LOW FLOW TRIPS LESS CONSERVATIVE THAN T.S.	BISTABLE INSTRUMENT DRIFT
C	MI2	019600	100377	ZZ	LG	SN	A14	T		T		SAFETY INJECT TANK 4 LEVEL HIGH NON-CONSERVATIVE	INSTRUMENT NOT SPECIFIED INST ERROR
C	MI2	019925	121377	ZZ	XG	NN	B06	T		D		SUMP RECIRC ACTUATE SIGNAL DID NOT OCCUR	SRAS BYPASSED PER PROCEDURE
C	MI2	020458*	011378	CM	LT	PX	A14	T		T	2	STM GEN LEVEL TRIPS B & C OUT OF SPEC HIGH	ELD 240-0000-1F SETPOINT DRIFT
C	MI2	021353	042578	CA	NT	PX	B09	N		D		PWR RNG CH D INDICATION FAILED LOW	LOOSE CONNECTOR TO CHAN D DETECTOR
C	MI2	0[illegible]133	071078	MO	RR	NN	A02	T		D		SPENT FUEL STORAGE PARTIC AIR MON TRIP PT HIGH	INCORRECT CALIBRATION BY MAINT PERSONNEL
C	MI2	022132	080178	CM	FT	PX	A14	T		T		RPS RX COOLANT FLOW LOW TRIP OUT OF SPEC NONCONSER	ELD-240-0000-IF INSTRUMENT DRIFT
C	MI2	023624	091278	MO	RR	NN	B13	N		T		SPENT FUEL STORAGE GAS RAD MON FAILED LOW	BLOWN FUSE DUE TO SHORTED ALARM HORN
C	MI2	022983	100478	CM	FT	PX	A14	T		T		RPS CH B RX COOL LOW TRIP OUT OF SPEC NON-CONSERVA	ELD-240-0000-IF INSTRUMENT DRIFT
C	MI2	022888	102578	TX	PT	PX	B09	T		U		RPS CORE PROTECT CALCULATOR HAD GROUNDED INPUT	ELECTRICAL GROUND SOURCE UNKNOWN AS YET
C	MI2	022987	111578	MO	RR	NN	A06	N		D		SFP VENT PART & GAS SETPOINTS EXCEED T.S.	INCORRECT PROCEDURE DID NOT LIST TS LIMIT
C	MI2	023210	113078	PS	NT	PX	B13	N		T		RPS CH B CORE PROTECT CALCULATOR FAILED	LCD-A-22 PWR SUPPLY FAILURE
C	MI2	026871	011679	SE	PC	NN	A14	T		T		CEA 63 POSITION OOC CAUSING MOTION INHIBIT SWITCH/	/TO MALFUNCTION
C	MI2	025485	013079	SE	TT	PX	A00	T		U		RESPONSE TIME FOR LOOP 1 CHANNEL C FOUND LOW	NO CAUSE FOUND FOR TE-112HC SLOW RESPONSE
C	MI2	026282A	061179	TX	PG	NN	A14	N		T		PZR PRESSURE CHANNEL WHICH CONTROL RELIEF FOUND //	OOC. ZERO SHIFT
C	MI2	026374	061979	PS	DC	NN	A14	T		T		CEA MOTION INHIBIT INTERLOCK DID NOT OPERATE	SCANNER POWER SUPPLY OUTPUT DRIFTED
C	MI2	026504	071379	ZZ	FT	PX	B00	N		U		REACTOR COOLANT FLOW TRIP TRIP DECLARED INOPERABLE	PROBLEM CLEAR ITSELF
C	MI2	026842	072779	CA	DG	NN	B09	N		U		CEA 64 POSITION INDICATION BECAME INOPERABLE	LOOSE CONNECTOR
C	MI2	028149	080279	IM	NT	PX	B00	N		U		RPS CH D TRIPS TH/LP,LPD,AND POWER LEVEL HIGH WERE	//BY PASSED. FAILED COMPUTATION MODULE

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
C	MI2	026973	090679	TX	LS	SH	B00	N		U		SI TANK NO 3 LEVEL INDICATION DISCOVERED ERRATIC	TRANSMITTER REPLACED
C	MI2	027207	092979	PS	XS	SN	B13	N		U		ESF SENSOR CABINET CH A TRIP BISTABLES TRIPPED	FAILED POWER SUPPLY OVER-VOLTAGE PROTECT
C	MI2	026282B	110179	TX	PG	NN	B13	N		U		PZR PRESSURE CHANNEL WHICH CONTROL RELIEF FOUND //	INOPERABLE. FAILED AMP AND BOURDON TUBE
C	MI2	027530	110279	CM	NT	PX	A00	T		U		RPS CH A HIGH POWER LEVEL TRIP SETPOINT FOUND HIGH	NO CAUSE GIVEN
C	MI2	030382	020480	CN	XT	PX	B00	N		U		B-RPS TRP SIG FOR RCP UNDERSPEED OUT OF SPEC (HI)	FREQ/VOLT CONVERTER OUTPUT HI & UNSTABLE
C	MI2	030993	032080	II	XG	NN	B00	N		U		CEA #1 DROPPED TO FULLY INSERTED POSITION	TIMER MODULE IN COIL PWR PROGRAMMER FAILD
C	MI2	030994	042480	RC	FG	NN	B12	N		Y		INOP "B" WST GAS DECAY TNK DSCHRG FLO RECORDER	DIRTY CLUTCH DRIVE ASSEMBLY
C	MI2	031639	052980	RE	XS	SN	B12	T		T		1A SIAS ACTUATING MODULE PLACED IN TRIP CONDITION	STICKNG ACTUATN MODULE OUTPUT RELAY K515A
C	MI2	032484	081780	AM	NT	PX	B00	N		U		WIDE RNG NEUTRON FLUX INSTRUMENTATION CHNL INOP	DEFECTIVE PREAMPLIFIER
C	MI2	036035	010181	TX	FT	PX	B12	N		T		SWITCH CONTACT BETWEEN S/G DP TRANSMITTER AND LOW-	-FLOW TRIP BISTABLE FAILED. DIRTY
C	MI2	039350	081581	PS	XS	SN	B00	N		U		ESF CH "A" ALARMED ON ALL PARAMETERS DUE TO A LOS-	-S OF 15 VDC POWER SUPPLY. PS REPLACED
C	MY1	014261	022476	PS	NT	PX	B13	N		T		RPS "D" WIDE RANGE LOG NUCLEAR HIGH VOLT ALARM	BENRUS TECHNIPOWER PS MODULE FAILURE
C	MY1	021651*	053078	SE	TT	PX	B13	N		T	2	RPS DELTA-T PWR INDICATION NOT STEADY	TWO PTD'S FAILING, VARYING RESISTANCE
C	MY1	022142	073178	TX	PT	PX	A14	T		T		PT-102C RX COOLANT PRESS NON-CONSERVATIVE	FP MODEL 50EP1000 INST DRIFT
C	MY1	022878	103178	RE	PS	SN	A14	T		T		CH D SIAS SIGMA METER RELAY 3PSI BELOW T.S.	SIGMA METER RELAY INST DRIFT
C	MY1	023558	122678	IM	PT	PX	B13	N		T		RPS"C" VAR PRESS SETPOINT FOR TM/LP LOW	DIRTY POT IN TM/LP MODULE
C	MY1	025075A	010379	SE	NT	PX	B00	N		U		DETECTOR FAILED IN CH A WIDE RANGE INSTRUMENT	NO CAUSE GIVEN
C	MY1	025075B	010379	ZZ	TT	PX	A09	N		U		SPURIOUS TRIPS RECEIVED FROM TEMP MONITOR CIRCUITS	NOISE PROBLEM CAUSE NOT GIVEN
C	MY1	025075C	010379	ZZ	NT	PX	B02	N		D		CH D WIDE RANGE DEENERGIZE WILL TROUBLE SHOOTING /	/TEMP MONITORING PROBLEM,REDUNDANCY INSUF
C	MY1	026840	022379	PS	NT	PX	B00	N		U		FAILED POWER SUPPLY CAUSE POWER TILT AND SOTC TRIP	//LIMITS TO BE READING MORE NEGATIVE
C	MY1	025266	022779	RE	PS	SN	A14	T		T		SIGMA RELAY SETPOINT FOUND OUT OF CAL (SI ACTUAAT/	/ION). INSTRUMENT DRIFT
C	MY1	025572	032279	PS	PT	PX	B00	N		Y		RPC CH B LOW S/G PRESS TRIP FOUND INOPERABLE	POWER SUPPLY FAILED WITH NO CAUSE GIVEN
C	MY1	026020	052679	CM	FT	PX	B14	T		T		RPS CH D LOW RC FLOW TRIP FOUND OOC NON-CONSERVA//	TIVE DIRECTION. INSTR DRIFT--B/S RPLCD
C	MY1	026271	071279	PS	NT	PX	B00	N		U		RPS CH A HI POWER MATRIX LIGHTS ILLUMINATED	FAILED POWER SUPPLY,UNKNOWN CAUSE
C	MY1	026372A	072279	AM	XT	PX	A00	N		U		SPURIOUS TRIP OCCURRED ON PPS CH D TM/LP CIRCUIT	UNSTABLE OUTPUT FROM DUAL AMP. UNKNOWN
C	MY1	026372B	072379	AM	TT	PX	B00	N		U		CH D DELTA-T POWER INDICATION BECAME ERRATIC	FAILED DUAL AMP. CAUSE UNKNOWN
C	MY1	033336	120280	CM	XT	PX	B00	T		U		"C" POSITV SYMMETRIC OFFSET PRE-TRP FUNC INOP	COMPARATOR MODULE FAILED
C	MY1	036857	040181	PS	FG	CT	B00	N		U		AUX FEEDWATER FLOW,FIT-1201B,POWER SUPPLY FAILED	NO CAUSE GIVEN FOR FAILED POWER SUPPLY
C	MY1	037085	050981	GS	LS	SN	B04	T		D		RWST LEVEL SWITCH INTERLOCK FOR RAS FOUND FAILED	MATERIAL INCOMPATIBILITY
C	MY1	037442	061181	AM	DG	NN	B00	T		U		SAFETY VLV POSITION MONITOR'S PRE-AMP FAILED	NO CAUSE GIVEN
C	MY1	038188	081481	MO	RR	NN	B08	N		T		BOX CONTAINING CNTMNMT APD PARTICULATE PAPER FOUND	//LEAKING. SEAL DEVELOPED CRACKS
C	MY1	038429	090481	IM	XT	PX	A13	N		T		CH D TM/LP CALCULATOR SETPOINT FOUND LOW BY 8 PSIG	FAILED AMP MODULE WITHIN CALCULATOR
C	MY1	172917	092381	TX	LT	PX	B00	M		Y		S/G LEVEL TRANSMITTER LT-1013A FAILED	NO CAUSE GIVEN
C	MY1	171530	122381	TX	TS	SN	B13	N		Y		RECIRC FLOW XMTR LINES FROZE AND CRACKED	HEAT TRACING ON REC FLOW XMTR LINE FAILED
C	PA1	014041C	011676	GS	PS	SN	B13	T		U		SIS SW PS1804A(LEFT) FOUND W INTERMITTENT CONTACT	MICROSW (P/N 8ZR814-A2) WAS REPLACED
C	PA1	014236	022176	GS	PG	SH	A14	T		U		MSIV CLOSURE INSTS PIC 0751D&0752D BELOW TS LIMITS	DUE TO SET PT DRIFT-CAUSE UNKNOWN
C	PA1	014720	041976	RE	XG	SN	A12	T		T		CONTMT SP SYS LEFT CHAN RELAY SHWD INTERMITT OPER	DIRTY CONTACTS-TYPE PM-CAT NO 5010
C	PA1	016490	111576	CM	NT	PX	A14	T		T		NEUT MON CHNL C TRIP AT 108.4 VS 106.5 PERCENT	INSTRUMENT SET POINT DRIFT
C	PA1	016621	120676	CM	LT	PX	A14	T		T		SG LO LVL TRIP(CH D) BELOW TS BY .135 INCHES	SET POINT DRFT AND ADMIN LMT CLOSE TO TS
C	PA1	017818	042377	RC	DG	NN	B08	N		D		PIP TYPER ON DATA LOGGER FOUND JAMMED	IBM TYPER INOPER-APPEARS UNAVOIDABLE
C	PA1	018222	060877	TX	LG	SN	A14	N		T		SI TANK T82C LVL 1.6 PCT ABOVE TECH SPEC LIMIT	INST DRIFT PROD 3-4 PCT ERROR IN LVL IND
C	PA1	018426	071977	TX	LG	SN	B13	N		T		"C" SI TANK LEVEL XMITTER(LT-0372) FAILED	OSCILLATOR/AMPLIFIER ASSEMBLY FAILED
C	PA1	019439	081777	TX	LT	PX	A09	T		T		SG LVL IND 3.5 PCT HI IN "C" RPS CHANNEL	LOOSE CONN IN "A" SG XMTR LOOP
C	PA1	019438	082477	TX	FT	PX	B00	T		D		COOLANT FLO XMTR PDT-0112AA READ 8 PCT HIGH	LOSES ACCRCY WHEN PRESS GT 2000-S/N 86916
C	PA1	020622	120577	CM	PT	PX	A14	T		T		PRI PRESS ST PT FOR CHNL "C" WAS 1747 VS 1750	INSTRUMENT DRIFT(3 PSI)-MOD 562
C	PA1	020549	020278	TX	LT	PX	A14	T		T		SG LVL INST LT-0751C ST PT 40 IN - OUTSIDE TS LMIT	SETPOINT DRIFT-EASILY RECALIBRATED
C	PA1	022783	102078	CM	PT	PX	A14	T		D		PCS CH D PRESS INST(PT-0102D) TRIP AT 1745 VS 1750	ZERO SHIFT CAUSED BY INCREASE IN AMB TEMP
C	PA1	026429	060879	TX	LS	SH	B11	N		U		LEVEL INSTRUMENT T-82B FOR SI TANK LEVEL BECAME //	INOPERABLE. REFERENCE LEG LOST WATER
C	PA1	031955*	071080	MO	RR	SN	B00	N		U	2	CNTNMNT HI RAD DET RE-1805,1807 INOPERABLE	NO APPARENT FAILURE CAUSE
C	PA1	032225	080780	GS	LS	SN	A00	N		U		INACC TANK LVL IND ON ANALG CH ATTRIB TO LIQ LOSS/	/ IN REF LEG. SLOW LEAKAGE FROM TANK

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
C	PA1	032488A	082680	ZZ	XG	NN	B00	T		U		GRP 1 RODS W/DREW CAUSD UNPLANND REACTIVITY INSRTN	CAUSE OF PRIMARY DATA LOGGER FAILURE UNKN
C	PA1	032488B	082680	ZZ	XG	NN	B12	T		T		GRP 1 RODS W/DREW CAUSD UNPLANND REACTIVITY INSRTN	SECONDARY DATA LOGGER TYPER BECAME STUCK
C	PA1	036162	010781	RE	XS	SH	B12	T		T		DBA SEQUENCER(34-3) FAILED	DIRTY CONTACTS
C	PA1	036345	020581	RE	XG	NN	B00	N		U		PIP DATALOGGER BECAME INOPERABLE DUE TO MERCURY W-	-ETTED RELAY FAILURE. NO CAUSE GIVEN
C	PA1	039292	04C281	AM	LG	SN	A14	N		T		SI TANK T-82B WATER LEVEL INICATOR FAILED TO ALARM	DRIFT OF NARROW RANGE AMPLIFIER
C	PA1	166528*	052181	RC	XG	NN	B13	N		U	2	PRIMARY & SECONDARY DATALOGGERS FAILED	FAILED CIRCUIT BOARD AND TYPER
C	PA1	039053	100681	MO	RR	IC	B13	T		U		RAD MON RIA 2316 FAILED	BELIEVED TO BE CABLE CONNECTORS
C	PA1	172196	120481	PS	XS	NN	B00	R		U		SI ACTUATES DUE TO LOSS OF BLOCK SIGNAL	SHIFTG OF PWR SUP FOR PREFERD AC BUS Y-20
C	SL1	015499	053176	LM	XG	NN	B13	N		T		DIGITAL DATA PROCESSOR MALFUNCTIONED	FAULTY CARD IN BUFFER INTERFACE CONTROLLE
C	SL1	016879	121476	MS	XG	NN	B13	N		T		FAULTY SW ON OPERATOR'S CONSOLE,SENT INTER SIG CPU	DEFECTIVE SW FOR #6 PUSHBUTTON
C	SL1	019502*	080177	CM	LG	SN	A14	T		T	2	2 OF 4 RWT-LOW SETPOINTS FOUND HIGH (1.62.25 IN.)	SETPOINTS FOR INITIATION OF CONT.SUMP REC
C	SL1	020619	020278	MO	RR	NN	B09	N		T		1OF4 CHAN. RAD.MON. FOR CNT.ISO. SIGNAL SPIKING	HIGH VOLTAGE TO GROUND--VERIFY WHEN ACCES
C	SL1	021114	032678	PS	PS	SN	B04	N		T		1 CHAN. OF S/G LO PRESS FOR MAIN STEAM ISO. FAILED	POWER SUPPLY FAILD--REQUESTD DESIGN CHANG
C	SL1	021523	042378	TX	LG	NN	B01	N		D		OPERATOR BLEW DOWN SENS. LINES TO 1B BAMT LEVEL IN	IMPROPER OPERATION OF INST. DURN BLOWDOWN
C	SL1	021832	060878	ZZ	DC	NN	A00	T		U		CEA#68 DROPPED FOLLOWING REFUELING OUTAGE	POSSIBLE PWR.SUPP., TIMER OR COIL TIME MO
C	SL1	028C93	120379	PS	NT	PX	B00	N		U		MB LINEAR POWER RANGE CHANNEL DISCOVERED INOP	FAILED POWER SUPPLY,NO CAUSE GIVEN
C	SL1	033804	010280	CA	XG	NN	B12	T		T		1A D/G FUEL TRANSFER PUMP FAILED TO START	DIRTY STARTER CONTACTOR
C	SL1	030180	010480	PS	XC	NN	B00	N		U		CEA 22 DROPPED TO FULL INSERTION	FAILD 15V PWR SUPPLY IN COIL PWR PROGRAMR
C	SL1	030181A	010680	CA	DC	NN	B09	N		D		CEA 30 REED SW POS INDICATION CHNL FAILED	REPLACED SHORTED POWER CABLE
C	SL1	030380	020480	TI	DG	NN	B00	T		U		CEA 19 DROPPED TO FULL INSERTION WHEN WITHDRAWN	FAILD TIMER MODULE IN COIL PWR PROGRAMMER
C	SL1	030828	021980	TX	LS	SN	A14	N		T		ESFAS "D" FOR RWT LVL DRIFTED BELOW LO LVL SETPT	LVL XMITR GAVE ERRONEOUS LVL SIGNAL
C	SL1	030181B	030980	SE	DC	NN	B00	N		U		CEA 30 REED SW POS IND CHNL FAILD INSTLD REED SW//	MODULE. NO SPECIFIC PROBLEM FOUND
C	SL1	030988	032480	AM	TG	IC	B00	N		U		6B2 HEATER FOR SBVS DISCOVERED INOP	DFCTV THERMOCOUPLE AMPLIFIER IN CNTRL CKT
C	SL1	031398*	051180	PS	XC	NN	B00	N		U	2	CEA 19,58 DROPPED TO FULL INSERTION	FAILED 15V POWER SUPPLIES
C	SL1	033886	053180	PS	PT	PX	B00	N		U		CHNL A OF 1A SG LOW PRESSURE TRIP FAILED	ASSOCIATED POWER SUPPLY FAILED
C	SL1	031648	060380	PS	DG	NN	B00	N		U		METRASCOPE CRT DISPLAY BEGAN TO FADE	FAILING HIGH VOLTAGE POWER SUPPLY
C	SL1	031647	061180	CA	XG	NN	B09	N		T		GROUND IN HCV-14-6 CKT CAUSG IT TO FAIL CLOSED	MOISTURE INTO TERMINAL BOX GRND TERMINALS
C	SL1	032494	080180	PS	DG	NN	B00	N		U		CEA 41 DROPPED TO FULL INSERTION	CORE PWR PROGRAMMER 15V PWR SUPPLY FAILED
C	SL1	032495	080480	PS	DG	NN	B00	N		U		CEA 16 DROPPED TO FULL INSERTION	CORE PWR PROGRAMMER 15V PWR SUPPLY FAILED
C	SL1	032496	080580	PS	DG	NN	B00	N		U		CEA 23 DROPPED TO FULL INSERTION	CORE PWR PROGRAMMER 15V PWR SUPPLY FAILED
C	SL1	032583	082180	PS	DC	NN	B00	N		U		CEA 53 DROPPED PARTIALLY INTO THE CORE	FAILING 15V POWER SUPPLY
C	SL1	033190	082180	PS	DC	NN	B00	N		U		CEDM 39 FAILD DROPPED ITS CEA TO FULL INSERTION	CORE PWR PROGRAMMER 15V PWR SUPPLY FAILED
C	SL1	032584	082480	LM	NG	NN	B00	N		U		DDPS FAILED DUE TO COMPUTER HALTING MID CALCULATN	NO CAUSE DETERMINED
C	SL1	032585	082680	PS	DC	NN	B00	N		U		CEA 24 DROPPED TO FULL INSERTION	FAILED 15V POWER SUPPLY UNIT
C	SL1	032588	082680	PS	DC	NN	B00	N		U		CEA 51 DROPPED TO FULL INSERTION	FAILED 15V POWER SUPPLY UNIT
C	SL1	032593	082680	PS	XT	PX	B08	N		D		POWER SUPPLY TO #1 CPC FAILED	BENT FUSE CLIP DIDN'T ALLOW SUFFCNT CNTCT
C	SL1	032586	082780	PS	DC	NN	B00	N		U		CEA 33 DROPPED TO FULLY INSERTED POSITION	FAILED 15V PWR SUPPLY IN COIL PWR PRGRMMR
C	SL1	032589	090480	PS	DC	NN	B00	N		U		CEA 21 DROPPED TO FULL INSERTION	FAILED 15V POWER SUPPLY UNIT
C	SL1	032590*	090480	PS	DC	NN	B02	N		D	2	CEA 42 PWR SUP CHNGD CEA 44 DROP POSSIBLE SPIKE	MAINT PERS NOT TOLD OF CEA 44 DROP
C	SL1	032591	090480	SE	XG	NN	B09	N		U		CEA 33 DROPPED TO FULL INSERTION	FUSE BLEW DUE TO SLIGHT TRANSIENT
C	SL1	033463A	110780	TX	PT	PX	A14	N		T		INCR PRESS IND ON C PZR PRESSURE CHNL	INSTRUMENT DRIFT
C	SL1	033463B	111080	TX	PT	PX	B00	N		U		DRIFTG PRESS IND FOR C PZR PRESS CHNL	FAULTY PRESS SIG XMITTER ON PI-1102C
C	SL1	033762	122280	IN	LG	NN	B12	T		T		"A" SG LVL IND READ 0% INSTEAD OF 65%	LEVEL INDICATOR HAD STUCK MOVEMENT
C	SL1	033732	122680	CN	XG	NN	B00	N		U		10% STM BYPS VLV FAILD OPEN CAUSG RX PWR INCRS	VOLTAGE/CURRENT CONVERTER FAILED
C	SL1	036773	021681	PS	TT	PX	B13	N		U		"B" HOT LEG RTD OUTPUT LOOP 1B FAILED LOW	BLOWN FUSE IN POWER SUPPLY
C	SL1	037350	042481	SE	PT	PX	B13	N		T		CH MB CONTAINMENT PRESSURE DETECTOR FAILED	FORCE MOTOR BURNED OUT
C	SL1	037338	043081	CA	PG	PX	B12	T		T		TRIP UNIT (PZR PRESS) FAILED TO ILLUMINATE	CONNECTOR WAS CLEANED
C	SL1	037609	051481	MO	RR	NN	B14	T		T		FUEL HANDLING BLDG AREA RAD MONITOR FOUND OOC	INSTRUMENT DRIFT
C	SL1	167580	052881	ZZ	PT	PX	B14	T		T		S/G PRESSURE CHANNEL MC SETPOINT FOUND OOC	INSTRUMENT DRIFT
C	SL1	167608	052981	SE	DC	NN	B00	K		U		LINEAR REED SWITCH FOR CEA #30 FAILED	NO CAUSE FOUND

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
C	SL1	037961	060381	RE	XC	NN	B00	N		U		CEA MOTION INHIBIT CIRCUIT FAILED	RELAY FAILED,NO CAUSE GIVEN
C	SL1	037963	062581	CM	PT	PX	A14	T		T		CH "C" CONTAINMENT PRESSURE SETPOINT FOUND OOC	INSTRUMENT DRIFT
C	SL1	038527A	081881	CM	PT	PX	A14	T		T		CH "A" CNTNMNT PRESS SETPOINT FOR SI FOUND OOC	INSTRUMENT DRIFT
C	SL1	038527B	081881	CM	PS	IC	A14	T		T		CH "A" CNTNMNT PRESSURE SET POINT FOR CNTNMNT ISO-	-FOUND OOC. INSTRUMENT DRIFT
C	SL1	038527C	081881	CM	PS	SF	A14	T		T		CH "A" CNTNMNT PRESS SETPOINT FOR CNTNMNT SPRAY F-	-OUND OOC. INSTRUMENT DRIFT
C	SL1	038943*	093081	GS	PT	PX	A14	T		T	4	LOSS-OF-LOAD PRESSURE SWITCHES FOUND OOC	INSTRUMENT DRIFT
C	SL1	039086	101281	CM	LS	SN	B00	T		U		CH "D" REFUELING WATER TANK BISTABLE FAILED TO TR-	-IP. NO CAUSE FOUND,BISTABLE REPLACED
C	SL1	172032	122281	CM	RR	IC	A14	N		T		CNTNMNT ISOL CHNL MC HI RAD B/S OOC NON-CONSRVTVLY	INSTRUMENT DRIFT
W	BV1	017485	032377	IM	FS	SN	B13	T		T		1C STEAM FLOW CHANNEL FAILED	FAILED SUMMATOR
W	BV1	017555	032677	TX	LT	PX	B13	N		T		1A STEAM GENERATOR LEVEL FAILED LOW	FAILED TRANSMITTER
W	BV1	017560	040377	CM	PS	SN	A14	T		T		CONT. PRESS. SET POINT OUTSIDE OF T.S. LIMITS	INST. DRIFT OF SIGNAL COMPARATOR
W	BV1	017623	041677	IM	FT	PX	B13	N		T		1A S/G FEED FLOW INSTRUMENT FAILED HIGH	FAILED SQUARE ROOT EXTRACTOR
W	BV1	017695	042677	IM	TT	PX	B13	N		T		1C RCL OVERTEMP DT SETPOINT DISCOVERED FULL SCALE	FAILED LEAD-LAG MODULE,WEST.MODEL 131-114
W	BV1	018099	050377	CM	PG	SF	B13	N		T		REACTOR DEPRESSURIZATION ACTUATING CH. INOPERABLE	COMPONENT FAILURE
W	BV1	018345	061977	CM	LS	SN	B13	T		T		1B S/G CH 1 HIGH-HIGH LEVEL B/S DECLARED INOP	FAILED COMPARATOR
W	BV1	018829	072077	MO	RR	NM	B13	N		U		CONTAIN ATMOS GAS & PART MONITORS INOPERABLE	AIR SAMPLE PUMP BOUND UP, NO AIR FLOW
W	BV1	018830	072177	IM	NT	PX	B13	N		T		CH1 OVERPOWER PT SETPOINT READING HIGHER THAN OTHE	FAILED SUMMATOR
W	BV1	018731	080877	SE	NT	PX	A14	T		T		EXCORE NEUTRON DETECTOR READ HIGH (DETECTOR N41)	INSTRUMENT DRIFT
W	BV1	019617	102777	MO	RR	NN	A02	N		D		LEAK FOUND ON ACCESS COVER ON CONT PART RAD MON.	IMPROPERLY INSTALLED COVER PLATE
W	BV1	019916	112777	IN	LG	PX	A14	N		T		PZR LEVEL FOUND TO BE INDICATING 7 PERCENT HIGH	INSTRUMENT CHANNEL DRIFT (CHANNEL -59)
W	BV1	019932	121077	CA	TT	PX	B13	N		D		LOOP 3 DT INDICATOR FAILED LOW	TEMPERATURE DETECTOR CABLE DAMAGED
W	BV1	020129	121477	AM	PT	PX	B13	N		T		PZR PRESSURE INDICATOR FAILED LOW ,CHANNEL 445	FAILED ISOLATION AMPLIFIER
W	BV1	020127	121677	IM	FT	PX	B13	N		T		LOOP 3 FEED FLOW CHANNEL 496 INDICATED LOW	FAILED CHANNEL MUTIPLIER-DIVIDER MODULE
W	BV1	020133	011678	CM	LS	SN	B13	N		T		PZR LOW LEVEL SAFETY INJECTION BISTABLE TRIPPED	ERRATIC SIGNAL COMPARATOR
W	BV1	020440	011678	AM	NT	PX	B13	N		T		INTER. RANGE CHANNEL N36 INDICATED BELOW OP. LIMIT	FAILED CURRENT AMPLIFIER
W	BV1	022397	022178	CM	FG	NN	A06	R		D		LOOP 1B COLD LEG LOOP STOP VLV INTER SETPOINT LOW	DEFECTIVE PROCEDURE
W	BV1	020793	022878	AM	NT	PX	B13	N		D		POTENTIOMETER DISCOVERED OPERATING ERRATICALLY	NON-CONTINUOUS AREA ON POTENTIOMETER(N41)
W	BV1	022880	100578	CA	PS	SN	A09	T		T		SETPOINT ON CONT. HIGH PRESS. BISTABLE FOUND HIGH	CONNECTOR ON COMPARATOR WAS FAULTY
W	BV1	023560	122278	CM	FS	SN	B13	T		T		1A MAIN STEAM FLOW CHANNEL DECLARED INOPERABLE	FAILED COMPARATOR
W	BV1	023561	122278	CM	PS	SN	B13	N		T		7A MS LOW PRESSURE ALARM TRIPPED HIGH	FAILED COMPARATOR
W	BV1	026970	062479	IM	TT	PX	A00	R		U		CH 2 DELTA T-AVE WOULD HAVE TRIPPED 25 DEG TOO /	/SOON. FAILED SUMMATOR,NO CAUSE GIVEN
W	BV1	027150	082479	IM	NT	PX	B00	T		U		NIS POWER RANGE TRIP LOGIC FOUND INOPERABLE	FAULTY LOGIC BOARD,LOGIC BOARD REPLACED
W	BV1	027381	100479	IM	DC	PX	A14	N		T		ROD POSITION INDICATION FOUND FAULTY	INSTRUMENT DRIFT OF COMPUTATION MODULE
W	BV1	027395	101379	IM	FT	PX	A13	N		T		RCS LOOP A FEEDWATER FLOW CH 3 FOUND SPIKING LOW	LOOSE PRINTED CIRCUIT CARD IN LOOP
W	BV1	030445	030280	IN	TG	AS	A14	M		T		COOLING TWR BLOWDOWN TEMP IND T-CW-101 OOC (HIGH)	INSTRUMENT DRIFT
W	BV1	030554	030780	MO	RR	NN	B13	T		U		NO HI-HI ALARM FRM LIQ WST EFF MON/DSCHRG VLV DI//	DN'T CLOSE. LOOSE RELAY & SOLDER JOINTS
W	BV1	030555	030880	MO	RR	NN	B14	T		T		COMP COOLING WATER RAD MON HI-HI LVL ALARM INOP	ALARM POTENTIOMETER OUT OF ADJUSTMENT
W	BV1	030913	032980	ZZ	XG	NN	B00	N		U		FUSE HOLDER FOR LVL B/S CONTROLS LO-LO OPER OF VCT	// & RWST OUTLET VLVS FAILED. UNKNOWN
W	BV1	031240	050380	CA	LG	NN	B09	T		D		VCT LVL COMPARATOR LC-115C HAD SHORT-CKT LEAD IND/	/ LO LVL. UNKNOWN CAUSE FOR SHORTED WIRE
W	BV1	031210	052180	ZZ	PG	SL	A00	N		U		DEENERGIZED CHNL SENT FALSE HP SIGNAL CLOSNG RHR//	ISOL VLVS. CAUSE OF SIGNAL UNKNOWN
W	BV1	031562	060580	PS	NT	PX	B00	N		U		LOST SOURCE RANGE CHNL DUE TO FAILED HV PS	UNKNOWN
W	BV1	033247*	102480	TX	LT	PX	B00	N		U	2	PRESSURIZER LVL TRANSM LT-RC-459 & SPARE FAILED	UNKNOWN
W	BV1	033046	102980	IN	LG	NN	A14	N		T		"B" RWST LVL IND READING HIGH CHNL INOPERABLE	IND DRIFTED OOC
W	BV1	033250	111480	MO	RR	NN	B00	N		U		HI ALARM INPUT TO CONTROL RM ANNUNC INOPERABLE	PRINTED CKT BRD FAILED
W	BV1	033745	111780	CN	PS	SN	A00	N		U		STM LINE LP B/S BS-MS-485 FLUTRNG FROM MALFUNC SIG	//NAL CONVERTER CRD. CAUSE UNKNOWN
W	BV1	033252*	112180	CM	LS	SN	A14	T		T	2	SI ACCUMU 1A/1B LVL CHNL COMPARTRS LC-SI-920B &//	-924B SETPTS LO. INSTRUMENT DRIFT
W	BV1	033253B	112180	CA	FG	CT	A00	N		U		CNTRL PROB WITH BYPASS & MAIN FEED REG VLVS	BAD POWER SUPPLY FUSE CONNECTOR
W	BV1	033253C	112180	ZZ	PG	CT	B00	N		U		AUTO/MAN STATION FOR "B" PRSSRZR SPRAY VLV INOP	UNKNOWN
W	BV1	033253D	112180	CA	PG	CT	B12	N		T		AUTO/MAN STATION FOR "A" PRSSRZR SPRAY VLV INOP	DIRTY CONNECTIONS
W	BV1	033309	112580	AM	FT	PX	A14	N		T		RCS LOOP 2 CHNL 1 FLOW IND FI-RC-424 DID NOT MEET/	/SURV REQ. ISOL AMP DRIFTED HIGH

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	BV1	033254	120380	CL	TG	SN	A00	N		U		BORON INJECTION TANK OOS (HI) TEMP CNTRLLRS SET HI	CAUSE OF HI SETPOINT UNKNOWN
W	BV1	033538	121580	TX	LS	SN	A14	N		T		CHNL "C" LVL IND READING HIGH	LVL TRANSMITTER ZERO DRIFT
W	BV1	036225	012181	TX	FT	PX	A09	N		D		RCS-1 LO FLO ANNUNC FLASH ALRM CH-414 REMVD FRM S/	/ERVICE. LO VOLTAGE TO XMTR
W	BV1	036709	030581	IN	LG	SL	A14	N		T		RHR LOW FLOW ALARM ACTUATED	INDICATN DRIFT DUE TO REF LEG EVAPORATION
W	BV1	036982	041681	TX	LS	SN	B00	N		U		"C" RWST LVL IND RDG HIGH DECLRD INOP	LEVEL INDICATOR RECALIBRATED
W	BV1	166420	042881	LS	DG	NN	B08	N		D		PORV PCV-RC-455C POSITION IND LIMIT SW FAILED	BENT PINION GEAR AND SHAFT
W	BV1	037168	042981	SE	PS	SN	B00	M		U		COMPARATOR MODULE ACTUATES ON HI-HI CONT PRES INOP	DISLODGED FUSE
W	BV1	037169	043081	TX	LS	SN	B00	N		U		C RWST LEVEL INDICATOR READING HIGH DECLRD INOP	FAULTY INDICATION TRACED TO LVL TRANSMTR
W	BV1	037559	052981	TX	LS	SN	A14	T		T		IC SI ACC DRIFTED ABOVE HI LEVEL ALARM LIMIT	INSTRUMENT DRIFT
W	BV1	037636A	060181	TX	LS	IC	B00	N		U	2	"A" CHEMICAL ADDITION TANK LT-QS-101A FAILED LOW	UNKNOWN REASONS
W	BV1	037755	061081	PS	XS	SN	B00	M		U		"C" MAIN STM BREAK PRTCTN RATE MODULE PS FAILED	BAD TRANSISTOR ON POWER SUPPLY & RATE CRD
W	BV1	037756	061081	TX	LS	SN	B13	N		U		RWST LI-QS-100A FAILED LOW	FAILED FORCE MOTOR W/IN LOOP LVL XMITTER
W	BV1	037890	061981	TX	FG	CT	B11	M		U		AUX FLO PATH TO 1A SG ISOLATED FOR REPAIR	LEAKING FEED FLO XMTR INSTR LINE PENETRA
W	BV1	037636B	071081	TX	LS	IC	B00	N		U		"A" CHEMICAL ADDITION TANK LT-QS-101A FAILED LOW	XMTR ELECTRONIC ADJSTD LOOP PWR SUP REPLC
W	BV1	038526	081581	ZZ	LG	SN	B00	N		U		RWST LVL CH 4 L-QS-100B OUTPUT DEFEATED	FAILURE IN CNTRL BRD DEMULTIPLEXING UNIT
W	BV1	038588	082381	TX	LS	SN	A14	N		T		RWST "D" LVL INDICATOR SLIGHTLY BELOW TOLERANCE	INSTRUMENT DRIFT IN LVL XMTR LT-QS-100D
W	BV1	038800	090681	PS	NT	PX	B07	N		T		NI POWER RANGE CH N'4 FAILED LOW PWR SUP FAILED	ELEVATED CNTRL RM TEMP A/C SYS IN MAINT
W	BV1	038779	092281	MO	RR	NN	B09	N		D		CNTNMNT ATMOSPHERIC RM-215A/B FAILD LOST SUP POWER	FRAYED PWR CABLE CAUSD GRND BTWN MONITOR
W	BV1	039355	110281	MO	RR	NN	B11	N		U		CNTNMNT PARTICULATE RM-215A RDG BELOW NORMAL	MAN THROTTLG VLV OPEND INCRSD SAMPLE FLOW
W	BV1	172087	121081	PS	XG	NN	B00	N		U		CORE COOLING MON SCM-RC-100 FAILED	POWER SUPPLY FAILED
W	DC1	013938	011876	MO	RR	SN	B12	N		U		CONTAINMENT AREA MONITOR CHANNEL 2 FAILED LOW	DIRTY CABLE CONNECTOR AT DETECTOR
W	DC1	014528*	041976	RC	XG	SN	B13	T		T	2	TWO RECORDING ACCELEROMETERS FAILED	NORMAL COMPONENT DETERIORATION
W	DC1	014723	051376	IM	NT	PX	A14	T		T		EXCESSIVE ERROR IN SQUARE ROOT EXTRACTOR(IFY-521B)	SET POINT DRIFT
W	DC1	015095	070976	MO	LG	MN	B13	T		D		ALLOWABLE CHLORINE RESIDUAL LIMIT EXCEEDED	WATER LEVEL CONTROLLER MALFUNCTIONED
W	DC1	015281*	072076	TX	FG	CT	A14	T		T	2	FEED FLOW TRANSMITTERS EXCEEDED MAXIMUM ERROR	SETPOINT DRIFT (FFC-2006240)
W	DC1	015342*	081976	ZZ	RR	NN	B13	N		D	2	LIQUID RELEASE MADE WITHOUT GAMMA ANALYSIS	NEITHER GE(LI) GAMMA SPECTRUM UNIT OPERAT
W	DC1	015860	091376	TX	FG	CT	B13	T		T		FEED WATER FLOW INDICATION HIGH WITH NO FLOW TO SG	LINKAGE DISTORTION (FFC-241)
W	DC1	015969	091376	TX	LT	PX	A14	T		T		S/G LEVEL TRANSMITTER EXCEEDED LIMITS(BLP-120)	ZERO SETTING SHIFTED AND REOCCURRED
W	DC1	015858	091676	TX	LT	PX	A14	T		T		PRESSURIZER LEVEL TRANSMITTER EXCESSIVE ERROR	ZERO HAD DRIFTED LOW ON TRANSMITTER
W	DC1	015859	091676	TX	LT	PX	A14	T		T		PRESSURIZER LEVEL TRANSMITTER EXCESSIVE ERROR	ZERO HAD DRIFTED LOW ON TRANSMITTER
W	DC1	015978	092876	AM	DC	NN	B13	T		T		ROD POSITION INDICATING BELOW DEMAND INDICATION	AMPLIFIER INTEGRATED CIRCUIT FAILED (F-6)
W	DC1	016771	010177	TX	FT	PX	A14	T		T		REACTOR COOLANT FLOW TRANSMITTER ERROR EXCESSIVE	SETPOINT DRIFT (FT-426)
W	DC1	016770	010377	TX	LT	PX	B13	T		U		S/G LEVEL TRANSMITTER ERROR EXCESSIVE (BLP-120)	RUST FORMATION AT FLEXURE BAR PLATE
W	DC1	017145	020777	HS	NT	PX	B06	T		D		POWER WAS LOST TO BOTH SOURCE RANGE CHANNELS	PROCEDURE FOR TEST WAS DEFECTIVE(N-31632
W	DC1	018491	072377	CN	DC	NN	A14	T		T		POSITION INDICATION FOUND IN EXCESS OF STEP LIMIT	SIGNAL CONDITIONING MODULE DRIFTED(B-10)
W	DC1	018536	080377	CN	DC	NN	A14	T		T		POSITION INDICATION IN EXCESS OF STEP LIMIT(M-8)	SIGNAL CONDITIONING MODULE OUT OF ADJUSTM
W	DC1	019142	091677	CN	DC	NN	A14	N		T		POSITION INDICATION STEP DEVIATION FROM BANK POSIT	SIGNAL CONDITIONING MODULE READ LOW (F-6)
W	DC1	019231*	100577	IN	DG	NN	A12	T		T	2	POSITION INDICATION DID NOT MOVE WITH BANK INDICAT	STICKING INDICATORS-POINTERS BINDING ON S
W	DC1	019767*	112377	ZZ	NT	PX	B00	N		U	2	TWO SOURCE RANGE CHANNELS INOPERABLE FOR ABOUT 1 H	CAUSE UNKNOWN-FAILURE COULD NOT BE LOCATE
W	DC1	019869	120377	TX	LT	PX	A08	T		U		PRESSURIZER LEVEL DEVIATION BETWEEN INDICATING CHA	PARTIAL LOSS OF TRANSMITTER REFERENCE LEG
W	DC1	020108	120577	CN	DC	NN	A14	N		T		POSITION INDICATION HIGHER THAN BANK POSITION	EXCESSIVE DRIFT IN SIGNAL CONDITIONING MO
W	DC1	021974	071478	SE	DG	MN	B02	T		D		HEAT TRACE CKT READING BELOW MINIMUM SPECIFICATION	WORKMEN MOVED INDICATOR BULB(CKT#249)
W	DC1	022535	092478	CA	NT	PX	B09	N		U		SOURCE RANGE CHANNEL BECAME INOPERABLE (N-31)	CHANGED CABLE FROM DETECTOR TO DRAWER
W	DC1	022306	121478	IN	DG	MN	A09	T		T		INDICATOR POSITION GREATER THAN ALLOWABLE STEP LIM	VARIABLE SHUNT RESISTOR OUT OF ADJUSTMENT
W	DC1	023404	122378	ZZ	XT	PX	B13	T		U		SOLID STATE PROTECTION SYSTEM UNSATISFACTORY	TEST CARD FAILED AND WAS REPLACED
W	DC1	025038	012779	IN	NG	NN	B00	N		U		AXIAL FLUX DIFFERENCE ALARM DID NOT ALARM	NO CAUSE GIVEN
W	DC1	025262	020779	MO	RR	NN	B08	N		T		CNTNMNT AIR [illegible] MON SYS PUMP KEPT TRIPPING	BYPASS FLOW ADJUSTMENTS MISALIGNED
W	DC1	025685	041679	CM	FT	PX	A14	T		T		STEAM AND FEED FLOW MISMATCH SETPOINT FOUND OOC	BISTABLE HAD DRIFTED
W	DC1	025686	041979	CM	TT	PX	B14	T		T		OVERPOWER DELTA-TEMPERATURE TRIP SETPOINT OOC	BISTABLE DRIFTED EXCESSIVELY
W	DC1	026506B	072079	SE	FG	AG	B00	N		U		BORIC ACID FLOWMETER REPLACED	UNKNOWN

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	DC1	027194	092979	CM	LT	PX	B14	T		T		STEAM GEN WATER LEVEL-LOW-LOW(SET 3 LOOP 3) OOC	DEFECTIVE BISTABLE,EXCESSIVE DRIFT
W	DC1	027280	100179	TX	LS	SH	B13	N		D		#4 SG HIGH LEVEL IND XMITTER FOUND OOC HI	DRIFT DUE TO FILL FLUID LEAKING OUT
W	DC1	027323	101279	CA	LT	PX	B00	N		U		LOOP 3 CHANNEL 4 SG LEVEL WAS LOST	CNTNMNT CABLE PENETRATION FOUND FAULTY
W	DC1	027352	101379	CN	TT	PX	A14	T		T		DELTA T/TAVG PROTECTION SET II BISTABLE TRIPS OOC	T-HOT RESISTANCE TO VOLTAGE CONVERTER OFF
W	DC1	027608	111179	TX	FT	PX	B13	N		U		#4 SG STEAM FLOW CH I FOUND 21% OOC LOW	TRANSMITTER BELLOWS FAILED
W	DC1	030281	012580	SE	TT	PX	B00	N		U		LOOP 3 T-AVG & DELTA-T INDICATION DECRS & INOP	RTD GIVING ERRONEOUS TEMP RDGS.
W	DC1	030641	031180	SE	NG	NN	B08	T		T		APDMS INOPERABLE	DET HAD STRTCHD HELIX & DAMGD DRIVE WHEEL
W	DC1	031414	053180	MO	RR	NN	A13	N		T		CNT ATMOS AIR PART & GAS RAD MON SYS PMP TRP LO	FLOWMETER IND NORMAL WEAR
W	DC1	031534	061680	TX	LT	PX	A14	M		T		XMITTR FOR SG LVL LOOP 4 (BLP 142) OOC LOW	INSTRUMENT DRIFT
W	DC1	032602	090680	MO	RR	NN	B08	N		D		LO FLO ALRM ON RAD MON R-11/12 DECLARED INOPERABLE	FAILED LOVEJOY L-100 SHAFT COUPLING
W	DC1	032603	091680	TX	LS	SN	B11	M		T		SG 2 CH 3 LVL IND LO XMITTR OUTPUT DRIFTING DOWN	LEAK IN XMITTR (BLP-122) IMPULSE LINE
W	DC1	037694	060981	PS	NT	PX	B09	N		U		SOURCE RNG DET N-32 EXPERIENCED A LOSS OF VOLTAGE	LOST AC TO DRAWER CAUSG LOSS OF HI VOLTG
W	DC1	038169	072781	TX	PT	PX	A14	N		T		PZR PRESS CHNL NPP-153 INDICATING HIGH	PZR PRESS XMTR NPP-153 CALIBRAIN DRIFTED
W	DC1	038580	081481	AM	NT	PX	B00	N		U		B/S TRPD WHEN "4" PWR RNG INSTR DRAWER W/DREW	LOOSE CONNECTOR IN ISOLATION AMPLIFIER
W	DC1	038818	091981	IM	XS	SN	B00	T		U		SSPS "A" LOGIC TEST POSITION TESTED UNSATISFACTORY	UNIVERSAL CARD A-210 FAILED
W	DC1	171636B	111781	CN	TT	PX	A00	T		U		LOOP 4 OVERPWR OVER TEMP DELTA T SETPTS WENT LOW	UNKNOWN
W	DC1	171789	122981	SE	TT	PX	B00	N		U		RTD FOR LOOP 3 FAILED	NO CAUSE GIVEN
W	DC1	172327*	123081	SE	RR	NN	B00	N		U	2	LO FLO ALARM REC'D FOR CNTNMNT AIR DET R-11/R-12	UNKNOWN
W	DC2	020829	031578	IN	DG	NN	A00	N		U		POSITION INDICATION EXCEEDED STEP LIMIT (L-13)	CAUSE UNKNOWN
W	DC2	020931	040178	IM	TT	PX	B13	N		T		REACTOR COOLANT LOOP 1 DELTA T OVERTEMPERATURE FAI	MODULE ZTY-411C FAILED
W	DC2	021631	060378	IN	DG	NN	B00	N		U		ROD 8 BOTTOM POSITION INDICATION FAILED TO INDICAT	CAUSE UNKNOWN
W	DC2	021946	071078	TX	FT	PX	B14	T		T		STEAM FLOW CHANNEL HFC-120 WAS READING LOW	TRANSMITTER HAD A ZERO SHIFT
W	DC2	021793	071278	IN	LG	AG	B13	N		T		RWST LEVEL INDICATION FAILED LOW(ALARM FUNCTION)	BAD RESISTOR IN THE CURRENT REPEATER
W	DC2	022106*	080978	LM	FG	NN	B13	T		U	2	APDMS COMPUTER FAILED TO PRINT OUT ALL FJ(Z) SCANS	FAULTY CARD WAS IDENTIFIED AND REPLACED
W	DC2	022502	091378	CM	PT	PX	B13	T		D		PRESSURIZER PRESSURE HIGH REACTOR TRIP BISTABLE FA	BISTABLE FAILED DUE TO A BAD TRIAC
W	DC2	022696*	092978	ZZ	XT	PX	B13	T		U	2	SEVERAL BAD SWITCH POSITIONS-TRAIN-B SOLID STATE P	BAD UNIVERSAL LOGIC CARD
W	DC2	022580	100578	CA	DC	NN	B12	T		T		ROD C-9 RPI DID NOT SHOW ANY MOTION DURING TESTING	INDICATOR CONNECTOR PINS WERE TARNISHED
W	DC2	022790*	102478	ZZ	XT	PX	B13	T		U	2	SOLID STATE PROTECTION SYSTEM 3 LOGIC TEST POSITIO	A UNIVERSAL LOGIC CARD AND A TEST CARD FA
W	DC2	023113	112578	CA	NI	PX	B12	N		T		SOURCE RANGE NEUTRON FLUX CHANNEL 4-31 INOPERABLE	HIGH VOLTAGE & SIGNAL CABLE CONN CLEANED
W	DC2	025039	011779	IM	XS	SN	B00	T		U		TRAIN 3 SOLID STATE PROTECTION SY' TEST POSITION//	TESTED UNSAT. LOGIC CARD A-214 FAILED
W	DC2	025284A	021379	CM	PS	SN	A14	T		T		CNTNMNT PRESSURE HI-HI BISTABLE TRIP SETPOINT OOC	INSTRUMENT DRIFT,BISTABLE RECALIBRATED
W	DC2	025284B	021579	CM	PS	SN	B14	T		T		CNTNMNT PRESSURE HI-HI BISTABLE TRIP SETPOINT OOC,	INSTRUMENT DRIFT,BISTABLE REPLACED
W	DC2	026353A	070679	CM	PS	SN	A14	T		T		CNTNMNT PRESSURE PROTECTION-SET IV BISTABLE 2P3-//	934B SETPOINT DRIFTED. INSTRUMENT DRIFT
W	DC2	026353B	071279	CM	PS	SN	A14	T		T		SETPOINT FOR CNTNMNT PRESS BISTABLE HAD DRIFTED	SETPOINT DRIFT,BISTABLE RECALIBRATED
W	DC2	026353C	071379	CM	PS	SN	B14	T		T		SETPOINT FOR CNTNMNT PRESS BISTABLE HAD DRIFTED	SETPOINT DRIFT,BISTABLE REPLACED
W	DC2	027021A	091179	CM	PT	PX	A14	T		T		PZR HIGH PRESSURE RX TRIP SETPOINT FOUND OOC	INSTRUMENT DRIFT.
W	DC2	027021B	091879	CM	PT	PX	B14	T		T		PZR HIGH PRESSURE RX TRIP SETPOINT FOUND OOC LOW	DETERMINED INOPERABLE(EXCESS DRIFT)
W	DC2	027427	103179	MO	RR	NN	A13	N		U		CNTNMNT APD (R-11) TRIPPED ON LOW FLOW	FLOW TRIP SWITCH FOUND IN NON-VERTICA DIR
W	DC2	030378	110279	TX	FT	PX	A14	R		T		RX COOLANT FLOW LOOP 1 FOUND OOC NON-CONSERVATIVE	INTRUMENT DRIFT
W	DC2	030336*	111379	TX	PT	SN	A14	R		T	2	DIFFERENTIAL STEAM LINE PRESS SP FOR LOOPS 3&4 //	FOUND OOC. XMITTERS FOUND DRIFTED
W	DC2	030335	012980	CM	PS	SN	A14	T		T		PZR PRESS PROTCTN SET 3 B/S 2-PB-457D TRIPPED HIGH	INSTRUMENT DRIFT
W	DC2	030609	030780	MO	RR	NN	B03	N		T		RAD MON R-11/12 INOP	RUBBER SPIDER FAILED IN L-100 COUPLING
W	DC2	030744	032180	RE	XG	CT	B08	N		D		TDAFP & THRTTL VLV TRP & COULDN'T RESET	DFCTV RESET SOLENOID
W	DC2	031047	042180	TX	PS	SN	A14	N		T		STEAM GENERATOR MISMATCH XMITR MPP-210 DRIFTED	INSTRUMENT DRIFT
W	DC2	031341	051680	MO	RR	NN	A13	N		T		SAMPLE PUMP FOR R-11/12 WOULD NOT RESTART CAUSE //	INACCURATE FLOWMETER NAT'L END OF LIFE
W	DC2	033807*	120780	TX	PT	PX	A14	N		T	3	PZR PRESS XMITTR NPP-151,153 & NPS 153 OOC	INSTRUMENT DRIFT
W	DC2	036049	011281	IN	FG	NN	B13	N		U		FLO LOST TO RAD MON R-19 FROM #21 S/G	BAD DIAPHRAGM IN ROTOMETER'S FLO REGULATR
W	DC2	036452	030181	II	XG	NN	B00	N		U		2-E ESW PUMP FOUND INOPERABLE	DEFECTIVE TIMER
W	DC2	036870	041181	TX	PS	SN	A14	R		T		STM LINE PRESS XMTR DATA EXCEEDS DP BTWN STM LIN//	LCO VALUE. INSTRUMENT DRIFT
W	DC2	037003	041581	TX	LT	PX	A14	T		T		SG LVL-PROTECTN SET 3 XMTR OOC (LOW)	INSTRUMENT DRIFT

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE &CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	DC2	038174	071581	MO	RR	NN	800	T		U		RMS CHNL R-19 (SG BLOWDOWN) DETECTOR FOUND INOP	CAUSE OF FAILURE NOT GIVEN
W	DC2	038883	092281	CM	PS	SN	A14	T		T		CHNL 2 CNTNMNT PRESS HI PRTCIN B/S OOC	HAS HISTORY OF DRIFTING SETPOINT
W	DC2	172331	123181	IN	FG	NN	B00	N		U		TURBINE GSLO FLOW INDICATOR SFR-201 FAILED LOW	UNKNOWN
W	HN1	014005	010876	CM	NT	PX	A14	T		T		CH 33 OVERPOWER TRIP ABOVE LIMIT	NORMAL INSTRUMENT DRIFT
W	HN1	014161	021976	CM	NT	PX	A14	T		T		CH 34 OVERPOWER TRIP ABOVE LIMIT	NORMAL INSTRUMENT DRIFT
W	HN1	014716	040376	TX	FT	PX	A05	N		D		STM LINE LOW FLOW ALARM #4 DURING LOW POWER COND	HEAT TRACE ON SENSING LINE, REMOVED SAME
W	HN1	018351	062377	SE	NT	PX	B13	N		T		NUCLEAR INST CH 32 DETECTOR CURRENT ERRATIC	DETECTOR AND CABLE DETERIORATION
W	HN1	018349	062777	RE	FT	PX	B13	N		T		RX COOLANT LOW FLOW AUX RELAY FAILED	X1041 RELAY COIL OPEN
W	HN1	018774	070577	ZZ	LI	PX	A14	N		T		PRESSURIZER LEVEL #3 DIFFERS FROM #1 & 2	NORMAL INSTRUMENT DRIFT
W	HN1	018776	072077	TX	LS	SN	B13	N		T		#1 SG NARROW RANGE LEVEL XMTR SIGNAL HIGH	RESISTORS IN DELTA P AMP PB 107116
W	HN1	018910	082077	RE	XT	PX	A12	T		U		TRIP MATRIX RELAY 63Y403 FAIL TO OPERATE	DIRT IN RELAY
W	HN1	019897	120177	GS	DT	PX	B02	N		D		REACTOR AND TURBINE TRIP AT 10% POWER	WIRING ERRORS IN MN STM ISO VALVE CKT
W	HN1	022451	090978	TX	FT	PX	B13	N		T		#2 STM HI FLOW IND FAILED LOW AND ALARMED	FUSE IN AMP FOR FLOW XMTR FAILED
W	HN1	025235	012879	IN	FG	PX	B13	N		U		RX COOLANT LOSS OF FLOW TRIP INDICATING LIGHT NOT/	/LIT. BROKEN LEAD IN IND/ALARM UNIT
W	HN1	026990	081379	CM	PG	NN	B13	N		U		SIGMA BISTABLE IN PRESSURE CONTROLLER FAILED	LIGHT SOURCE WAS LOST. CAUSED PORV OPEN
W	HN1	033206	111880	CA	XC	NN	B00	N		U		REACTOR MANUALLY TRIPPED	MOVEABLE GRPPR COIL CNTCTR BURNT ARC SHUT
W	HN1	036733	040381	CL	PG	NN	A13	N		U		PZR PORV & ASSOC BLOCK VLV OPEND RCS PRESS DECRS	LOOSE CNNCTR FROM PZR PRESS CONTROLLER
W	HN1	171821	112281	TX	FG	NN	B13	N		U		STEAM FLOW FOR #1 STEAM LINE FOUND ERRATIC	LEAKING DRAIN LINE ON TRANSMITTER
W	IP2	014204	011676	PS	LT	PX	B13	T		T		BISTABLE LC-4(76-2-2)P OUT OF SPEC	M/63 ALARM UNIT PWR SUP DEFECTIVE
W	IP2	014205	011976	ZZ	PS	SN	B13	T		T		PRESS CONTROLLER PC-9[illegible]9A BISTABLE DID NOT OPERATE	M/63 ALARM UNIT CKT BOARD DEFECTIVE
W	IP2	016220	101376	ZZ	TI	PX	A00	T		U		DELTA-T CH22 DIFFERS FROM OTHER 3 CHANNELS	CHANGE OF DELTA-T SINCE PHYSICS TESTING
W	IP2	016556*	112876	AM	NT	PX	A14	T		T	2	PWR RNG F (DELTA I) FOR CH 41 & 43 OUT OF SPEC	STATIC GAIN UNIT 62H-2 OUT OF CALIBRATION
W	IP2	017018	011277	IN	LG	PX	B11	N		U		LEVEL INST 447-C INDICATOR SLUGGISH	BLOCKED SENSING LINE
W	IP2	017782	042877	TX	LT	PX	A14	T		T		LT-460 LEVEL XMTR OUT OF TOLERANCE HIGH	XMTR 613HM-H DRIFTED OUT OF TOLERANCE
W	IP2	019237	083177	IN	DG	NN	A06	N		D		ROD N-5 INDICATED POSITION 13 STEPS HIGH	WRONG CALIBRATION CURVE USED
W	IP2	020741	021678	CL	LG	SN	800	T		U		LIC-920 FOUND BELOW MIN LEVEL REQUIRED	LIC-920 FOUND OUT OF SERVICE 1/4 TO 2/13
W	IP2	020742	021678	CL	LG	SN	A14	N		T		1 OF 2 LEVEL ALARMS FOUND BELOW MIN LEVEL	LIC-921 MOD 288 SETPOINT DRIFT
W	IP2	020743*	022378	TX	PG	SN	A06	N		U	8	NRC NOTIFICATION OF ACCUM LEVEL XMTR CAL PROCEDURE	MODEL 1151DP XMTRS CALIBRATED WRONG
W	IP2	021907	060978	CA	DC	NN	802	N		D		ROD POSITION IND FOR H-10 FAILED DOWNSCALE	LOOSE CONNECTOR
W	IP2	022868	101878	CM	PG	SN	A14	T		T		BISTABLE PC-439A SET BELOW 600PSIG LIMIT	635-BR-OCHA SETPOINT DRIFT
W	IP2	025236	012079	CL	LS	SN	811	N		D		LEVEL INST CONTROLLER,LIC-921,BECAME INOPERABLE	FROZEN SENSING LINES (RWST LEVEL)
W	IP2	033427A	112980	CL	LG	SN	A14	T		T		SETPOINT FOR TWO LO LVL ALARMS OOT (LOW)	SETPOINT DRIFT OF LVL CONTROLLER
W	IP2	033427B	112980	CM	LS	SN	A14	T		T		SETPOINT FOR TWO LO LVL ALARMS OOT (LOW)	SETPOINT DRIFT OF BISTABLE
W	IP2	037383*	051781	TX	LG	NN	812	T		T	2	SENSING DEVICES INOP ON LVL XMTR LT-940,-941	FOREIGN MAT'L BUILD-UP ON INSTR STALKS
W	IP2	039290	102981	SE	TT	PX	800	N		U		DELTA & AVG TEMP ON LOOP 23 READING LOW	DFCTV RESISTANCE TEMP DETECTOR CKT
W	IP3	014711	041176	IN	DG	NN	A14	T		T		ROD K4 POSITION INDICATOR OUTPUT HIGH	ROD POSITION INDICATOR MISALIGNED
W	IP3	015115	060376	SE	NT	PX	B13	T		T		PWR RANGE CH 43 DECREASING SLOWLY	WL23686 DEFECTIVE AND REPLACED
W	IP3	015114	060576	TX	FT	PX	B13	T		T		FT-434 OUTPUT DRIFTING	FT AMP ASSY 143SY DEFECTIVE
W	IP3	015121*	061576	TX	FS	SN	A11	T		U	2	STM FLOW IND 33 & 34 FAILED LOW LINE BLOCKAGE	FT-439B & FT-449A (630-2AS) SENS LINES
W	IP3	015331	072676	TX	FS	SN	B08	N		D		#34 STM GEN FLOW IND LOW FI-449A	MD-630-2AS FT COVER BINDING MECHANISM
W	IP3	016410	110576	CN	XG	NN	A14	N		T		TURBINE SPEED INDICATING 1300 VICE 1800 RPM	FREQUENCY TO DC CARD OUT OF ADJUSTMENT
W	IP3	017122	012777	AM	DC	NN	A14	N		T		B10 ROD POSITION INDICATOR INCORRECT READING	ISOL OP AMP (BUFFER) OUT OF ADJUSTMENT
W	IP3	018812	070877	RE	LS	SN	A12	T		T		RELAY ASSOC WITH PZR LEVEL BISTABLE FAILED TO OPER	BF66F PLUNGER DIRTY AND STICKING
W	IP3	018813	072277	TR	DC	NN	A14	N		T		ROD E-13 POS INDICATION LOW	TRANSFORMER PRIMARY VOLTAGE DRIFT
W	IP3	018816	080377	TR	DC	NN	B13	N		T		ROD E-13 POS INDICATION LOW, INOPERABLE	TRANSFORMER VOLTAGE WILL NOT ADJUST
W	IP3	022145	072978	RE	XT	PX	A12	T		U		UNDERVOLTAGE RELAY 27-3A ACTUATE LESS CONSERVATIVE	BINDING BETWEEN TRIP MECHANISM & TARGET
W	IP3	022152	080178	TX	PS	SN	A14	T		T		PT-457 OUTSIDE OF REQUIRED TOLERANCE	PT E11GM-SAE1 CALIBRATION DRIFT
W	IP3	022403	091278	SE	TT	PX	B07	N		U		HOT LEG RTD-410A INOPERABLE	BORATED WATER LEAK ON RTD WIRING
W	IP3	026986	081879	PS	NI	PX	B00	N		T		POWER RANGE CH #42 FAILED LOW	DETECTOR POWER SUPPLY FAILED.NORMAL WEAR
W	IP3	027525*	112779	TX	LS	SN	A14	T		T	2	ACCUMULATOR 31 & 34 LEVEL XMITTERS FOUND OOC HIGH	INSTRUMENT DRIFT

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	IP3	033241*	102580	TX	LG	NN	A14	N		T	2	TWO ACC LVL XMITRS-934B,-935B OOT HI ON LO LVL SIG	INSTRUMENT DRIFT
W	IP3	033428	111580	TX	PS	SN	A14	R		T		PRESSURE TRANSMITTER PT-456B OOT (HIGH)	INSTRUMENT DRIFT
W	JF1	019056	082277	IM	TT	PX	A14	N		T		LOOP C LO-LO TAVG TB-432E SETPOINT OUT OF TOLERANC	TB-432E OUT OF CALIBRATION
W	JF1	019059	082377	GS	LG	NN	B13	N		T		LS511 HI & LOW SWITCHES ACTUATED, PUMP WON'T START	DEFECTIVE SWITCH
W	JF1	019061	082777	IN	DG	NN	B09	N		T		DRPI FAILED, DID NOT AGREE WITH DEMAND POS IND	DRPI CARD ASSY SHORTED TO GROUND
W	JF1	019358	090777	CM	LT	PX	A14	T		T		PZR LEVEL LB-459A(2) SETPOINT OUT OF TOLERANCE	INSTRUMENT DRIFT
W	JF1	019364	092177	IM	TT	PX	A14	T		T		TB-432B-1 SETPOINT OUT OF TOLERANCE	INSTRUMENT DRIFT
W	JF1	019369	100277	RE	XG	NN	B12	T		D		CONTAIN COOLER FAN IC FAILED TO DROP TO LOW SPEED	SEQUENCER RELAY CONTACT STICKING
W	JF1	019534	102777	IM	PS	SN	B13	T		T		STM PRESS LOOPS CH II INOPERABLE	LEAD/LAG CARD PY-474B FAILED
W	JF1	019696	111177	TX	LT	PX	B13	N		T		PRZR LEVEL IND LT-461 READING LOW	DELTA-P UNIT LT-461 DEFECTIVE
W	JF1	019697	111777	CM	NT	PX	A14	T		T		HIGH LEVEL TRIP BISTABLE NC206 IN EXCESS OF T.S.	B/S RELAY DRIVER NC206 INST DRIFT
W	JF1	019848	120277	IM	FT	PX	A14	N		T		STM FLOW IND FI-484 READING LOW	NMD CARD FY-484 OUT OF CALIBRATION
W	JF1	020239A	122077	IM	PS	SN	A14	T		T		STM PRESS LOOP 1,2,3 CH III LEAD/LAG CARD O.O.CAL	(NLL) PY-485B INST DRIFT
W	JF1	020239B	122077	CM	PS	SN	A14	T		T		STM PRESS LOOP 1,2,3 CH III COMP CARD O.O. CALIBRA	(NAL) PB-485A SETPOINT DRIFT
W	JF1	020238	122777	CM	PS	SN	A14	T		T		PZR PRESS SAFETY INJECT COMP PB-457B BELOW T.S.	COMP CARD PB-457B SETPOINT DRIFT
W	JF1	020282*	011278	CM	FT	PX	A14	T		T	2	STM VS FEED FLOW MISMATCH TRIP LESS CONSERVATIVE	CARDS FB-498B & FY-497 NORMAL DRIFT
W	JF1	020286	011778	IM	PS	SN	B13	T		T		SI ACTUATION SIGNAL COMP PB-485A NON-CONSERVATIVE	LEAD-LAG CARD PY-485B HAD DEFECTIVE POT
W	JF1	020285	011978	CM	PS	SN	A14	N		T		STM LINE DELTA-P SI SIGNAL COMP LESS CONSERVATIVE	CARD PB-484B SETPOINT DRIFT
W	JF1	021234	042478	SE	NT	PX	A14	T		D		INTERMEDIATE RANGE N35 HIGH FLUX TRIP LESS CONSERV	NEW DETECTOR LESS SENSITIVE TH[illegible] ORIGINAL
W	JF1	021977	070678	AM	DC	NN	B13	T		T		CONTROL ROD BANK A WOULD NOT MOVE ON DEMAND	SUPERVISOR MEMORY BUFFER CARD FAILED
W	JF1	022236	081578	RE	XT	PX	B02	T		D		UNDERVOLT RELAY 27-3 TRIPPED/DAMAGED DURING MAINT	ACCIDENTAL SHORT WITH TEST LEADS
W	JF1	022632	091278	IN	PG	NN	B08	T		U		PI-474A INDICATING ZERO WHILE OTHER 2 IND. NORMAL	STUCK METER MOVEMENT
W	JF1	022634A	091378	PS	FS	SN	B13	N		T		FEEDWATER FLOW INST FAILED LOW	CARD PQY-476 (NLP) PWR SUP FAILED
W	JF1	022634B	091378	IM	FS	SN	B13	N		T		FEEDWATER FLOW INST FAILED LOW	NMD CARD MULT/DIV/SQ RT INST DRIFT
W	JF1	022635*	092078	HS	NT	PX	B04	T		U	2	LOSS OF H.V. TO BOTH SOURCE RANGE NIS CHANNELS	SWITCH WIRING DESIGN
W	JF1	022993	101678	RE	XT	PX	A14	T		T		RCP 1A UNDERVOLT RELAY 27-1 FAIL TO TRIP AS REQUIR	SETPOINT DRIFT NON-CONSERVATIVE
W	JF1	025431	022179	CM	FT	PX	A14	T		T		STEAM FLOW/FEED FLOW BISTABLE FB478A FOUND OOC	INSTRUMENT DRIFT
W	JF1	027481A	110679	TX	LS	SN	A14	N		T		RWST LEVEL TRANSMITTER FOUND OUT OF CALIBRATION	INSTRUMENT DRIFT
W	JF1	027481B	110679	TX	LS	SN	B14	N		T		RWST LEVEL TRANSMITTER FOUND OUT OF CALIBRATION	UNCORRECTABLE INSTRUMENT DRIFT
W	JF1	027852	112279	TX	LT	PX	A11	N		T		SG B LEVEL CHANNEL 486 READING 8% LOWER THAN OTHER	LEAKING EQUALIZING VALVE
W	JF1	027834	120279	CM	PS	IC	B00	N		U		CNTNMNT PRESS HI-1&2 TRIP STATUS LIGHTS FOR ONE //	CHANNEL FOUND ENERGIZED. FAIL COMPARTOR
W	JF1	027912	121379	CM	PS	SN	B00	T		U		SL DP SI INITIATION SIGNAL COMPARATOR FOUND INOP	REPLACED BP486B. NO CAUSE GIVEN(MSL 1&2)
W	JF1	027914	122079	CA	PS	IC	B12	T		T		CNTNMNT PRESS CHANNEL(PT950) FOUND INOPERABLE	FILM BUILDUP ON CONNECTION
W	JF1	030067	010680	MO	RR	NN	B14	N		T		FUEL STRG POOL AREA RAD MON R-5 INOP HI ALRM SETP/	/T HIGH. INSTRUMENT DRIFT
W	JF1	030161	011880	IM	LT	PX	B00	T		U		1B HI-HI SG LVL LOGIC FAILED	FAILD UNIVERSAL CARD IN B TRAIN SS PS
W	JF1	030282	012680	MO	RR	NN	B12	N		T		CONT ATMOS PART RAD MON-11 INOP FILTR PAPER NOT A/	/DVANCNG. CARBON DUST IN PAPER DRIVE MTR
W	JF1	030324	020180	HS	XG	NN	B00	T		U		"A" COMPONENT COOLING WATER SYS INOP	CCW PMP HANDSW INCRRCTLY POSITIONED
W	JF1	030558	021780	CL	XG	NN	B00	N		U		DEH SYS MALFUNCTN CAUSG LOAD INCRS & DECRS T(AVG)	UNDER INVESTIGATION
W	JF1	030560	022280	LS	DG	NN	A14	N		T		TDAFWP INOP TURBINE TRIPPED IN OVERSPEED	TURB STM SUP VLV LMT SW OUT OF ADJUSTMENT
W	JF1	032035A	022480	RE	XG	NN	A14	R		T		1B RCP 27-3 UNDERVOLTAGE RELAY OOT (LOW)	INSTRUMENT DRIFT
W	JF1	030911	040580	ZZ	TT	PX	B00	N		U		ERRONEOUS OTDT ALARM LEAD/LAG CRD GAVE UNSTBL OUT	NO CAUSE FOR DFCTV LEAD/LAG CRD C1-130
W	JF1	030910	040880	PS	PS	SN	A14	T		T		TURB 1ST STG PRESS B/S PB447E OOT LOOP PS CRD PQY/	/447 OUT OF ADJSTMNT. INSTRUMENT DRIFT
W	JF1	031333	043080	CA	NT	PX	A00	T		U		INTERMED RNG NIS CHNL N-35 INOP DUE TO POWER LOSS	LOOSE WIRE
W	JF1	031344	051180	ZZ	DC	NN	B00	N		U		DRPI INOP WHEN LOST INDICATION IN TROUBLESHOOTING	NO REASON GIVEN
W	JF1	032035B	052780	RE	XG	NN	A14	R		T		1C RCP 27-3 UNDERVOLTAGE RELAY OOT (LOW)	INSTRUMENT DRIFT
W	JF1	033277	071280	CM	PT	PX	A12	N		T		PZR PT-457 B/S FAILD TO MEET LO PRESS SETPT REQ	DIRTY ELEC CNTCTS BTWN CARD & CHASSIS
W	JF1	032331	081380	PS	FS	SN	B00	N		U		STM FLO CHNL ASSOC W/ FT-475 INOP WHEN FAILED LOW	DFCTV LOOP POWER SUPPLY CARD PQY-476
W	JF1	032417	082080	ZZ	FT	PX	B00	N		U		RX TRP INSTR CH ASSOC W/ RCS LOOP FT-434 LOST IND	DFCTV TRANSISTORS ON CARD C1-242
W	JF1	032561	090980	ZZ	XG	SF	B09	T		D		CNTNMNT SPRAY AUTO ACTUATION LOGIC INOP	UNIVERSAL CARD HAD AN INTEGRATED CKT FAIL
W	JF1	032917A	100980	CL	XG	NN	B09	T		D		NO MANUAL CNTRL OF D/G FREQUENCY	SHORT CKT IN VOLTAGE REGULATOR

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	JF1	033164B	102880	MO	RR	NN	B11	N		U		RAD MON-11,12 INOP DUE TO LO FLOW PUMP TRIPS	PUMP SUCTION ISOL VLV NOT FULLY OPEN
W	JF1	033572	112880	CA	PS	SL	B12	T		T		LOOP SUCTN VLV CLOSED CAUSD "A" TRAIN RHR INOP	DIRTY CONTCTS ON CRD GAVE ERRONEOUS SIG
W	JF1	036196	020281	MO	RR	NN	B08	N		U		RAD MON R25B INOPERABLE	DRIVE BELT BREAKING
W	JF1	036875	040581	ZZ	TT	PX	B13	T		U		OVER/DELTA-TEMP LOOP ASSOC W/ TI-412C INOP	DFCTV NLL CARD, OOC GAIN POTENTIOMETER
W	JF1	037018	041381	AM	NT	PX	B00	T		U		INTERMEDIATE RNG CHNL N-35 INOP CURRENT MTR RDG //	ERRONEOUS. DFCTV LOG CURRENT AMP CARD
W	JF1	037117	042281	IM	TT	PX	B00	T		U		OVER/DELTA-TEMP LOOP ASSOC W/ TI-412C INOP	DEFECTIVE LEAD-LAG CARD
W	JF1	037118	050281	IN	PG	PX	B00	M		U		PZR PRESS IND 457C REMOVED FROM SERVICE	FAULTY LEAD/LAG CARD
W	JF1	037297	050981	IN	LG	NN	B00	N		U		"A" TRAIN RWST LEVEL INDICATOR FAILED LOW	UNKNOWN
W	JF1	168891	072481	TX	FT	PX	B11	N		V		FLOW TRANSMITTER F1426 RX COOLANT LOOP B FAILED	STEAM LEAK IN SENSING LINE
W	JF1	038359	073081	ZZ	NT	PX	A14	T		T		N-43 INOP HI FLUX TRP SETPOINT OOC (HIGH)	INSTRUMENT SETPOINT DRIFT
W	JF1	038366	080981	CL	PG	NN	B00	N		U		"A" PENETRATN RM FILTRATION SYS INOP	SPENT FUEL OP INSTR LOOP DC CONTROLLR CRD
W	JF1	038635	083081	IN	PG	NN	B00	N		U		HOT S/D PANEL PZR PRESS INSTR CHNL INOPERABLE	PRESS IND FUNC IN NON-LINEAR MANNER
W	JF1	038634	083181	IN	LG	NN	B12	M		T		RWST LVL IND LI-4075A FAILED LOW	IND POINTER STUCK AT THE LOW POSITION
W	JF1	173607	101281	TX	PG	NN	A14	T		T		DIFFERENTIAL TRANSMITTER FOUND OUT OF CAL	DRIFT
W	JF1	172098	122281	CA	RG	NN	B09	N		T		FUEL STORAGE POOL AREA RAD MON R-5 LOST CNTRL PWR	LOOSE ELEC CNNCTN AT 120V CNTRL PWR PANEL
W	JF2	037437	052681	MO	RR	NN	B12	N		T		PLANT VENT STACK EFF MON R-29B INOP PUMP TRIPPED	DIRTY FILTER--NAT'L END-OF-LIFE
W	JF2	037436	060281	CM	FT	PX	B00	T		U		S/G 2C FT-495 INSTR LOOP INOP OOC VOLTG CONDITION	FAULTY COMPARATOR CARD
W	JF2	037516	060681	ZZ	TT	PX	B14	T		T		OVER/DELTA-TEMP INSTR LOOP ASSOC W/ TI432C INOP	OOC GAIN POTENTIOMETER
W	JF2	037707	061481	MO	RR	NN	B09	N		U		SJAE NOBLE GAS ACTIVITY MON RE-15 INOP FAILD LOW	FAULTY CONNECTION AT THE DETECTOR
W	JF2	038411	080781	RC	FG	NN	B13	N		U		SERVICE WTR DILUTION FLO RECORDER INOP	BROKEN ANNUBAR
W	JF2	038879	092381	MO	RR	NN	B00	N		U		PLANT STACK EFF MON R29B INOP DATA TRANSMIT ERROR	UNKNOWN
W	JF2	038852	100181	MO	RR	NN	B09	N		U		CONT ATMOS RAD MON SYS R11 INOP INDICATOR FAILD LO	BROKEN WIRE IN INSTRUMENTATN DRAWER
W	JF2	038964	100381	MO	RR	NN	B07	N		T		SJAE NOBLE GAS ACTIVITY MON RE15A INOP	MOIST IN DET UNIT/IMPROPR AUTO DRAIN VLV
W	JF2	171791	110981	PS	PG	NN	B00	N		U		2B S/G PRESSURE INSTRUMENT LOOP FAILED LOW	FAILED POWER SUPPLY CARD
W	JF2	171831	120581	CM	TT	PX	B00	T		U		COMPARATOR CARD FOR OT/DELTA T (TB-432C-1) OOC	NO CAUSE GIVEN
W	KE1	013948	010676	TX	PS	SN	A14	T		T		CONTAINMENT PRESS INST CH949 INDICATING LOW	PRESS XMTR HAD ZERO SHIFT
W	KE1	014201	012976	SE	TG	NN	B13	T		T		HOT LEG CH 4 TEMP INDICATING LOW	RTD MALFUNCTION
W	KE1	014241	022176	RE	XT	PX	A14	T		T		UNDERVOLTAGE RELAY 27A1/B1 OUT OF SPEC LOW	DRIFT 2% BELOW MINIMUM
W	KE1	014396	030976	TX	FT	PX	B13	T		T		MAIN STEAM FT-464 OUT OF TOLERANCE NON-LINEAR	DEFECTIVE BELLOWS IN TRASMITTER
W	KE1	014545	041576	SE	XS	SN	B08	N		D		SPURIOUS TURBINE/REACTOR TRIPS	PROBE NOT DEEP ENOUGH IN WELL
W	KE1	016118*	092876	TX	LT	PX	A14	T		T	2	PZR LEVEL TRANSMITTERS (2) TRIPS LESS CONSERVATIVE	INSTRUMENT DRIFT
W	KE1	016973	011777	SE	NT	PX	B13	N		T		CH31 SOURCE RANGE NO OUTPUT	DETECTOR AND PRE-AMP FAILURE
W	KE1	017156A	021577	TX	LT	PX	A14	T		T	2	2 OF 3 PZR LEVEL XMTRS TRIP SETTINGS NON-CONSERVAT	//IVE. INSTRUMENT DRIFT
W	KE1	017156B	021577	TX	LT	PX	B13	T		T		1 OF 3 PZR LEVEL XMTRS TRIP SETTINGS NON-CONSERVAT	//IVE. DEFECTIVE BELLOWS
W	KE1	017244A	030477	TX	PT	PX	A14	T		T		PZR PRESS HIGH PRESS RX TRIP HIGH 7 PSIG	INSTRUMENT SETPOINT DRIFT
W	KE1	017244B	030477	CM	PT	PX	A14	T		T		PZR PRESS HIGH PRESS RX TRIP HIGH 4 PSIG	INSTRUMENT SETPOINT DRIFT
W	KE1	017430	031477	ZZ	PS	SN	B13	T		T		LOW-LOW STM GEN PRESS SI SIGNAL LOW	DYNAMIC COMPENSATOR HAD BAD TRASISTORS
W	KE1	017723	033077	CM	LT	PX	A14	T		T		PZR HIGH LEVEL TRIP CHANNEL ABOVE T.S. SETPOINT	ALARM BISTABLE DRIFT
W	KE1	019642	110677	LM	NG	NN	B00	N		U		PERIODIC LOSS OF PROGRAM, DISC ERASURE	UNIDENTIFIED FLAW IN COMPUTER
W	KE1	019865	120677	GS	PS	SN	B13	T		T		1 OF 2 SBV TRAIN INOPERABLE, NOT FULLY INTO RECIRC	FAULTY STATIC PRESS CONTROL SWITCHES
W	KE1	020569	020678	CM	LS	SN	A14	T		T		1 OF 3 PZR LEVEL SI SETPOINTS LOW	INSTRUMENT DRIFT
W	KE1	021229	042078	CL	PG	SN	B13	T		T		1 OF 2 SBV TRAINS INOPERABLE, INADEQUATE VACUUM	FAILED CONTROLLER
W	KE1	021390	050178	TX	FS	SN	A14	T		T		STM FLOW XMTR OUT OF CAL LESS CONSERVATIVE THAN TS	BARTON FLOW XMTR INSTRUMENT DRIFT
W	KE1	021391	050478	TX	LT	PX	A14	T		T		PZR LEVEL XMTR OUT OF CAL LESS CONSERVATIVE	BARTON LEVEL XMTR INSTRUMENT DRIFT
W	KE1	021443	051178	TX	FT	PX	A14	T		T		1 RCS FLOW XMTR EACH LOOP OUT OF CAL LESS CONSERV	FOXBORO FLOW XMTR INSTRUMENT DRIFT
W	KE1	021629	060178	TX	LT	PX	A14	N		T		PZR LEVEL IDICATING HIGH, LESS CONSERVATIVE	BARTON PZR LEVEL XMTR INST DRIFT
W	KE1	021811	062278	CM	PS	SN	A14	T		T		SI ACTUATION TRIP SETTING 1 OF 3 STM PRESS INST	FOXBORO BISTABLE INST DRIFT
W	KE1	025834	042479	RE	XS	SN	B08	T		T		RELAY IN ONE TRAIN OF SI LOGIC WOULDN'T LATCH	MECHANICAL LATCH OUT OF ADJUSTMENT
W	KE1	025864	050179	TX	PS	SF	A14	T		T		1 OF 6 CNTNMNT PRESSURE TX FOUND OUT OF CAL	INST DRIFT. CONTROLED CNTNMNT SPRAY PUMP
W	KE1	025912	050379	SE	TG	AG	B09	N		U		HEAT TRACE TRAIN BECAME INOPERABLE	FAILED CONNECTOR ON SENSOR

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	KE1	026135*	053079	TX	PT	PX	A14	T		T	3	3 OF 4 PZR PRESS TRANSMITTERS FOUND OUT OF CAL HI	INSTRUMENT DRIFT
W	KE1	026168*	060279	TX	FT	PX	A14	T		T	4	ALL FOUR RCS FLOW TRANSMITTERS FOUND OUT OF CAL	INSTRUMENT DRIFT
W	KE1	026170	060479	TX	FS	SN	A14	T		T		STEAM FLOW TRANSMITTER FOR MSL ISOL FOUND OOC HIGH	INSTRUMENT DRIFT
W	KE1	030510	020880	TX	FS	SN	B13	T		U		SG FLOW CH IND LO XMITTR OUTPUT SLOWLY DECREASING	FAILED STRAIN GAGE IN XMITTR
W	KE1	030469	022080	CL	DG	SN	A14	T		T		DAMPER SBV-10A REMAIND PARTIALLY OPEN TRAIN A OOS	DAMPER CONTROLLER SETPOINT DRIFIED
W	KE1	030470	022080	CL	FG	NN	A14	N		T		CNTNMNT RAD MON SYS PMP R11/12 IND HI FLO TRPD OFF	HI/LO FLO SETPT OOC CAUSED BY VIBRATION
W	KE1	031325	051980	TX	PT	PX	A14	T		T		PZR PRESS XMITTR OOC	INSTRUMENT DRIFT
W	KE1	031329	052780	TX	PS	SN	A14	T		T		STM [illegible] ISOL SYS OOC (LOW)	D/P TRANSMITTER INSTRUMENT DRIFT
W	KE1	031944	071080	CM	TT	PX	A14	T		T		OVERPOWER DELTA-T TRP B/S NONCONSERVATIVE SETPOINT	INSTRUMENT DRIFT
W	KE1	033335A	071380	CL	DG	SN	B00	T		U		CHECK DAMPER SBV-10A FAILD TO FULLY OPEN	CONTROLLER SBV-20A REQ TOTAL COMP REPLAC
W	KE1	033335B	071380	CL	DG	SN	B13	T		U		CHECK DAMPER SBV-10A FAILD TO FULLY OPEN	CONTROLLER SBV-10A HAD FAULTY TRANSISTOR
W	KE1	036855	040381	GS	XG	CT	B00	T		U		CONTROL SWITCH FOR 1B AFP FAILED	NO CAUSE GIVEN
W	KE1	037307	051081	TX	F.	PX	A14	T		T		STEAM FLOW TRANSMITTER FOUND OOC LOW	INSTRUMENT DRIFT
W	KE1	037308*	051581	TX	FT	PX	A14	T		T	2	TWO RCS FLOW TRANSMITTERS IN LOOP "A" FOUND OOC LO	INSTRUMENT DRIFT
W	KE1	037309*	051681	TX	PT	PX	A14	T		T	2	TWO PZR PRESSURE TRANSMITTERS FOUND OOC HIGH	INSTRUMENT DRIFT
W	KE1	037310	051681	TX	PT	PX	A14	T		T		PZR PRESSURE TRANSMITTER FOUND OOC LOW 13%	INSTRUMENT DRIFT
W	KE1	038264	080781	TX	PS	IC	A14	T		T		CNTNMNT PRESSURE TRANSMITTER FOUND OOC LOW	INSTRUMENT DRIFT
W	KE1	039377	110981	TX	FT	PX	B13	N		U		STEAM FLOW TRANSMITTER FAILED	CIRCUIT BOARD FAILED
W	MG1	038373	080981	MO	RR	NN	B13	N		U		RAD MON EMF-43A SAMPLE PUMP FOUND NOT RUNNING	NO CAUSE FOUND FOR STOPPED PUMP
W	MG1	038245	081081	TX	LS	SN	B00	N		U		REFUELING WATER STORAGE TANK LEVEL FAILED	TRANSMITTER FAILED,NO CAUSE DETERMINED
W	MG1	038556	082181	MO	RR	NN	B12	N		T		RAD MON FOR CONTROL ROOM OUTSIDE AIR FOUND INOP.	SAMPLE PUMP TRIPPED DUE TO DIRT ON FILTER
W	MG1	038755	090981	MO	RR	NN	B13	N		T		CONDENSER AIR EJECTOR RAD MON DECLARED INOP(EMF33)	SAMPLE PUMP SEIZED DUE TO MOISTURE
W	MG1	038763A	091181	ZZ	XT	PX	B14	N		T		LOOP "D" OVERTEMPERATURE DELTA "T" DECLARED INOP	VARIOUS COMPONENT INSTRUMENT DRIFT
W	MG1	038763B	091181	ZZ	XT	PX	B14	N		T		LOOP "D" OVERPOWER DELTA "T" DECLARED INOPERABLE	VARIOUS COMPONENT INSTRUMENT DRIFT
W	MG1	038768	091181	TX	FT	PX	B14	N		T		LOOP B CH 3 REACTOR COOLANT FLOW DECLARED INOP	INSTRUMENT DRIFT OF VERITRAR TRANSMITTER
W	MG1	039218	101681	IN	LG	NN	B14	N		T		S/G LEVEL B WAS OFF 13% BETWEEN LOCAL AND REMOTE	INSTRUMENT DRIFT,INDICATOR RECALIBRATED
W	MG1	039169	102181	TX	FT	PX	B00	N		U		CH 3 LOOP C REACTOR COOLANT FLOW TRANSMITTER FAIL	NO CAUSE GIVEN,TRANSMITTER REPLACED
W	MG1	039179	102581	CA	TG	NN	B12	N		T		TEMP INDICATION FOR RCP UPPER THRUST BEARING FAIL/	/ED HI. CONNECTION ON TERMINAL CORRODED
W	MG1	039308	102881	GS	LS	SN	B11	N		T		LEVEL SWITCH GAVE SIGNAL TO CLOSE VLV ON 2 UHI ACC	LOOSE FITTING ON LOW LEG IMPULSE LINE
W	MG1	039360	103181	ZZ	TT	PX	B00	N		U		"T" COLD FAILED	NRA CARD FAILED WITH NO CAUSE GIVEN
W	MG1	171691	111281	ZZ	PT	PX	A14	N		T		CHAN 3 OF CR PRESS LVL INSTR VARIED MORE THAN 4%	INSTRUMENT DRIFT
W	MG1	171693	111681	PS	NI	PX	B13	T		T		SOURCE RANGE CHAN N-31 H-VLTG PWR SUPPLY FAILED	A COMPONENT TRANSFORMER OVERHEATED
W	MG1	172298*	121681	HS	XS	SN	B12	T		T	2	ESF MANUAL ACTUATN SW ON A & B TRAINS FAILED	CHEMICAL COATING BUILDING UP ON CONTACTS
W	NA1	021151	041378	CM	PG	SN	A06	T		D		PC-455B RESET PT AT 1998.5 VICE 1990	ERROR IN CALIBRATION PROCEDURE
W	NA1	021541	052978	AM	TT	PX	B13	T		T		PROTECT TAVG LOW, PROTECT DT HIGH T-1412	COLD LEG RTD AMP FAILURE
W	NA1	021891	061478	LS	DT	PX	B08	T		T		TURBINE TRIP VALVE LIMIT SW FAILED TO ACTUATE	ACTUATION ARM LOOSE AND SHIFTED
W	NA1	022039	072678	SE	NC	NN	B00	N		U		INDICATED QUADRANT POWER TILT GREATER THAN 1.02	BELIEVED TO BE FAULTY PWR RNG DETECTOR
W	NA1	022555B	090578	IM	PS	SN	B13	N		T		STM LINE C HI STM LINE DP BISTABLE ALARM	FAULTY LEAD LAG CIRCUIT
W	NA1	022571	092778	TX	FT	PX	A06	T		D		RX COOLANT LO-LO FLOW TRIP NON-CONSERVATIVE	XMTR CAL PROCEDURE W/O ELEVATION COMPENSA
W	NA1	022593	100278	TX	LT	PX	A11	T		T		CH III SG LEVEL INDICATION 5% DEVIATION	LI-1496 MANIFOLD GASKET LEAK
W	NA1	022771	101778	IM	FT	PX	A14	T		T		STM-FEEDWATER FLOW MISMATCH TRIP HIGH	DRIFT OF MULTIPLIER-DIVIDER CARD
W	NA1	023333	122378	LS	DT	PX	A08	T		U		TRIP STATUS INDICATION NOT REC WHEN TV-3 CLOSED	LIMIT SW FOR TV-3 OUT OF ADJUSTMENT
W	NA1	023480	122878	GS	PT	PX	A09	N		U		CH 1 TURB AUTO STOP OIL LOW PRESS SPURIOUS SIGNAL	LOOSE TERMINAL SCREW ON PS-LO-609-4
W	NA1	025133	010879	IM	LS	SN	B00	T		U		SSPS S/G 3 HI LEVEL TEST ON TEST PANEL WOULDNT OP	FAULTY UNIVERSAL LOGIC CARD,UNKNOWN CAUSE
W	NA1	025254	012779	MO	RR	NN	A14	T		T		CNTNMNT PARTICULATE MONITOR RMS159 FOUND OOC LOW	HIGH VOLTAGE SETTING TOO LOW
W	NA1	025257	020279	TX	LT	PX	A14	N		T		PZR LEVEL TRANSMITTER FOUND READING HIGH	INSTRUMENT DRIFT OF LI-1461
W	NA1	025258	020479	CN	DC	NN	A14	T		T		ROD POSITION INDICATION VARIED FROM DEMAND POSITIO	/N. VOLTAGE DRIFT IN SIGNAL CONDITIONER
W	NA1	025259	021279	IM	NT	PX	B09	N		D		AXIAL POWER MONITOR SYSTEM FAILED	WRONG INPUT GIVEN BY PLANT COMPUTER
W	NA1	025409	022579	CN	DG	NN	A14	N		T		12 STEP DISAGREEMENT NOTED BETWEEN RPI,COMPUTER //	PI,AND DEMAND POS. DRIFT IN VOLTAGE
W	NA1	025411	022879	IN	NG	NN	B00	N		U		POWER RANGE N-42 PLACED IN TRIP TO REPLACE DELTA/	/FLUX INDICATOR. NO CAUSE GIVEN FOR FAILR

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	NA1	025757	032679	IM	NI	PX	B13	T		T		UPPER/LOWER FLUX SIGNAL SUM AMP DISCOVERED FAILED	SUMMING AMPLIFIER CARD REPLACED
W	NA1	025855*	040179	ZZ	DG	NN	A14	N		T	3	RPI FOR RODS H02,P10,6J07 FOUND OUT OF CAL HIGH	INSTRUMENT DRIFT
W	NA1	025718	040479	TX	LS	SN	A14	T		T		LEVEL TRANSMITTER LT-1-460 FOUND OUT OF CAL	INSTRUMENT DRIFT
W	NA1	025853	041279	ZZ	LG	SN	A14	T		T		S/G 1B NARROW RANGE LEVEL CIRCUITRY FOUND OOC	INSTRUMENT DRIFT
W	NA1	025854	041279	PS	PS	IC	B14	T		T		HI-HI CONTAINMENT PRESSURE TRIP FOUND OOC HIGH	EXCESSIVE INST DRIFT IN POWER SUPPLY
W	NA1	025972	051679	TX	LT	PX	B00	T		U		PZR LEVEL INDICATOR FAILED HIGH	NO CAUSE FOUND
W	NA1	026569	072679	MO	RR	NN	B00	N		U		VENT STACK PARTICULATE RAD MON RM-VG112 FAILED	FAILED POWER SUPPLY,NO CAUSE GIVEN
W	NA1	027075	091279	ZZ	LT	PX	B00	N		U		PZR LEVEL CHANNEL II(LI-1460) DECLARED INOPERABLE	NO CAUSE FOUND
W	NA1	027073	091379	TX	FS	SN	B11	N		T		LOOP B STEAM FLOW INDICATED LOWER THAN OTHER CH.	FI-1485 ROOT VALVES LEAKED
W	NA1	027600	100379	TX	LT	PX	A14	T		T		"A" S/G LEVEL PROTECTION CH I LO & LO-LO LEVEL OOC	INST DRIFT OF CHANNEL'S TX,LT-1474
W	NA1	027592	111679	TX	LT	PX	B13	N		T		PRESSURIZOR LEVEL CHANNEL III READ ERRATIC	FAILED AMP IN TRANSMITTER
W	NA1	031045	120779	PS	LS	IC	B13	N		U		CASING COOLING TNK LVL IND LI-RS103A OOC	DFCTV ZENER DIODE IN LOOP'S PWR SUP CARD
W	NA1	030075	011080	RE	XG	NN	B00	N		U		MSIV TV-MS101C WOULD NOT CLOSE FROM "A" PUSHBUTTON	OPEN AUXILIARY RELAY
W	NA1	030150	012180	SE	NI	PX	B00	N		U		NIS PWR RNG CHNL IV (N-44) INOP	ION CHAMBER DETECTOR FAILED
W	NA1	030478	021580	CM	PS	SN	B14	T		T		CHNL 3 STMLINE PRESS PROTCTN B/S TRIPD OOT (HIGH)	SETPOINT DRIFT IN SIG COMPARATOR CRD CKT
W	NA1	031059	041780	CM	PS	SN	B00	T		U		CHNL 3 STMLINE PRESS PROTCTN B/S FAILED TO TRIP	DFCTV SIGNAL COMPARATOR (NAL) CARD
W	NA1	031236	051080	ZZ	PG	SN	B00	T		U		SOLID STATE PROTCTN "A" PERMISSIVE P-11 FAILED	FAILED LOGIC CARD
W	NA1	031275	051380	IN	LG	NN	B00	T		U		DEVIATION BTWN LI-1459C & LI-1-461 WAS EXCEEDED	UNKNOWN
W	NA1	031437	053080	SE	PG	NN	A00	R		U		TURB 1ST STG PRESS INPUTS TO INTERLOCK P-7 OOC HI	CAUSE OF IMPROPER SETPOINT NOT DETERMINED
W	NA1	031561	053180	TX	LT	PX	A14	N		T		SG 1A CHNL 3 NARROW RNG LVL XMITTR DRIFTED (HIGH)	NORMAL INSTRUMENT DRIFT
W	NA1	031584	061880	IN	DG	NN	A14	N		T		ROD G9'S INDVDL & GRP POS IND DIFF MORE THAN 12 //	STEPS. VOLTAGE DRIFT IN SIG COND CARD
W	NA1	031697	062380	GS	XS	SN	B09	T		D		RECIRC VLV FAILED TO REOPEN UPON DEMAND	LOOSE ELEC SW LOCKG RING PRVNT ELEC CNNCT
W	NA1	031616	062680	IM	TI	PX	B00	N		U		RX TRP CAUSD BY FALSE OVERTEMP DELTA-T SIGNAL	FAILD SUMMING AMP CRD + LEAD/LAG CARD
W	NA1	032142	080880	SE	FT	PX	B11	N		D		FW FLO SIG TO RX TRP SYS IN ERROR BY APPROX 4%	VENTURI FOULING IN THE FEEDWATER LINES
W	NA1	032938	101780	SE	NI	PX	A00	N		T		DISCRPNCY BTWN PWR RNG NI IND & CALORIMETRIC TEST	RX PWR CHNG BTWN TIME NI SET & CAL TEST.
W	NA1	033016	102290	MO	RR	NN	B07	N		T		CNTNMNT PARTICULATE RAD MON RM-RMS-159 DECLRD INOP	OVERHEATG OF FILTER PAPER DRIVE MOTOR
W	NA1	033433	120780	CM	PS	IC	B00	N		U		CNTNMNT HI-HI PRESS ALARM REC'D	SIG COMPARATOR CRD FAILED OOT (LOW)
W	NA1	033621	122680	TX	PS	SN	A11	N		T		SG 1B STM PRESSURE INDICATOR INDICATING HIGH	PRESS XMITR-1484 SENSING LINE FROZEN
W	NA1	036112	010581	TX	FT	PX	A14	T		T		LOOP 3 REACTOR COOLANT LOOP FLOW CH II (F-1435) F-	-OUND OOC HIGH. INSTRUMENT VOLTAGE DRIFT
W	NA1	037039	042081	TX	LT	PX	A14	N		T		PZR LEVEL CH I(LI-1459A) INDICATED HIGH	INSTRUMENT DRIFT,POSSIBLE ROOT VLV LEAK
W	NA1	037043	042281	TX	PS	SF	A14	T		T		PRESSURE XMITTER PT-LM-100B FOUND OUT OF CAL HI	INSTRUMENT DRIFT
W	NA1	037393A	051781	SE	NI	PX	A14	N		T		UPPER AND LOWER CURRENTS OF N-44 FOUND OOC	INSTRUMENT DRIFT
W	NA1	037395	052381	IM	FT	PX	A14	N		T		"C" S/G FEEDWATER FLOW CH IV DROPPED TO 85%	DRIFT OF SQUARE ROOT EXTRACTOR
W	NA1	038351A	080781	CL	TG	NN	B00	T		U		RECOMBINER 2-HC-HC-1 TEMPERATURE CONTROLLER FOUND-	-DEFECTIVE. NO CAUSE GIVEN
W	NA1	038351B	080781	CA	TG	NN	B00	T		U		THERMOCOUPLE CABLE FOR RECOMBINER 2-HC-HC-1 FOUND-	-DAMAGED. NO CAUSE GIVEN
W	NA1	038443	080881	ZZ	XT	PX	B08	T		U		"B" REACTOR TRIP BREAKER FAILED TO OPEN ON SIMULA-	-TED HI PZR PRESSURE SIGNAL. FAILED LATCH
W	NA1	038633	090481	SE	TI	PX	B09	N		T		DELTA T/TAVE CH "B" DECLARED INOP DUE TO HI AND E-	-RRATIC READINGS. CABLE TERMINATION,RTD
W	NA1	039078	101881	TX	LT	PX	A14	T		T		CH III PZR LEVEL TRANSMITTER FOUND OOC LOW 1.38%	INSTRUMENT DRIFT
W	NA1	039346	110381	AM	TI	PX	B14	N		T		LOOP B CH II DELTA T TAKEN OUT OF SERVICE	INSTRUMENT DRIFT OF TC RTD AMP CARD
W	NA2	031445	062080	IM	FT	PX	A14	N		T		FW FLO CHNL F-497 SQUARE ROOT EXTRACTOR IND HIGH	ZERO SHIFT IN MULTIPLIER-DIVIDER CARD
W	NA2	031542	062080	TX	FS	SN	B09	N		D		MAIN STM FLO TRANSMITTER INOPERABLE	LOOSE CNNCTN RESULTG IN ZERO VOLT OUTPUT
W	NA2	031514*	062480	IN	DG	NN	A14	N		T	3	RPI DISAGREED MORE THAN 12 STEPS BTWN IRP & DEMA//	ND POSITION. INSTRUMENT DRIFT
W	NA2	031586*	062680	TX	PT	PX	A14	M		T	3	PZR PRTCTN CH 1-3 IND VALUES BELO ACTUAL RCS PRESS	"PRESS SET" OF XMITTR BOURDON TUBE
W	NA2	031828	070680	IM	DG	NN	B00	N		U		IRPI FOR F-12 FAILED	SIG CONDITION MODULE FAILR CAUSE UNKNOWN
W	NA2	031910	070680	IN	DG	NN	A14	N		T		IRPI FOR ROD J13 IN S/D BANK A OOC 12 STEPS HIGH	INSTRUMENT DRIFT
W	NA2	031913A	071380	TX	PT	PX	A13	M		T		PZR PRESS PRTCTN CH 3 P-2457 RDG HIGH	OVER SENSITIVE PRESS XMITR POTENTIOMETER
W	NA2	031911	071580	IN	DG	NN	A14	N		T		IRPI FOR ROD E5 IN S/D BANK B MORE THAN 12 STEPS//	FROM CR DEMAND POS. INSTRUMENT DRIFT
W	NA2	031914	072480	IN	DG	NN	A14	N		T		RPI FOR ROD G13 IN S/D BANK A MORE THAN 12 STEPS//	FROM CR DEMAND POSITION. INSTRUMENT DRFT
W	NA2	031915	072680	IN	DG	NN	A14	N		T		MORE THAN 12 STEP DIFF BTWN RPI E5 & GRP DEMND IND	VOLTAGE DRIFT IN SIG CONDITIONING CARD
W	NA2	032150	080380	IN	DG	NN	A14	N		T		IRPI FOR ROD N9 IN S/D BANK A MORE THAN 12 STEPS//	FROM GRP DEMND POS. INSTRUMENT DRIFT

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	NA2	032386A	082280	SE	FG	NN	A14	N		T		LOOP "A" CHNL FAILED HIGH (STM FLO IND)	INSTRUMENT DRIFT
W	NA2	032428	082580	SE	FT	PX	A14	N		T		C STM LINE FLO CHNL 4 INDICATING LOW	VERY SLIGHT INSTRUMENT DRIFT
W	NA2	032385	082880	IM	FT	PX	A14	T		T		FEED FLO SQUARE ROOT COMPARATOR CARD OOC	INSTRUMENT DRIFT
W	NA2	032573	090980	IN	FG	SN	A00	N		U		STM LINE FLO INDICATOR FI-2494 RDG ABNORMALLY HIGH	EXACT CAUSE UNKNOWN
W	NA2	032614	092080	IM	TT	PX	A00	T		U		ZERO SHIFT IN DELTA T/T AVG CH 3 AXIAL FLUX DIFF//	ERENCE SUMMING AMP. CAUSE UNDETERMINED
W	NA2	032940	100480	IM	FS	SN	A13	M		D		HI STM FLO SETPOINT SUMMING AMP CARD OOC NONCNSRV	INADEQ PROC ALLOWD UNDETECTED SETPT DRIFT
W	NA2	032942	100880	MO	RR	NN	B00	N		U		RAD MON CH 2-RM-259/260 INOP SAMP PMP 2-RM-P259A//	/B FAILING. MOTOR FAILURE
W	NA2	032944	101580	IM	PT	PX	B00	T		U		CHNL II LOW PRESSURE TRIP CIRCUIT INOP	COMPARATOR CARD FAILURE
W	NA2	032946*	102180	IN	DG	NN	A15	N		T	2	CNTRL BANK B ROD D10 POS IND/S/D BANK A ROD J03 //	DEV FROM GRP DEMND POS. INSTRUMENT DRIFT
W	NA2	033C20	102580	IM	FS	IC	B12	N		T		CONT SUMP FLO INTEGRTR FTO-DA215 STOP TOTALZNG FLO	FOREIGN MAT'L IN INTEGRATOR MECHANISM
W	NA2	033124*	110280	RE	XS	SN	B12	T		T	2	SI SYSTEM B FAILED TO RESET	BINDG IN LATCHG MECHANISMS OF RELAYS
W	NA2	033063	110680	TX	LT	PX	A14	T		T		SG LVL XMITTR LT-486 INDICATED HIGH	INSTRUMENT DRIFT
W	NA2	033243	112380	TX	FT	PX	A14	T		T		LOOP A FLO XMITTR FT-2415 OOC HIGH	INSTRUMENT DRIFT
W	NA2	033337	112780	IM	FS	SN	B00	N		T		LOOP B STM FLO IND FI-2484/5 DIFFR FROM EACH OTHER	OOC CIRCUIT CARD
W	NA2	033338	112780	CL	PG	IC	B00	N		U		CONTAINMENT PRESSURE CHNL III FAILED HIGH	DEFECTIVE CARD IN THE CIRCUIT
W	NA2	C33438	120880	PS	PS	SN	A14	N		T		SG 1A STM PRESS CH 3 PWR SUP TO PQ-2475 RDG LOW	INSTRUMENT DRIFT
W	NA2	033440	120880	IN	DG	NN	A14	N		T		ROD J9 IRPI IN S/D BANK B DEV FRM GRP DMND POS M//	ORE THAN 12 STEPS. INSTRUMENT DRIFT
W	NA2	033809	121180	SE	TS	SN	B00	N		U		RC LOOP "A" TAVE PRTCTN CH 1A LO-LO TAVE ANNUNC //	LOCKD IN OOT. CAUSE OF FAILURE UNKNOWN
W	NA2	037728	123080	SE	FG	NN	A00	N		U		STEAM FLOW CH 3 (FI-2484) ERRATIC INDICATIONS	UNKNOWN CAUSE
W	NA2	036117	010781	IM	NT	PX	B13	T		T		FLUX PENALTY SUMMING AMPLIFIER(NM-432A) FAILED	FAULTY NSA CARD(CS-141)
W	NA2	036121	012281	PS	NI	PX	A09	T		U		SPIKE OCCURRED ON POWER RANGE CH 3,N-43,SCRAM OOC-	-URED. NO CAUSE FOUND
W	NA2	036243	020581	IN	TG	PX	B13	N		U		TEMPERATURE INDICATOR(TI-412D) FAILED 5-15DEGREES-	-LOW. FAILED RELAY CARD
W	NA2	036340	020681	CL	TG	NN	B13	N		U		TEMPERATURE INDICATING CONTROLLER FOR RECOMBINER -	-2-HC-HC-1 FAILED. LOOSE INPUT PLUG
W	NA2	036494	022881	IM	NG	NN	B07	N		D		APDMS FAILED	OVERHEATED PROCESSOR,INADEQUATE VENTILAIN
W	NA2	036911A	041881	IN	LG	NN	B14	N		T		PZR LEVEL INDICATOR ON AUX S/D PANEL DECLARED INOP	INSTRUMENT DRIFT
W	NA2	C36911B	041881	IN	PG	NN	B14	N		T		PZR PRESS INDICATOR ON AUX S/D PANEL DECLARED INOP	INSTRUMENT DRIFT
W	NA2	037045	041881	RC	NG	NN	B00	N		U		PRINTER FOR APDMS FAILED	NO CAUSE GIVEN
W	NA2	037248	050581	IM	FT	PX	B00	N		U		CH III FEEDWATER FLOW FOR LOOP 2 FAILED HIGH	FAILED MULTIPLIER/DIVIDER/SQ ROOT EXTRACT
W	NA2	037315	052881	CN	DG	NN	B13	N		U		POSITION INDICATION FOR ROD "D" 06 FAILED	FAILED SIGNAL CONDITIONING MODULE
W	NA2	037445	052981	IM	TT	PX	A14	T		T		SUMMING AMP FOR DELTA T/TAVE CH 1 FOUND OOC HIGH	INSTRUMENT DRIFT
W	NA2	037569	060981	IM	XG	NN	B13	T		U		TRAIN "B" STOP VLV-GENERATOR TRIP LOGIC FAILED	FAULTY UNIVERSAL CARD
W	NA2	037570B	061481	CM	NI	PX	B00	N		U		INTERMEDIATE RANGE CH N-35 FAILED	DETECTOR VOLTAGE BISTABLE MOD LOST
W	NA2	037901	070281	SE	TT	PX	B00	N		U		TAVE PROTECTION LOOP 2 FAILED HIGH	RTD FAILED WITH NO CAUSE FOUND
W	NA2	038356	081001	HS	XG	SN	B00	N		U		DEFECTIVE "LOW PZR PRESSURE SI" RESET SWITCH CAUS-	-ED INADVERTANT SI. NO CAUSE GIVEN
W	NA2	038723	090881	CM	NT	PX	A14	T		T		HI NEGATIVE NEUTRON FLUX RATE TRIP FOR PR CH N-41-	-FOUND OOC LOW BY 1%. INSTRUMENT DRIFT
W	PR1	014000	011576	GS	PG	NN	A14	T		T		AUX BLDG-ANNULUS DP SW SETNG -1.42 VS -2.00 INWC	PRESSURE SWITCH SET POINT DRIFT
W	PR1	014206*	020876	SE	NT	PX	A14	N		T	2	BOTH INTRMD RNG HI FLUX TRIPS AT 30 VS 25 PERCENT	CURRENTS CHANGE SIGNIFCTLY OVER CORE LIFE
W	PR1	014277	030176	ZZ	FG	SN	B00	T		U		AUX BLDG SPEC VENT FILTER HTR DID NOT ENRGZE	FLOW SW MALF SUSPECTED - BUT CAUSE UNKNWN
W	PR1	014459	030876	ZZ	XG	SN	B00	T		U		TRAIN "A" FAN COIL UNITS & CONT RM CHLR DID NOT RE	SPOND TO SI-RELAY MALF SUSPCTD-CAUSE UNKN
W	PR1	014600	042476	MO	FG	NN	B13	N		U		AUX BLDG EXH STK RAD MON 1-R-30 CYCLG 0 TO FULL FL	FAILED TRANSISTOR IN FLOW CONTROLLER
W	PR1	017375	030877	RE	XS	SN	B12	T		U		SAFGDS TRAIN B RELAY SI-25X FAILD TO OPER AS REQD	CONTCTS 4&8 HUNG IN OPEN POSITION
W	PR1	017557	040777	RE	LG	SN	B13	T		U		BRC ACD LO-LO LVL RELAY ON #11 BAT FAILED TO OPER	OPERATING COIL WAS OPEN - BF-42F
W	PR1	021360	042478	TX	LS	SN	A14	N		T		ONE PSZR LVL XMTR FOUND TO HAVE DRFTD 4 PCT HIGH	INSTRMT DRIFT - MOD 386 ELECTNC DIFF PRES
W	PR1	025570A	032079	TX	LT	PX	A14	T		D		PZR LEVEL TRANSMITTER ILT-426 FOUND OOC HIGH BY 2%	INSTRUMENT DRIFT DUE TO TEMPERATURE
W	PR1	025570B	032079	TX	PS	SN	A14	T		T		MSL PRESSURE TRANSMITTER FOUND OOC LOW	INSTRUMENT DRIFT
W	PR1	026271	061179	TX	LT	PX	A13	N		T		S/G LEVEL CH (LT47) OBSERVED TO HAVE SLOW RESPONSE	DIAPHRAM ASSEMBLY REPLACED
W	PR1	030160	011880	TX	FT	PX	B13	N		U		MAIN STM FLO XMITR 465 DRIFTED OUTSIDE TECH LIMITS	FAILD D/P UNIT IN FLOW TRANSMITTER
W	PR1	030659	031080	PS	NI	PX	B09	N		D		NUC PWR RNG CH 1N44 INOP	HV PS FOR DET LATCHD UP DUE TO A SPIKE
W	PR1	030697	031180	GS	PS	IC	A14	T		T		#11 CNTNMNT VAC BRKR ISOL VLV OPENED OOT (HIGH)	DRIFT IN D/P SWITCH
W	PR1	030942	041080	CM	TT	PX	B09	T		D		OVERPWR DELTA T SETPOINT TRPD 70% HIGH	INTERMITTENT CAPACITOR IN BISTABLE

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	PR1	038738	090981	CM	PT	PX	B00	T		U		LOW PZR PRESSURE RX TRIP BISTABLE FAILED TO TRIP	NO CAUSE GIVEN,BISTABLE REPLACED
W	PR2	014002	012976	TX	PS	SN	B13	N		U		CONTAINMENT PRESSURE XMITTER DRIFTED DOWNSCALE	ONE RESISTOR WAS REPLACED
W	PR2	014202	020976	CM	TT	PX	A14	T		T		ONE DIFF OVRTEMP SETPOINT FOUND OUTSIDE TS LIMITS	SET POINT DRIFT
W	PR2	016341	110376	AM	NT	PX	B13	N		U		NUCLEAR SOURCE RANGE CHANNEL 2N-32 FAILED	FAULTY PREAMPLIFIER
W	PR2	016720	010177	SE	TT	PX	B13	N		U		ONE REACTOR COOLANT DELTA-T CHANNEL FAILED LOW	RTD FAILED - MODEL 176KF
W	PR2	017112	020477	IM	TT	PX	A14	T		T		OVERPOWER FUNCTION DELTA-T SP2 TRIPPED OUT OF SPEC	INSTMT DRIFT IN SUMMING AMP -MOD 66RC-OL
W	PR2	017790	050477	TX	LS	SN	B13	N		T		PSZR LVL XMTR 2LT-427 DRFTD SO SI ACT 5 PCT LT TS	ACCUM OF NONCONDSBLS IN COND POT&LKY FITG
W	PR2	020126B	121277	TX	FT	PX	A14	R		T	2	2FT-415/416 CH3/4 BLUE/YELLOW LOOPS B FOUND OOC	INSTMT DRIFT - NO SINGLE CAUSE ESTABLISHD
W	PR2	020126C	121277	TX	PT	PX	A14	R		T		2PT-945 CH1 RED LOOP A,CNTNMNT PRESS,FOUND OOC	INSTMT DRIFT - NO SINGLE CAUSE ESTABLISHD
W	PR2	022151*	071978	TX	LG	SN	B00	N		U	2	DRNG #21 BRC ACD TK-2 OF [illegible] CH DID NOT IND LT 4	PCT LVL-CAUSE UNKNOWN-MOD 332 DELTA-P XMT
W	PR2	022402A	081578	CM	PS	SN	A14	T		T		ONE CH OF LO PRSZR PRESS TRPD AT 1813.6 VS 1815 TS	INSTRUMENT DRIFT-MOD 63U-BC-OHEA-F BISTBL
W	PR2	022716	081878	PS	NT	PX	B13	M		U		NIS POWER RANGE CHANNEL 2N41 FAILED	FAILURE OF -25V LOW VLTG PS-MOD UPM-44KW
W	PR2	025240	011279	IM	NT	PX	A14	T		T		2TM-404V,OVERPOWER DELTA T SUMMING UNIT FOUND OOC	INSTRUMENT DRIFT
W	PR2	025494	021679	IM	XT	PX	A14	T		T		2TM-401B,OVERTEMP DELTA T,SUMMING UNIT FOUND OOC	INSTRUMENT DRIFT
W	PR2	026018	050479	PS	NT	PX	B00			U		NUC POWER RANGE INSTRUMENT 2N43 FAILED LOW	FAILED POWER SUPPLY WITH NO CAUSE
W	PR2	030569A	021980	TX	FT	PX	A14	N		T		2 STM FLO METERS DIDN'T COME ON SCALE	D/P XMITER HAD ZERO ADJUSTMENT SHIFT
W	PR2	030569B	021980	TX	FT	PX	B14	N		T		2 STM FLO METERS DID NOT COME ON SCALE	ZERO ADJSTMNT POTENTIOMTR REPLCD IN XMITR
W	PR2	032691	091980	TX	FG	NN	A14	N		T		STM FLO XMITTER 2FT-474 RDG LOW	ZERO ADJSTMNT SHIFT IN D/P TRANSMITTER
W	PR2	038213	080781	IN	DG	NN	B00	N		U		RPI CHANNEL K7 FOUND DRIFTED LOW	NO CAUSE DETERMINED
W	PR2	038909	092581	CM	PS	SN	B14	T		T		STEAM PRESSURE SAFEGUARDS ACTUATION BISTABLE OOC	INSTRUMENT DRIFT,BISTABLE REPLACED
W	PR2	171640A	111881	CM	PS	SN	B00	T		U		DEFECT POTENT IN PRESSURIZER PRESS BISTABLE UNIT	UNKNOWN
W	PT1	016572	113076	RE	XT	PX	B12	T		T		"A" RX TRIP BRKR FLD TO TRIP ON UV SIGNAL	CLEANED,LUBED,& RESET TRIP MECH-TYP DB-50
W	PT1	020975	032178	CN	TS	SN	B13	T		U		V/I CNVTR FOR WHITE TAVG CH-NO OUTPUT ABOVE 588 F	ZNR DIODE INSIDE MODULE FAILED - 66RC-OLA
W	PT1	021444	051278	IM	TT	PX	B13	N		U		SPECIAL SUMMER(1-TM-404V)IN OVR PWR DELTA T CH SP2	DRFTD HI-DFCTV ZERO POT- 66RC-OL
W	PT1	025447	031279	ZZ	PG	NN	A11	N		T		LEAK IN PIPE NIPPLE FOR PZR SPRAY VLV BELLOWS FAIL	//URE CHANNEL DISCOVERED
W	PT1	038088	072181	HS	XS	SN	B00	T		U		TEST SWITCH PC-950A FAILED,THIS SWITCH TESTS MS L-	ISOLATION ON HI CNTNMNT PRESSURE.NO CAUSE
W	PT2	014746	051476	SE	NT	PX	B13	N		U		PWR RNG DETECTOR 2428 WAS DRIFTING	MOD WL23-710 WAS RPLCD WITH MOD WL23-686
W	PT2	014951	061376	PS	NT	PX	B00	N		U		UNIT EXPER TURB RUNBACK FOLLOWING LOSS OF PR DET V	CAUSE UNKNOWN - MODEL UPMD-X54W
W	PT2	021141	042578	RE	XG	SN	B00	T		U		CNTCTS 2&6 OF RLY 2PC-945A-XB FAILD TO CLOSE	NO CAUSE GIVEN - MODEL BF46F RELAY
W	PT2	021230	042878	TX	PG	SN	B13	T		U		"B" RHR PUMP HAD NO INDICATION OF DISCH PRESSURE	MOD 610AC PWR SUP FLD DUE TO SHORTED CAPC
W	PT2	021626	060278	LM	NG	NN	B01	N		D		CORE AXIAL FLUX DIFFL MON PRGRM OOS FOR 7 DAYS	PRGRM NOT RESTARTED BY OPER AFTR CMPR FLR
W	PT2	033221	110180	CM	NS	SN	A14	N		T		PB PRMSSV B/S FROM CHANNEL N44 OUT-OF-SPEC	INSTRUMENT DRIFT
W	PT2	036758	032481	CM	PS	SN	A14	T		T		LOOP "A" SG PRESSURE SAFEGUARDS ACTUATION SETPOIN-	-T FOUND 3.95% OOC LOW. SETPOINT DRIFT
W	PT2	038210	080381	TX	LT	PX	A14	T		T		PZR HIGH LEVEL TRIP FOUND OOC HI 1.42%	ZERO SHIFT OF TRANSMITTER
W	RG1	014207	020676	RE	XT	PX	B13	T		T		UV DEVICE 274/118 FLD TO DROP OUT ON UNDER VOLTAGE	BLDUP OF BSHNG DEPOSITS ON PLNGR SHAFT
W	RG1	026475	070979	CM	PG	NN	A14	N		T		CH P-452 OVERPRESSURIZATION ALARM FOUND IN INCORR/	/ECT STATE. SETPOINT DRIFT
W	RG1	031056*	050680	GS	PG	NN	A06	T		D	2	DC PWR SW OF LO TEMP OPPS OFF W/NO RCS VENT OPEN	DEFECTIVE PROCEDURES
W	RG1	032509	082980	CL	NG	PX	B00	N		U		CONTROLLER TC402R FOR CHNL II INOPERABLE	FAULTY MAIN AMP BRIDGE & LO LMT TRANSISTR
W	RG1	036825A	040281	MO	RR	NN	B08	N		T		SAMPLE PUMP FOR R11 AND R12 SEIZED	BEARINGS FAILED
W	RG1	037198	050481	TX	PT	PX	A14	T		T		PZR PRESSURE TRANSMITTER PT-431 FOR CH 111 FOUND -	-OOC HI 2.1% HI. INSTRUMENT DRIFT
W	RO2	021202	041478	HS	TT	PX	B01	T		D		LOOP 3 DELTA T WOULD NOT TRIP	GAIN SWITCH IN WRONG POSITION
W	RU2	022334	082178	SE	TT	PX	B13	N		T		T-AVE & DELTA T FOR LOOP 3 DRIFTING LOW	HOT LEG RTD FAILED
W	RO2	023183	120578	RE	XT	PX	A04	R		U		RPS RELAY RT-3B POTENTIAL GENERIC PROBLEM GE-BFD	THERMAL DETERIORATION/RELAY STICKING
W	RU2	027545	093379	TX	PS	SN	A00	N		U		XMITTER J96 FAILED MOMENTARILY. FEEDS 'C' SL DP //	AND HI SL FLOW COIN WITH LOW SL PRES/TAVE
W	RO2	033781*	032680	TX	PS	SN	A14	R		T	2	FIRST STG PRESS XMITRS PT-446/447 OOC (HIGH)	INSTRUMENT DRIFT
W	RO2	031079	042580	TX	FS	SN	B00	R		U		HI STM FLO PROTCTN MODULE PM-447B OUTPUT SHIFTED	CAUSE OF OUTPUT SHIFT UNKNOWN
W	KO2	031262	050680	SE	NT	PX	B00	N		U		NI RUNBACK CNTRL PWR FUSES BLEW ON NIS PWR RNG DET	EXACT CAUSE UNKNOWN
W	RU2	036501	022581	CM	LT	PX	B00	T		T		SIG COMPARATOR MODULE LC-475A INOP	NORMAL WEAR
W	RO2	037541	052381	TX	FS	SN	B13	M		T		SUMMATOR PM-446B SHIFTED NON-CONSERVATIVELY (3%)	NORMAL WEAR FAILURE OF A FILTER CAPACITOR
W	RU2	037542	052581	IM	FS	SN	B13	M		T		COMPUTER BOX FM-475 OOC & CHECKPTS ERRATIC RDG	EOL OF 2 XMTR,POTENTIOMTR,FILTER CAPACITR

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	R02	171730	112581	PS	LT	PX	B13	T		T		PWR SUPP IN STEAM GEN LL-LVL CHANNEL LI-494 FAILED	BAD CAPACITOR IN THE POWER SUPPLY
W	R02	172767	121181	SE	PS	SN	B02	N		D		LOOP 2 STEAMLINE PRESSURE CHANNEL II INOPERABLE	FROZEN XMTR OR LEAKING OR BLCK SENS LINES
W	SA1	017015	012177	TX	FT	PX	B13	N		U		NO 13 S/G STM FLO CH 1 HAD INNACCURATE FLO SIGNAL	XMTR DIAPGM & LINKG FLD-MOD 6906A5350A69
W	SA1	017126	012877	MO	RR	SN	B07	N		T		ERRONEOUS HI RAD ALARM INI AUTO ISO OF #12 CONT FA	N-HI HUMIDITY IN AREA-HI VLTG ARCING
W	SA1	017888	060377	CM	LT	PX	B13	N		U		CHANNEL III PSRZR LEVEL WAS DECLARED INOPERABLE	DUAL OUTPT COMPARATOR FLD-2 CAPCTRS ON PS
W	SA1	018794	071877	IN	PG	SN	A14	T		T		#11 S/G PRESS IND HAD 40 PSIG DISAGRMT W OTHER IND	INSTRUMENT DRIFT FROM AGING OF ELECT COMP
W	SA1	020118	112577	IN	FG	NN	B05	T		D		FLOW METER FI-904 RUPTURED WHILE DRWNG RX CLNT SAM	DESIGN CHG AFFCTG PRESS OF SAMP SYS OVLKD
W	SA1	019921	120777	AM	PT	PX	B13	T		U		#12 RC LOOP CH II OPDT SETPT DETRMND TO EXCD TS	LOW LEVEL AMPLIFIER FAILED - MOD III
W	SA1	020116	121277	CA	DC	NN	A12	N		T		SHUTDOWN ROD 2SA4 INDICATED GT 12 STEPS FRM DEMAND	POOR CONTACT BTWN IND MDUL & SIG LEADS
W	SA1	020117	121977	IN	DG	NN	A14	T		T		1 ROD FRM CONT BNK D IND GT 12 STEPS FRM STEP CNTR	IRPI INSTRUMENT DRIFT
W	SA1	021030	031078	CM	NI	PX	A14	T		T		PWR RNG CH N43 TRIP SETPOINT FOUND 1.4 PCT GT ALLW	INSTRUMENT DRIFT
W	SA1	021912	062378	TX	FT	PX	A14	T		T		NO 11 S/G STM FLO CH II OUT-OF-SPEC LOW	INSTRUMENT DRIFT IN NONCONSERVATV DIRCTN
W	SA1	022157	080978	AM	FT	PX	B13	T		U		NO 11 S/G FEED FLO CH 2 BISTBL SETPT ABOVE TS LMTS	FAILED OP AMP IN THE DUAL COMPARATOR MOD
W	SA1	022154	081578	TX	LT	PX	A14	T		T		NO 13 S/G LVL CH IV TRIP POINT EXCD TS LIMITS	TRANSMITTER DRIFT
W	SA1	023228	113078	TX	FT	PX	A14	R		T		NO 13 S/G STM FLO CH I CAL DATA SHOWED TS EXCEEDED	ZERO SHIFT CSD BY S/D & S/U OF UNIT
W	SA1	025070	010479	SE	DG	NN	B13	N		U		ROD 2D5 POSITION INDICATION FOUND INOPERABLE	RPI COIL STACK REPLACED WITH NO CAUSE
W	SA1	025239	011579	ZZ	FT	PX	B00	N		U		NO. 11 S/G STEAM FLOW CHANNEL II FAILED LOW	NO CAUSE FOUND,PROBLEM CORRECTED ITSELF
W	SA1	025238	012679	TX	LT	PX	A14	N		T		PZR LEVEL CH II FOUND READING 9% LOW	ZERO SHIFT IN TRANSMITTER
W	SA1	025481	022079	MO	RR	IC	B00	T		U		RMS CHANNEL 1R12B ALARMS DIDNT FUNCTION	CAUSE UNKNOWN
W	SA1	025557	031879	IM	TT	PX	B00	N		U		#13 RC LOOP DT/TAVE CHANNEL III READ ERRATIC	SUMMATOR MODULE FAILED WITH NO CAUSE
W	SA1	026006*	041679	CA	NT	PX	B13	N		U	2	SOURCE RANGE NI CH N-32 FOUND ERRATIC. DISCONNECT	//ED SHIELD AND BROKEN SOLDER IN PENET.
W	SA1	027980B	122479	RE	XS	SN	B00	N		U		1A SAFEGUARD EQUIP DRAWER DECLARED INOPERABLE	RELAY FAILED WITH NO CAUSE GIVEN
W	SA1	028074	123079	ZZ	LG	SN	B00	N		U		RWST LEVEL INDICATION FAILED	NO CAUSE GIVEN FOR CIRCUITRY FAILURE
W	SA1	030008	010180	AM	XG	NN	B00	N		U		SIGNAL ISOL FROM LOOP 13 DELTA-T-TAVG SIG OUTPUT//	FAILED HI. SIGNAL ISOLATOR FAILED HIGH
W	SA1	030158	011480	ZZ	FG	NN	B11	N		T		LOW FLOW FROM BORIC ACID INJECTION TANK	FLOWMTR LINE CLOGGED DURING NORMAL OPER
W	SA1	030620	030480	IM	XG	NN	B00	N		U		AUX ANNUNC TYPEWRITER PRINTING MEANINGLESS MESSAGE	FAILD SOLID STATE COMP CKT BRD
W	SA1	030918	040780	AM	FT	PX	B00	N		U		#12 SG HI STM FLO-CHNL II ALARMED	SIGNAL ISOLATOR FAILED
W	SA1	031053A	042480	TX	FS	IC	A14	N		T		SW FLO TO #12 CNTNMNT FAN COIL UNIT DECREASED	INSTRUMENT DRIFT
W	SA1	031053C	042980	TX	FS	IC	B00	N		U		SW FLO TO #12 CNTNMNT FAN COIL UNIT DECREASED	FAILED FLOW TRANSMITTER
W	SA1	031633	062080	TX	PG	NN	B00	N		U		#13 SG LVL XMITTER FAILED	D/P TRANSMITTER FAILED
W	SA1	032318	080680	MO	RR	NN	B08	M		D		AIR PARTICULATE DETECTOR PUMP SEIZED	NO EXACT CAUSE GIVEN FOR SEIZURE
W	SA1	032336	081080	CM	FT	PX	B00	N		U		#12 SG LVL FEED FLO-STM FLO MISMATCH CKT FAILED	COMPARATOR IN CKT FAILED
W	SA1	032516*	083080	SE	NT	PX	A14	N		T	20	QUADRANT POWER TILT RATIO EXCEEDED TECH SPEC	INSTR DRIFT & QUADRANT POWER TILTS
W	SA1	032619	090880	MO	RR	NN	B00	T		U		FAILED DET IN A PARTICULATE DETECTOR	CRACKED SODIUM IODIDE CRYSTAL CAUSD FAILR
W	SA1	033659	122380	IM	FT	PX	B00	N		U		#13 SG CHNL II STEAM FLOW FAILED HIGH	MULTIPLIER/DIVIDER UNIT FAILED
W	SA1	036246	012481	RC	XG	NN	B08	N		D		AUXILIARY ANNUNCIATOR TYPEWRITER FAILED	GUIDE WIRE BROKE FOR CARRIAGE GUIDE
W	SA1	036247	012981	SE	LS	IC	B00	N		U		CONTAINMENT LEVEL INDICATION FAILED	LEVEL DETECTOR FAILED,REPLACED,NO CAUSE
W	SA1	036539*	030181	IN	DC	NN	B00	N		U	2	TWO ROD POSITION INDICATORS FAILED	NO CAUSE GIVEN
W	SA1	036760	031181	SE	NG	NN	B08	N		U		"C" INCORE FLUX DETECTOR DISCOVERED INOPERABLE	WOULD NOT ENTER ITS NORMAL THIMBLE PATH
W	SA1	037319	042981	PS	NT	PX	B00	N		U		HIGH VOLTAGE INTERMITTENTLY CUT IN AND OUT OF SOU-	-RCE RANGE CHANNEL N-31. NO CAUSE FOUND
W	SA1	037788*	062181	IN	DC	NN	A14	N		T	2	RPI FOR RODS 2D1 & 2D5 VARIED MORE THAN 12 STEPS -	-FROM GROUP DEMAND. INSTRUMENT DRIFT
W	SA1	038567A	082781	IN	DC	NN	B00	N		U		IRPI FOR ROD 2A1 FOUND MORE THAN 12 STEPS FROM DE-	-MAND. NO CAUSE GIVEN
W	SA1	038567B	090381	IN	DC	NN	B13	N		U		IRPI FOR ROD 1SC1 FOUND MORE THAN 12 STEPS FROM D-	-EMAND. FAILED CIRCUIT CARD
W	SA1	038567C	090981	IN	DC	NN	B00	N		U		IRPI FOR ROD 1C2 FOUND MORE THAN 12 STEPS FROM DE-	-MAND. NO CAUSE GIVEN
W	SA1	038567D	091581	IN	DC	NN	B00	N		U		IRPI FOR ROD 1D4 FOUND MORE THAN 12 STEPS FROM DE-	-MAND. NO CAUSE GIVEN
W	SA1	038567E	091881	IN	DC	NN	B00	N		U		IRPI FOR ROD 2D2 FOUND MORE THAN 12 STEPS FROM DE-	-MAND. NO CAUSE GIVEN
W	SA1	038927A	092981	TX	LT	PX	B00	N		U		PZR LEVEL CH 3 FOUND READING HIGH	NO CAUSE GIVEN
W	SA1	039156	101981	PS	NT	PX	B00	N		U		INTERMEDIATE RANGE NI CH 1 OBSERVED SPIKING	FAILED POWER SUPPLY,NO CAUSE GIVEN
W	SA1	039155	102581	PS	NT	PX	B00	N		U		INTERMEDIATE RANGE N-36 FAILED DUE TO A FAILED PO-	-WER SUPPLY. NO CAUSE GIVEN
W	SA1	039163	102681	TX	FT	PX	A14	N		T		S/G STEAM FLOW CHANNEL #1 FOUND READING HIGH	INSTRUMENT DRIFT OF TRANSMITTER

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	SA1	039348	110881	CM	LT	PX	B00	N		U		NO. 14 S/G LEVEL CH 3 FAILED HIGH	FAILED DUAL COMPARATOR,NO CAUSE GIVEN
W	SA1	171970	112081	TX	FT	PX	B00	N		U		STEAM FLOW TRANSMITTER FOR #13 S/G FAILED LOW	NO CAUSE GIVEN
W	SA1	172647	112081	TX	FT	PX	B13	N		U		NO 13 STEAM GEN STEAM FLOW CHANNEL 2 INOPERABLE	TRANSMITTER FAILURE
W	SA1	171901	113081	RC	LG	NN	B08	N		U		AUX ALARM TYPEWRITER FAILED(CNTNMNT SUMP LEVEL)	SPRING HAD BECOME DISCONNECTED
W	SA2	037459	051781	CN	DC	NN	B00	N		U		SIGNAL CONDITIONING MODULE FOR RPI BANK 1B4 FAILED	NO CAUSE GIVEN
W	SA2	037461	052081	CA	DC	NN	B09	N		T		IRPI FOR ROD 2D4 FAILED LOW DUE TO POOR CONNECTOR	PINS HAD CORRODED
W	SA2	037465	052681	TX	FT	PX	B13	N		U		#22 REACTOR COOLANT FLOW TRANSMITTER CH 2 FAILED	OSCILLATOR AMP ASSEMBLY & FORCE MOTOR
W	SA2	037620	060181	RC	XG	NN	B09	N		T		AUXILIARY ALARM ANNUNCIATOR FAILED	ELECTRICAL GROUND IN ANNUNCIATOR
W	SA2	037624	060681	TX	PT	PX	A14	N		T		PZR PRESSURE CH 1 TRANSMITTER FOUND OOC	INSTRUMENT DRIFT OF 2PT455
W	SA2	037625	060881	MO	RR	NN	B08	N		D		CNTNMNT PARTICULATE CHANNEL 2R11A FAILED	RATCHET ARM LINK ON FILTER DRIVE FAILED
W	SA2	037791	062281	CN	DC	NN	A14	N		T		IRPI FOR ROD 1B4 FOUND MORE THAN 12 STEPS FROM GR-	-OUP DEMAND. DRIFT OF SIGNAL CONDITIONER
W	SA2	037870	062581	IN	DC	NN	A14	N		T		IRPI FOR ROD 2SA2 FOUND MORE THAN 12 STEPS FROM G-	-ROUP DEMAND. INSTRUMENT DRIFT OF IND.
W	SA2	037871*	062681	CN	DC	NN	A14	M		T	3	IRPI FOR RODS 1SB4,2SB2,2SB4 FOUND MORE THAN 12 S-	-TEPS FROM DEMAND. DRIFT OF CONDITIONERS
W	SA2	038266	070981	CM	PT	PX	800	N		U		NO. 21 RCP SECURED DUE TO CH 1 FLOW SIGNAL TRIP F-	-AILED. FAILED COMPARATOR
W	SA2	038165A	071481	TX	FT	PX	811	N		U		#22 S/G FEED FLOW CHANNEL 2 FOUND ERRATIC	LOOSE SENSING LINE FITTINGS
W	SA2	038166	071681	IN	FG	PX	B00	N		U		#23 S/G FEED FLOW INDICATION CH 2 FAILED LOW	METER FAILED WITH NO CAUSE GIVEN
W	SA2	038218	072181	IM	FT	PX	B14	N		T		#24 S/G STEAM FLOW CH 1 FOUND READING HIGH	MULTIPLIER FOUND OUT OF ADJUSTMENT
W	SA2	038318	072381	HS	XG	PX	B13	N		U		LOGIC "A" SWITCH IN POSITION 1 FAILED	UNIVERSAL BOARD FAILED
W	SA2	038221	072781	TX	FT	PX	B00	N		U		TRANSMITTER 2PT-445,REACTOR COOLANT FLOW CH 2,FAIL	NO CAUSE GIVEN
W	SA2	038223	072781	IN	DC	NN	A14	N		T		IRPI FOR ROD 2CL FOUND MORE THAN 12 STEPS FROM DE-	-MAND. INSTRUMENT DRIFT
W	SA2	038479	082381	TX	LT	PX	A14	N		T		PZR LEVEL CH-1 FOUND READING 4% LOW	INSTRUMENT DRIFT OF TRANSMITTER 2LT-549
W	SA2	038575	082881	IM	PT	PX	B13	N		U		PZR PRESSURE CH 1 TRIPPED. UNIVERSAL BOARD IN SO-	-LID STATE PROTECTION SYS TRAIN "A" FAIL
W	SA2	038576	082981	TX	FT	PX	B00	N		U		#21 S/G STEAM FLOW CH 2 FAILED LOW	TRANSMITTER FAILED,NO CAUSE GIVEN
W	SA2	039040	100681	PS	XS	SN	B02	M		D		15 VOLT POWER SUPPLY TO 2A SAFEGUARDS EQUIP CONTR-	-OLS.FAILED. SOLDER FELL INTO IT
W	SA2	039041A	100981	AM	DC	NN	B00	N		U		IRPI FOR ROD 2C1 FOUND MORE THAN 12 STEPS FROM DE-	MAND. OPERATIONAL AMP FAILED
W	SA2	039041B	100981	ZZ	DC	NN	B00	N		U		IRPI FOR ROD 2D2 FOUND MORE THAN 12 STEPS FROM DE-	-MAND. NO CAUSE GIVEN
W	SA2	039406A	111081	LS	DG	AS	B00	T		U		SERVICE WATER INLET ISO VLV FOR #21 CFCU,LIMIT SW-	-ITCH FAILED. NO CAUSE GIVEN
W	SA2	039441	111181	SE	NT	PX	B00	N		U		POWER RANGE CHANNEL N-43 DECLARED INOPERABLE	NO CAUSE GIVEN,SENSOR REPLACED
W	SA2	039443	111381	IM	FI	PX	B13	T		U		TRAIN "B",LOGIC SYSTEM,FOR RX COOLANT FLOW FAILED	FAILED UNIVERSAL CIRCUIT BOARD(A303)
W	SA2	171875	111981	RE	XS	SN	B00	T		U		2A SAFEGUARDS CABINET WOULD NOT RESET	SK6 INPUT RELAY FAILED,NO CAUSE GIVEN
W	SA2	172103	121281	MO	RR	NN	B00	N		U		RAD MON 2R12A INSTR SETPOINTS FAILED HIGH	UNKNOWN
W	SA2	172157	121781	CM	PG	NN	B13	N		U		PZR PRESS FALLS BELOW LIMIT WHEN HEATERS FAIL OFF	B/S MODULE 2LC-459C FUSE FAILED
W	SA2	172258	122881	TX	FG	NN	B00	N		U		LO RDG ON #24 RX COOLANT FLO LOOP CHNL 2	FLOW TRANSMITTER FAILURE
W	SE1	031920	071180	GS	PG	NN	B00	T		U		D/G 1A-A ENGINE 1 TRPD ON HI CRANKCASE PRESSURE	RESET 0-PS-82-5026/1. UNKNOWN CAUSE
W	SE1	032237	080180	IN	FG	NN	B00	N		U		COOLG TWR BLWDWN LINE EFF MON 0-FI-27-175 INOP	LIGHTNING OR PWR LINE SURGE CAUSED DAMAGE
W	SE1	032238	080980	RE	XG	NN	B00	N		D		D/G 86 LOR RELAY COILS BURNED OUT DURING STOP AT//	TEMPT. RESET IN IMPROPER SEQUENCE
W	SE1	032341	081180	GS	XG	CT	B00	N		U		TC.FWP FAILED TO START AFTER LOST MAIN FW PUMPS	TORQUE SW FAILED
W	SE1	033030	101680	ZZ	XG	NN	B00	T		U		D/G 1B-B TRPD	RELAY IND LIGHT OUT, SOCKET REPAIRED
W	SE1	033145	110280	CA	DG	NN	B00	N		U		RPI E-13 SD BANK A ERRATIC THEN FAILED LOW	DFCTV CONNECTOR ON INDICATOR E-13
W	SE1	033458	120180	IN	DG	NN	A14	N		T		POS IND FOR ROD F14 RDG OOT DECLRD INOP	CNTRL BRD IND SHIFTED IN CALIBRATION
W	SE1	036077	011681	CM	LT	PX	B00	T		U		S/G LEVEL INSTRUMENT L-3-97 FOR #3 S/G FAILED	BISTABLE WOULD NOT DEENERGIZE
W	SE1	036252	012781	TX	LS	IC	B14	T		T		CNTNMNT SUMP LEVEL LOOP L-63-177 DECLARED INOP	INSTRUMENT DRIFT
W	SE1	036665*	031481	GS	FG	CT	800	N		U	2	STEAM SUPPLY TO AUX FEED PUMP AUTO ISO BY DPIS-1--	-17 & 18. NO CAUSE COULD BE FOUND
W	SE1	036664	032081	PS	FG	NN	B13	N		U		REMOTE S/D MONITORING CH FOR S/G #4 PRESS FAILED	BLOWN FUSE IN LOOP POWER SUPPLY
W	SE1	036844	041481	ZZ	XT	PX	B00	T		U		AUTO TRIP FUNCTION FOR RPS TRAIN "B" TEST FAILED	DEFECTIVE SEMIAUTO TESTER CARD
W	SE1	037157	043081	CL	XG	CT	B13	T		U		CONTROLLER FOR VLV 1-LCV-3-175 FAILED	INPUT RESISTOR FAILED
W	SE1	037328	052281	CM	LT	PX	B14	T		I		S/G LO-LO LEVEL BISTABLE FOUND OOC	INSTRUMENT DRIFT--B/S RPLCD
W	SE1	037452	052681	TX	LG	CT	B11	N		D		"A" CONDENSATE STORAGE TANK TX 0-LT-2-230 FAILED	BROKEN COMPRESSION UNION
W	SE1	038116	072081	TX	PT	PX	A14	T		T		PZR PRESSURE TRANSMITTER FOUND OOC (1-PT-68-334)	INSTRUMENT DRIFT
W	SE1	038342	073181	RC	TG	IC	B13	N		D		ICE CONDENSER TEMPERATURE RECORDER FAILED	FAULTY SELECTOR SWITCH

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	SE1	038547	083081	CN	LT	PX	B00	N		U		S/G NO. 1 LEVEL CHANNEL(1-LM-3-38) DECLARED INOP	FAILED I/I MODULE,NO CAUSE GIVEN
W	SE1	038919	092581	IM	NT	PX	A14	N		T		FLUX IMBALANCE PENALTY FUNCTION GENERATOR OOC	DRIFT OF MODULE
W	SE1	039098A	101881	TX	LT	PX	A14	I		T	2	PZR LEVEL TX 1-LT-68-320 & 335 FOUND OOC	INSTRUMENT DRIFT
W	SE1	039098B	101881	TX	PT	PX	A14	T		T		PZR PRESSURE TRANSMITTER 1-PT-68-323 FOUND OOC	INSTRUMENT DRIFT
W	SE1	039401	111281	IN	DG	NN	B12	N		T		IRPI FOR ROD D-12 FOUND INDICATING 27 STEPS LOW	DIRTY POTENTIOMETER
W	SE1	171844	120981	MO	RR	NN	B11	N		D		S/G BLOWDOWN EFF LINE RAD MON RM-90-120/120 FAILED	AIR ENTRAPMENT IN SAMPLE FLOW
W	SE1	172790	122281	TX	LT	PX	B07	T		D		PZR LEVEL TRANSMITTER 1-LT-68-335 DECLARED INOP	GASSES IN SENSOR BELLOWS
W	SE2	172795	110481	IM	PT	PX	B09	I		U		TRAIN B SSPS FAILED LOGIC BOARD IN PRZ PRESS LOGIC	SHORTED CABLE BETWEEN LOGIC BOARDS
W	SE2	171233	110681	TX	LS	SN	B13	N		U		CONTAINMENT SUMP LVL XMTR INOP DUE TO HIGH READING	LEAK IN SENSOR BELLOWS
W	SE2	171253	110681	ZZ	XT	PX	B02	N		U		OVERPWR DELTA-T RX TRIP INSTRM WAS INOPERATIVE	DEFECTIVE LOGIC IN SSPS TRAIN A
W	SO1	015174	062876	TX	FT	PX	B13	N		U		UNIT 1 TRIP AT 330MW SPURIOUS LOW FLOW SIGNAL	FAILD FEEDBACK MOTOR IN FLOW TRANSMITTER
W	SO1	015998	082376	PS	FT	PX	B13	N		T		S/G FEED CONT. B/U POWER SUPPLY DEGRADED CAUSING	INOP FEED FLOW R/X TRIP; FAILD DIODES
W	SO1	023374	112678	SE	FT	PX	B07	N		T		"C" FEED FLOW SUDDEN INCREASE;LOSS OF 1 STEAM/FEED	FLOW STRAIGHTNR DISLODGED AGAINST ORIFICE
W	SO1	026069	042379	PS	FT	PX	B00	N		U		STEAM FLOW INDICATION FOR 'A' CHANNEL FAILED LOW	FAILED POWER SUPPLY WITH NO CAUSE GIVEN
W	SO1	027886	101179	CN	TT	PX	B13	N		T		LOOP C T-AVE FAILED LOW	CAPACITOR IN R/I CONVERTER FAILED
W	SO1	030015	011680	RE	FT	CT	A02	M		D		FW FLO REDUCD,STM FLO/FW MISMATCH RX & TURBINE TRP	CNSTRCTN WORKER HIT AUX RELAY
W	SO1	030140	011980	SE	FG	CT	B00	N		U		"B" FW FLO INDICATION INCREASED ABOVE ACTUAL FLOW	SEGMENTS OF FLO STRAIGHTENER WERE MISSING
W	SO1	031966	040480	SE	TG	NN	B00	R		U		THERMAL MEASUREMENT DATA NOT OBTAINED AS REQUIRED	ENDECO TEMPERATURE SENSORS REPAIRED
W	SO1	039192	092581	PS	XS	SF	B00	N		U		FUSE BLEW IN POWER SUPPLY FOR TRAIN "A" CNTNMNT S-	-PRAY ACTUATION SYS. NO CAUSE GIVEN
W	SU1	016254	102676	RE	XS	SN	B12	T		T		SI TEST, RELAY VS-103A FAILD IN ENERGIZD POSITION	DIRTY POLE SURFACE; FAN VS-F-156 DAMPER
W	SU1	016257	110176	CM	TT	PX	B13	I		T		COMPARATOR(TC-1-432C) FAILD TO TRIP	POWER CAPACITOR MALFUNCTION
W	SU1	017420	032877	CM	FT	PX	B12	T		T		HI STEAM FLOW RELAY(FC-485-XA) MALFUNCTND- SI TEST	DEBRIS IN BF-48 RELAY CONTACTS
W	SU1	020097	121677	PS	LT	PX	B13	I		T		"A" S/G LEVEL CHAN II COMPARATOR FAILD TO TRIP	2 OPEN CAPACITORS IN COMP. POWER SUPPLY
W	SU1	022642	101178	TX	LT	PX	A11	N		T		CHAN 1 PREZ. LEVEL L-I-459 DRIFTD HI--O ADJUSMNT &	LEAKAGE THRU TRANSMITR BYPASS/EQUAL.VALVE
W	SU1	025822	042279	MO	RR	NN	A14	T		T		LIQUID WASTE DISPOSAL RAD MON FAILED TO ALARM	DRIFT OF HIGH ALARM SETPOINT
W	SU1	030257	012080	SE	TS	SN	B00	T		U		CIRCUIT 17A PANEL 9 INOPERABLE	FAILED THERMOSTAT WITHIN SYSTEM
W	SU1	030406	021880	MO	RR	NN	A14	T		T		RADIATION ALARM SETPOINT FOR CC SYS OOT	INSTRUMENT DRIFT
W	SU1	032344	081280	MO	RR	NN	B00	N		U		DISCHARGE TUNNEL RAD MON OOS	DEFECTIVE CIRCUIT CARD
W	SU1	032523	090280	GS	LG	NN	B12	T		T		BASE TANK LEVEL DROPPED W/O BEING REPLENISHED	BASE TANK LVL CNTRL SW STICKING
W	SU1	036509	030681	MO	RR	NN	A14	N		T		RAD MON RM-CC-105 ALARM SETPOINT FOUND OOC	INSTRUMENT DRIFT
W	SU1	038610	091081	ZZ	XC	NN	B00	T		U		CONTROL RODS FROM POWER CABINET 1AC WOULD NOT RES-	-POND. FAILED REGULATION CARD
W	SU1	038757	092081	TX	FG	NN	B13	N		U		FLOW TRANSMITTER FOR "C" STEAM LINE,FT-1495,FAILED	DEFECTIVE AMP BOARD
W	SU1	172162	121781	CM	PS	IC	B13	T		U		CNTNMNT PRESS COMPARATOR P-LM-10083 FAILED	DFCTV PRINTED CIRCUIT BOARD
W	SU2	014842	021176	IM	TT	PX	A09	N		D		CHAN 3 HI TEMP SETPOINT DRIFTD 9% IN NONCONSERVATV	LOOSE CONNECTION ON SUMMATOR
W	SU2	015527	062176	PS	NT	PX	B13	N		T		LOSS OF DETECTR VOLT ALARM TO PWR RANGE NI CHAN 42	-25 VOLT POWER SUPPLY FAILD ;3 CHAN OPER.
W	SU2	015528	062676	IM	NT	PX	A14	N		T		NIS POWR RANGE CHAN N42 DEVIATD BY 3% FROM OTHR CH	OUTPUT OF LEVEL & SUMMING AMPLIFR DRIF LO
W	SU2	016140	101376	CM	LT	PX	B13	T		T		DUAL COMPARATR OF S/G "B" NARROW RANG CHAN 2)LOW L	OPEN CAPACITOR;CM WOULDN'T DENERGIZE
W	SU2	017201	020977	AM	TT	PX	B13	N		T		"C" LOOP TCOLD CHAN T-432 FOR OVRPWR & OVR TEMP	MALFUNC.OF SPAN POTENTIOMTR IN LEVEL AMPL
W	SU2	018476	071877	CM	FT	PX	B13	T		T		R/X COOLNT FLOW COMP. FC-2-414 FAILD TO TRIP	CAPACITOR LEAKAGE; 2 REDUNDT. SYS OPERABL
W	SU2	020812	030278	GS	PS	SN	B13	N		T		CHAN 2 PREZ PRESS. P-456 FAILD LOW	POWR SUPPLY FAILD; REPLACED
W	SU2	023016	111578	SE	TT	PX	A07	N		T		"B" LOOP HOT LEG SENS ELEMENT DRIFTING LOW--CHAN 2	PACKING LEAK REDUCED RESISTANCE OF ELEMEN
W	SU2	025121	012079	TX	PT	PX	B00	N		U		PRESSURIZER PRESSURE CH 1 DRIFTED HIGH	FAILED TRANSMITTER,NO CAUSE GIVEN
W	SU2	030545	031080	IN	NG	NN	A06	R		D		DEVIATION FROM ALLOWABLE DELTA FLUX BANDWIDTH	INADEQUACY IN CALIBRATION PROCEDURE
W	SU2	031214	052180	TX	PS	SN	B00	N		U		NARROW RANGE PT-458 INOPERABLE	WIRING PROBLEM
W	SU2	031624	062380	MO	RR	NN	A14	T		T		AIR EJECTOR MON RM-SV-211 ALRM SETPT ABOVE T.S.	INSTRUMENT DRIFT IN THE HI ALARM SETPOINT
W	SU2	032348	081680	IN	LG	SN	A07	N		T		B SI ACC LVL IND INDICATED OOT HIGH	CNDNSTN IN DRY REF LEG & N2 FEED LINE HP
W	SU2	032437	082080	TX	FG	NN	A02	N		D		MAIN STM FT-2495 ZERO READING	EQUALIZING VLV HAD NOT BEEN FULLY CLOSED
W	SU2	032527	082680	IM	FG	NN	B00	N		U		CH 3 FLO COMPUTER-2474 FAILD LO IND ON FI-2474	FLTR CAP LOOSE CKT BRD/COLD SOLDER JOINT
W	SU2	032525	082880	LS	XG	IC	B00	N		U		TRP VLV TV-SS-200A WOULD NOT STAY CLOSED	FAILED LIMIT SWITCH
W	SU2	033192*	110180	CA	XG	CT	B00	N		U	3	MOV-FW-251B COULD NOT BE CLOSED FROM CNTRL ROOM	REASON FOR BROKEN WIRES UNDETERMINED

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	SU2	033227	110580	GS	PG	AS	B11	N		T		LO DISCHARGE PRESSURE ALARM FAILED TO ANNUNCIATE	CLOGGED PRESS SW SENSING LINE
W	SU2	033349	112280	GS	XG	NN	B12	N		T		MOV-CW-200A FAILED W/ VLV APPROX 75% OPEN	CORRODED TORQUE SW STUCK IN OPEN POSITION
W	SU2	163642	010781	ZZ	XT	PX	B13	T		U		REACTOR TRIP BKR FAILED TO OPEN	FAILED UNDER VOLTAGE DEPICE
W	SU2	036299	021081	CM	NT	PX	A14	T		T		INTERMEDIATE RANGE CH N36 HI LEVEL TRIP FOUND OOC	INSTRUMENT SETPOINT DRIFT
W	TR1	016798	010777	AM	LT	PX	B13	T		U		C STEAM GEN LO LEVEL BI-STABL 537C FAILD TO TRIP	OPERATIONAL AMPLIFIER ON CKT BRD FAILD
W	TR1	017575*	031677	CL	FG	NN	B00	T		U	2	BOTH TRAINS OF EMERG. VENTILATN FAILD REQRD AIR FL	AIR FLOW CONTROLLRS ADJUSTD
W	TR1	017573*	033177	LM	DC	NN	B13	T		U	2	CONTROL BANK D RODS COULD NOT BE MOVED	FAILD SUP.BUFFR MEMORY & IN/OUT PULS CARD
W	TR1	017759A	050477	GS	PI	PX	A14	T		T		PS-6309X EXCEEDED ALLOWABLE SETPOINT LIMIT	INSTRUMENT SETPOINT DRIFT
W	TR1	017759B	050477	TX	PI	PX	A14	T		T		PT-456 SETPOINT EXCEEDED ALLOWABLE LIMITS	INSTRUMENT SETPOINT DRIFT
W	TR1	018908	061277	TX	LG	NN	B13	N		U		COOLING TOWER LEVEL XMTR FAILD HIGH	PREVENTD AUTO MAKE/UP OF LEVEL IN TOWER
W	TR1	018586	070877	CM	LT	PX	A14	T		T		S/G LEVEL PROTECTN SET IV LB-537C TRIPPN LOWER LEV	FOUND TO HAVE HI RATE OF SETPOINT DRIFT
W	TR1	021199A	032578	RC	LG	SL	B01	N		T		RC FLOW LOST WHILE SYSTEM PARTIALY DRAIND(IN RHR)	PRESS GAUGE OUT OF CALIBRATION
W	TR1	021312*	040578	TX	LT	PX	A14	T		D	4	FOUR OF 12 SG LEVEL INST OUT OF CALIBRATION	NORMAL INST. DRIFT
W	TR1	021199B	041778	TX	LG	SL	B01	N		D		LEVE INST WRONG READING;RC FLOW LOST WHILE IN RHR	REFERENCE LEG H2O LEVEL LOW
W	TR1	026118A	050479	TX	LT	PX	A14	T		T		D S/G LEVEL TRANSMITTER FOUND OUT OF CAL HIGH	INSTRUMENT DRIFT OF LT-549
W	TR1	026118B	050479	TX	PT	PX	A14	T		T		PZR PRESSURE TRANSMITTER FOUND OUT OF CAL HIGH	INSTRUMENT DRIFT OF PT-458
W	TR1	026118C	050479	TX	FT	PX	A14	T		T		RX COOLANT FLOW TRANSMITTER FOUND OUT OF CAL HIGH	INSTRUMENT DRIFT OF FT-426
W	TR1	036302A	013081	SE	NT	PX	B13	N		T		"A" SOURCE RANGE CHANNEL FAILED	PULSE HIGHT DISCRIMINATOR WAS OOA
W	TR1	036302B	013081	SE	NT	PX	B00	N		T		"B" SOURCE RANGE CHANNEL FAILED	NORMAL WEAR
W	TR1	036802	031681	PS	PT	PX	B13	T		U		STEAM LINE PRESSURE CH 516 SETPOINT FOUND ERRATIC	FAILED CAPACITOR
W	TR1	038286	090281	TX	PT	PX	A14	T		T		TURBINE FIRST STAGE PRESSURE CH 506 FOUND OOC	INSTRUMENT DRIFT
W	TU3	015007	051976	CM	LT	PX	A14	T		T		PRZR LEVEL COMP.LC-459A TRIPPIN AT 4.685V VS. 4.68	SETPOINT DRIFT; WILL ADJUST TO COMPENSATE
W	TU3	017590*	012777	CM	TT	PX	A14	T		T	2	TRIP SETPTS OF OVERPWR COMPS.TC-3-432B & 432C LOW	SETPOINT DRIFT;EXACT CAUSE OF DRIFT UNKWN
W	TU3	020644	013078	GS	PS	SN	B08	T		U		HI/HI CONTNMNT PRESS(PS-3-2058) OPERATD GT. 30#	MALFUNCT OF ACTUATN DEVICE;ROOT CAUSE UNK
W	TU3	025850	032879	ZZ	LG	AG	B00	N		U		LEVEL INDICATION FOR "C" CVCS HOLD-UP TANK FOUND//	ERRONEOUS. NO CAUSE GIVEN
W	TU3	025980A	042979	IN	LG	SN	B13	N		T		RWST LEVEL INDICATOR FAILED	FAILED TRANSDUCER OF DIGITAL LEVEL IND.
W	TU3	025980B	042979	ZZ	LG	SN	A14	N		T		HIGH AND LOW LEVEL ALARMS FOUND OUT OF CAL FOR RW/	/ST LEVEL. INSTRUMENT DRIFT
W	TU3	031299*	051180	CM	PS	SN	A14	T		T	2	B/S BS-3-475,485A NONCONSERVATIVE SETPOINTS	INSTRUMENT DRIFT
W	TU3	032528	081380	MO	RR	NN	B11	N		T		PROCESS RAD MON R-11/12 OOS	PLUGGED SUCTION LINE BLOWER OVERHEATED
W	TU3	032887	091880	CA	NT	PX	B09	N		D		PWR RNG NIS ON CHNL N-43 DETERMINED TO BE LOW	PARTIAL GRND ON CABLE ASSOC W/ CHNL N-43
W	TU4	014878	013076	IM	TT	PX	B13	T		U		CHAN 2 DELTA-T TRIP SETPT 1 DEG HIGHR THAN ALLOWD	2 FILTR CAP. FAILD IN SIGNL SUM.TM-4-422F
W	TU4	014877	021476	IN	LG	SN	A04	T		D		REF. WATER ST. TNK 1 PERCENT LOWR THAN ALLOWD T.S.	LEVEL GAGE IS WIDE RANGE;INSTALL NARROW R
W	TU4	019807	110177	CM	PS	SN	A14	T		T		SETPT FOR COMPRTR PC-4-485A LT. MIN ALLOWED	RANDOM SETPNT DRIFT OF STEAM LINE PRESS.
W	TU4	030920	033180	MO	RR	NN	B00	N		T		PROCESS RAD MON 11/12 OOS	NORMAL WEAR OF AIR SAMPLING BLOWER
W	TU4	030945	040780	TX	PG	CT	A14	T		T		"A" AFWP DELIVERED LOW FLOW RATE TO UNIT 4 SG	CNTRL CKT CAL D/P XMITTR RECAL
W	TU4	172036	122881	RC	XG	NN	B00	M		U		BIT HEAT TRACING RECORDER INOP CKT 548 OPEN/GRNDED	ROOT CAUSE COULD NOT BE DETERMINED
W	YR1	016976	011677	TX	LG	NN	B13	N		T		VAPOR CONTAINR DRAIN TANK LEVL XMTR DIAPRAM FAILED	SENSIN LINES HAD EXCSV CRUD; REPLACD XMTR
W	YR1	017336	030677	MO	RR	NN	B13	N		T		#2 S/G BLOWDOWN ALARM SETPT COULDNT BE ADJUSTED	PLASTIC HOLDER FAILD FROM MATERIAL FATIGU
W	YR1	018509	072077	CM	LT	PX	A14	T		T		S/G WTR LO LEVEL SCRAM B/S FUNCTND .5INCHS LT. TS	INSTRUMENT DRIFT OF #3 CHANNEL;READJUSTD
W	YR1	018856	081077	CM	LT	PX	A14	T		T		PZR WIDE RANGE LEVL SCRAM SETPT OUT OF TOLERANCE	INSTRUMNT DRIFT; REPETITIVE OCCURANCE
W	YR1	019139	090777	GS	PS	SH	A14	T		T		SI ACTUATN HI CONT PRESS SENSOR OUT OF TOLERANCE	SETPOINT DRIFT DUE TO NORMAL DETERIORATIN
W	YR1	020093	121977	IN	NG	PX	B00	N		U		#5 INTERMEDIATE RANGE PWR CHNL FAILED IND EQ 0	NOT KNOWN AT THIS TIME
W	YR1	020421	012778	TX	PT	PX	A08	N		T		MAIN COOLNT PRESS INDICATION 1330 VS 975 PSIG	LOUSE CONNCTNS ON MECH. LINKAGES OF XMTR
W	YR1	021684	060778	MO	RR	NN	A05	N		D		#1 STEAM GEN RAD MONITR OPERATED ERRATICALLY	DEFECTIVE SOLDER CONN. IN COMPUTR-INDICAT
W	YR1	025299*	020679	SE	DC	NN	B12	N		T	3	RPI LIGHTS FOR POS 84",87",&90" FOR ROD #6 NOT LIT	DIRTY TERMINAL CONTACTS FOR COILS
W	YR1	025532	031279	RE	XS	SN	A12	T		T		TIME DELAY RELAY TDC-2 FOUND TO OPERATE SLOW	DUST BUILDUP ON RELAY CONTACTS
W	YR1	027401A	101979	CM	PT	PX	A14	T		T		COOLANT PRESSURE CH LP SCRAM SETPOINT FOUND OOC LO	INSTRUMENT DRIFT
W	YR1	027401B	101979	CM	PS	SN	A14	T		T		COOLANT PRESSURE CH LP SIAS SETPOINT FOUND OOC LOW	INSTRUMENT DRIFT
W	YR1	027401C	101979	TX	PT	PX	A14	T		T		COOLANT PRESSURE CH TRANSMITTER FOUND OOC	INSTRUMENT DRIFT OF TRANSMITTER AMPLIFIER
W	YR1	027502	110979	RE	XS	SN	B04	T		D		SI ACCUMULATOR TIME DELAY RELAY FOUND OOC	DESIGN DEFICIENCY OF CAPACITOR IN PS

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	YR1	030154	011680	MO	RR	NN	B00	N		T		PRIMARY VENT STACK IODINE MONITOR FAILED	NAT'L END OF LIFE OF PUMP-MOTOR BEARINGS
W	YR1	032890	101280	TX	LT	PX	B02	M		D		LO LVL SCRAM SETPTS OPERATE BELOW TECH SPEC	HARD TO VENT XMITR DUE SENSG LINE DESIGN
W	YR1	037070	041681	CM	LT	PX	B12	T		T		S/G LEVEL BISTABLE CONTACT 6 & 8 DID NOT CLOSE	DIRTY CONTACT SURFACES
W	ZI1	014221	020976	AM	TT	PX	B13	T		T		DELTA T TRIP 1TC-422 C/D COMPARATOR INOPERABLE	OPERTNL AMPS A2 & A3 DEFECTIVE
W	ZI1	014572	022576	MO	RR	NN	B00	T		U		FAILD FUEL LIQUID MON. 1RTPR27 RUPTURD BOURDON TUB	EXACT CAUSE OF TUBE FAILURE UNKNOWN
W	ZI1	014268	030576	TX	FI	PX	B08	I		T		S.GEN. 1C FEED FLOW XMTR 1FT-520 FAILD HI	LOOSE LINKAGE BETWEEN FORCE BALANC & DISC
W	ZI1	014919	051376	MC	RR	NN	B13	T		U		ORE-0001 CONTROL RM MON. READING LOW	A T.F. AMPLIFIER CARD FAILD
W	ZI1	015364	073076	MO	RR	NN	B08	N		D		AIR EJECTOR APD FAILD DUE TO MOISTURE IN PROBE ASM	MUD KEPT MOISTUR SEPARATR FROM COOLIN AIR
W	ZI1	016983	012777	RE	XG	SN	B13	N		U		HEATER FAILURE ALARM CKT 61007 OLP44	ALARM CURRENT SENSING RELAY FAILD
W	ZI1	017807	051577	IN	PG	NN	B13	N		D		1D MAIN STEAM ISOL. VALV CLOSN SIDE PRESS GAGE	CYCLIC SURGES CAUSED LEAKS OF BOURDON TUB
W	ZI1	018375	070877	TX	FT	PX	A14	T		T		XMTR 1FT-510 OUT OF TOLERNCE FOR LOOP A	ZERO SHIFT OF THE XMTR
W	ZI1	018529	071977	IM	PT	PX	B13	T		T		ONE OF PRESSZR PRESS CHANLS READING HIGH	BAD LEAD/LAG MODULE; 2 FAILD CAPACITORS
W	ZI1	020460	090677	GS	RR	NN	B13	N		T		FLOW SWITCH FAILD CLOSE BURNIN UP PUMP FOR 1RTPR26	CONTINUOUS USE OF AIR EJECTOR MONITOR
W	ZI1	019515	102877	IN	FG	NN	B02	N		D		FLOW INICATR FOR DISCHARGE PATH INOPERBLE	MECHANIC WORKING ON ALARM
W	ZI1	021448	051078	MO	RR	SN	B09	N		T		CONTMNT GAS MON 1RE0012 REPEATDLY BLEW FUSES	PWR LITE HOLDER SHORTING OUT RAD. MONITOR
W	ZI1	021969	071378	MO	RR	NN	B13	T		U		PASSVE GAS MON 1RTPR15 TAKEN OUT OF SERVICE	ACTMATIN VALVE MOTORS OF SEQ. BURND OUT
W	ZI1	021967A	071778	TX	LT	PX	B13	N		U		SG 1D LEVL CHNL 538 TRIPPD DUE TO HI INDICATD LEVL	FAILD TRANSMITTER
W	ZI1	022847	091478	HS	XG	SN	B12	N		T		1C RCFC (CONTMNT HEAT RMVL FAN) LOW SPEED HAND SWT	DIRTY CONTACTS PRVNTD SI AUTO START
W	ZI1	022850	100478	MO	RR	NN	B07	N		D		COMP COOLING RAD MON 1RE0017 NO RESPONSE TO SOURCE	WATER IN DETECTR WELL & BAD RATE BOARD
W	ZI1	022898	102078	TX	FT	PX	A14	T		T		FEED FLOW XMTR 1LT-531 OUTPUT RESULT IN NONCONSER	XMTR DRIFT CAUSED CHANNL TO BE OUT OF TOL
W	ZI1	022899	102078	TX	LT	PX	A14	I		T		SG 1B LEVL CHNL 1L-548 DRIFTD HI (NONCONSERV SETPT	XMTR DRIFTD OUT OF TOLERANCE
W	ZI1	022901*	102178	TX	LS	SN	A14	T		T	4	LEVL XMTRS 950,951,956,957 FOR A&B ACCUMULATORS	OUT OF TOL LOW DUE TO INSTRUMNT DRIFT
W	ZI1	022902	102178	CM	FT	PX	A14	T		T		RC FLOW CHANL 1F-414 LOOP A TRIP SETPOINT DRIF LOW	SETPOINT DRIFT; 2OTHER LOOP CHANLS OPERBL
W	ZI1	023440	122778	TX	PS	SN	B13	N		T		S/G PRESS CHNL 1P-546 PEGGD HI SEVERL TIMES	DETUNED OSCILLATR IN XMTR; REPLACD SAME
W	ZI1	025287	020479	MO	RR	NN	B09	N		T		MONITOR ORT-PR05 FAILED TO GIVE TRIP FUNCTION	RELAY DIDNT OP DUE TO LOOSE CONNECTION
W	ZI1	025679	040879	TX	LT	PX	A14	T		T		PZR LEVEL CH 1L-459 FOUND READING HIGH 6%	INSTRUMENT DRIFT
W	ZI1	026183	060279	MO	RR	NN	B13	N		T		1RT-PR07,PIPE TUNNEL RAD MON,DECLARED INOPERABLE	BELT ON SAMPLE BLOWER BROKE,NORMAL EOL
W	ZI1	026182	061079	MO	RR	NN	B13	N		T		1RT-PR07B,PIPE TUNNEL RAD MON,DECLARED INOPERABLE	TRANSISTOR IN TRIP CIRCUIT FAILED
W	ZI1	026459	071379	TX	FT	PX	A14	T		T		1B REACTOR COOLANT FLOW TRANSMITTER FOUND OOC HI	INSTRUMENT DRIFT OF 5.5%
W	ZI1	026755	071379	TX	LT	PX	A14	T		T		INSTRUMENT 1L-518 DRIFTED HIGH	DRIFT OF OSCILLATOR AMPLIFIER
W	ZI1	026754	080579	TX	FT	PX	A14	T		T		STEAM FLOW,1F-523,FOUND OUT OF CAL 2%	INSTRUMENT DRIFT
W	ZI1	026752	081379	TX	FT	PX	A14	N		T		FEEDWATER FLOW 1FI-520 FOUND OUT OF CALIBRATION HI	0 SHIFT OF TRANSMITTER
W	ZI1	027C10	083179	TX	LT	PX	B12	N		T		S/G LEVEL CHANNEL 1L-538 INDICATED HIGH	TRANSMITTER MECHANICALLY STICKING
W	ZI1	028154	092479	CN	XC	NN	B00	T		U		URGENT ALARM RECEIVED WHILE MOVING BANK "C"	FAILURE OF PULSER/OSCILLATOR CARD
W	ZI1	027199	100179	MO	RR	NN	B14	N		T		PASSIVE GAS MONITOR,1RT-PR07AB FAILED LOW	DRIFT OF FAIL SETTING
W	ZI1	027339	100679	TX	LT	PX	A08	N		T		PZR LEVEL CHANNEL 1L-459 READ 6% LOW	STRAIN GAUGE OF TRANSMITTER FAILED
W	ZI1	028153	112079	CM	TS	SN	A14	T		T		LOW-LOW TAV COMPARATOR 1TC432GD OUTPUTS FOUND OOC/	/LOW BY 2.5%. INSTRUMENT DRIFT
W	ZI1	030096	010380	MO	RR	NN	B13	N		T		SPENT FUEL BLDG AREA MON ORE-0005 FAILED HIGH	NORMAL EOL FOR DETECTOR TUBE
W	ZI1	030427A	021280	MO	RR	NN	B13	N		T		CNTRL RM MTR HAS LOWR LVL THAN NEEDED TO SET ALARM	EOL OF DFCTV DETECTOR TUBE
W	ZI1	030427B	021280	MO	RR	NN	B13	N		U		CNTRL RM MTR HAS LOWR LVL THAN NEEDED TO SET ALARM	FAULTY CNNCTN ON CNTRL RM MTR PIN #5
W	ZI1	030580	022480	MO	RR	NN	B13	N		U		PASSIVE GAS FAILURE RAD MON 1RTPR15 FAILED LOW	DFCTV TRANSISTOR IN DET PRE-AMPLIFIER
W	ZI1	030810*	032080	MO	RR	NN	B13	N		T	2	CNTNMNT VENT RAD MON BLOWER REPEATEDLY TRIPPED	RELAY FAILR DUE TO VIBRATION OF MONITOR
W	ZI1	030939	032580	TX	FS	SN	B09	N		D		SG STM FLO CHNL 1FT-523 RDG OOT (LOW)	EXCESSIVE PROCESS NOISE FROM XMITTER
W	ZI1	030809	040180	MO	RR	NN	B13	N		T		IODINE RAD MON ORT-PR12A/B INSTR FAIL ALARMS ACTVT	NAT'L EOL OF P/N 2000 OF THE MAGNAHELIC
W	ZI1	031296	050780	CA	TT	PX	B00	N		U		RC NARROW RNG RTD 1TE-421A OUT SIG SPIKING LOW	BROKEN DRAIN WIRE AT RTD WIRING CNNCTN
W	ZI1	031573*	051580	CA	XG	AS	A00	T		D	2	1A SW PMP FAILD TO START FROM "A" SAFEGUARDS ACT//	UATN SIG. ERRATIC CNTCT OF SW CONTACTS
W	ZI1	031596	061280	MO	RR	NN	B09	N		T		CNDNSR AIR EJCTR OFF-GAS RAD MON 1RT-PT26 FAILD LO	WORN CONTACTS INSIDE PHOTOHELIC THRU USE
W	ZI1	032530	061980	AM	TT	PX	B09	N		D		"D" OVERPWR/OVERTEMP DELTA-T CH 1T431 ERRATIC	NOISY OUTPT FROM LO LVL AMP 1TM4318
W	ZI1	032081	071180	TX	PT	PX	A14	N		T		PZR LVL CHNL IL-460 DRIFTED LOW	ZERO SHIFT ON XMTR ILT-460
W	ZI1	033532	082580	MO	RR	NN	A14	N		T		COMP COOLG LIQ RAD MON ORE-0017 TAKEN OOS	DRIFT IN MONITOR PLATEAU

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	ZI1	032696	091280	MO	RR	NN	A00	N		U		AUX BLDG AREA MON ERRATIC RDG & PERIODIC ALARMS	UNKNOWN
W	ZI1	032989	100180	CM	FT	PX	A14	N		T		1C RX COOLANT FLO CHNL 1F-424 COMPARATOR SETPT LOW	INSTRUMENT DRIFT
W	ZI1	033351	111080	TX	FT	PX	A14	N		T		SG 2B FEED FLO CH 2F-540 RDG HIGH	ZERO SHIFTING OF XMTR
W	[illegible]	033483	111780	MO	RR	NN	B00	N		U		FIRE SUMP PROCESS RAD MON ORT-PR25 INCRSD TO HI //	ALRM. CAUSE UNDETERMINED
W	ZI1	164405	010681	MO	RR	NN	B00	N		U		SERV BLDG RAD MON OPR036 BLOWER FOUND OFF	UNKNOWN
W	ZI1	037071	041281	MO	RR	NN	A14	N		T		FUEL BLDG AREA RAD MON ORE-0005 ALARMED HIGH	SETPOINT DRIFT OF HIGH VOLT POWER SUPPLY
W	ZI1	037227	042581	MO	RR	NN	B13	T		U		FIRE SUMP RAD MON ORTPR25 FAILED	FAILED RESISTOR & TRANSISTORS IN PS
W	ZI1	037689	061581	MO	RR	NN	B13	N		U		STACK GAS RAD MONITOR ORE-0014 BEGAN SPIKING	GM TUBES REPLACED
W	ZI1	038053	070881	MO	RR	NN	B00	N		U		RADIATION MONITOR 1RE0019 WAS INOPERABLE	NO CAUSE GIVEN
W	ZI1	038209	080381	MO	RR	NN	A14	N		T		GAS DECAY TANK CUBICLE RAD MON ORT-PR02B INDICATE-	-D HIGH. INSTRUMENT DRIFT
W	ZI1	038615A	083081	IM	TT	PX	B14	N		T		LOOP B OVER/DELTA TEMP FOUND READING 5% HIGH	FUNCTION GENERATOR OOC,LATER REPLACED
W	ZI1	038615B	090581	IM	TT	PX	B00	N		U		LOOP "B" OVER-TEMP DELTA T FOUND READING HIGH 10%	FUNCTION GENERATOR REPLACED
W	ZI1	039374	111781	MO	RR	NN	B13	T		U		GAS DECAY TANK PARTICULATE RAD MON ORT-PR10C FAIL-	-ED SOURCE CHECK. POWER SUPPLY FOW LOW
W	ZI1	171129	112881	PS	NT	PX	B00	N		U		HIGH VLTG PWR SUP IN N42 PWR RANGE DRWER DEFECTIVE	UNKNOWN
W	ZI2	014190	012376	TX	LT	PX	A14	T		T		2LT-528 2C S/G LEVL XMTR OUT OF TOL(NONCONSERVTVE)	SCALE SHIFT IN XMTR; RECALIBRATED
W	ZI2	014943	052576	TX	LT	PX	B13	N		U		LEVL XMTR 2LT-539 FOUND OUT OF TOL FOLLWNG RX TRIP	REPLACED XMTR WITH SPARE
W	ZI2	015190	070576	TX	LT	PX	B08	N		T		S/G LEVL XMTR 2LT-547 FAILD HI	STICKY INTERNAL COMPONENT PARTS
W	ZI2	016048	090376	ZZ	PS	SN	B00	T		U		2PSH-CS21A FOR CONTMNT PRESS HI WOULDNT TRIP	CAUSE OF MODULE FAILURE UNKNOWN
W	ZI2	016050	091476	CM	PT	PX	B13	N		U		COMPARTR 2PC-456A PZR HIGH RX TRIP FOUND HIGH	COMPRTR WAS REPLACED WITH SPARE
W	ZI2	016180*	100176	TX	FG	NN	A14	T		T	6	FLOW XMTRS OUT OF TOL--2FT-424,425,426,444,445,446	ZERO POINT DRIFT AND RANGE DRIFT
W	ZI2	016969	012277	TX	LT	PX	A14	T		T		PZR LEVL XMTR 2LT-461 FOUND LOW BY 7%	DRIFTD OUT OF TOLERANCE
W	ZI2	017250	020377	IM	FT	PX	A14	T		T		SQUARE ROOT EXTRACTR LOOP B STEAM FLOW FOUND HIGH	DRIFT OF LOW END SETTING OF SQ.RT.EXTRCTR
W	ZI2	017249	020777	IM	FT	PX	A14	T		T		SQ.ROOT EXTRACTR FOR LOOP D STEAM FLOW FOUND HIGH	DRIFT OF LOW END SETTING 2FM-530B
W	ZI2	018055	032777	TX	LS	SN	A14	T		T		PZR LEVL INDICATR 2LI-459A HIGHR THAN 461 (NONCON)	ZERO SHIFT IN XMTR
W	ZI2	018054	041177	AM	PT	PX	B13	T		T		COMPARATR 2PC-456A WOULD NOT TRIP; PUT IN TRIP MOD	BAD OPERATIONL AMPLIFIER A-3
W	ZI2	017810	050977	CM	PS	SN	B13	T		U		STEAM PRESS CHNL 2P-516 SETPT OUT OF TOL	FAULTY PARTS IN SIGNAL COMPARATOR
W	ZI2	018210	060477	CA	TC	NN	A09	T		U		NIS CHANL 4, B/S FOR HI ROD STOP & TURBIN RUN BACK	FOR LOOP B DELTA T; LOOSE WIRE PIN CONNCT
W	ZI2	018209	061477	AM	TG	NN	B13	N		T		LOOP A TEMP COLD LEG READING LOW ; FAILD LO LEVEL	AMPLIFIER; TWO BAD CAPACITORS; REPLACED
W	ZI2	022222	090177	TX	LT	PX	A14	T		T		S/G LEVL CHNL 2L-[illegible]7 FOUND READING HIGH (NONCONSR)	XMTR DRIFT; RECALIBRATED
W	ZI2	019522	102077	TX	FT	PX	A14	N		T		FEED FLOW INDICATR 2FI-540 NONCONSERVTIVE	DRIFT OF XMTR ; RECALIBRATED
W	ZI2	019779	111777	SE	NT	PX	B13	N		U		SOURCE RANGE DETECTR 2N-32 AUTO ENERGIZED ; FAILD	CHECKD CHNL ELECTRICALY; REPLACED DETECTR
W	ZI2	023616	120177	IN	LG	PX	B00	N		U		S/G LEVL IND. 2L-547 FAILD HI(NONCONSERV FOR SI)	PROBLEM COULD NOT BE DUPLICTD;REPLACD CAP
W	ZI2	019998	120677	TX	LT	PX	A08	N		T		2B S/G LEVL IND. 2LT-547 READING HI (NONCONSERVTV)	STICKING INTERNAL PARTS
W	ZI2	020197	121477	TX	PS	SN	A09	N		T		2D S/G PRESS IND 2PT-534 READING HIGH(NONCONSERVT)	GROUNDED OUTPUT ALSO OUT OF CAL XMTR
W	ZI2	020350	012178	TX	FT	PX	B13	N		T		FW FLOW IND 2FI-510A DRIFTD HI (NONCONSERV)	FAILD OSCILLATOR AMPLIFIER IN XMTR
W	ZI2	023499	022078	CM	LT	PX	B07	T		D		PZR LEVL CHANL 2L-460 OUT OF TOL HI AND LO ENDS	REVERSD DIODE CAUSN IMPRPR VOLT REGULATIN
W	ZI2	021344	042578	TX	LT	PX	A14	N		T		PZR LEVL CHANL 2L-459 OUT OF TOL HIGH NONCONSERVTV	RANGE SHIFT OF XMTR
W	ZI2	021543	051878	MO	RR	NN	A14	N		T		S/G BLOWDOWN MON 2RE0019 SPIKING & ALARMING HIGH	DRIFT IN HI VOLT PWR SUPPLY
W	ZI2	022522	081178	MJ	RR	NN	A09	N		D		CONTMNT APD 2RE0011 SPURIOUS ALARMS; NO RESPONSE	LOOSE WIRE ON"OPERATION" SELECTR SWITCH
W	ZI2	022802	091578	PS	NT	PX	B13	N		T		PWR RANGE CHANL N42 READING LOW;NONCONSERV TRIP	BAD 25 VOLT PWR SUPPLY
W	ZI2	025385A	021479	TX	LS	SN	A14	N		T	4	2LT-460 FOUND TO BE OOC 4 TIMES BETWEEN 2/14 +0 //	2/18. INSTRUMENT DRIFT
W	ZI2	025385B	021479	TX	LS	SN	B00	N		U		2LT-459 WAS INOPERABLE	NO CAUSE GIVEN
W	ZI2	025656A	0[illegible]0379	TX	LS	SN	B13	N		T		2LI-460 FOUND OUT OF CALIBRATION HIGH	LOOSE ZERO POTENTIOMETER
W	ZI2	025656B	030379	TX	LS	SN	B08	N		T		2LI-460 FOUND OUT OF CALIBRATION	LEAKING DRAIN PLUG
W	ZI2	025658	031179	MO	RR	NN	B11	T		D		CNTNMNT PARTICULATE & GAS MON 2RE0011 & 12 BECAME/	/INOPERABLE. SAMPLE ISOLATION VLV FAILED
W	ZI2	026070	050879	ZZ	XT	PX	B08	N		T		TRAIN A REACTOR TRIP BREAKER FAILED TO OPEN	PLUNGER IN VV COIL FOUND OUT OF ADJUST
W	ZI2	026749	072379	MO	RR	NN	B00	N		U		PURGE PARTICULATE MONITOR 2RT-PR09C TAKEN OOS	NO CAUSE GIVEN
W	ZI2	026463	072479	PS	LT	PX	B00	N		U		S/G LEVEL 2L-538 FOUND TO BE INDICATING 20% HIGH	FAULTY POWER SUPPLY,NO CAUSE GIVEN
W	ZI2	026748	080679	PS	LT	PX	A14	N		T		S/G LEVEL 2LI-538 READ OVER 4% HIGH	EXCESSIVE INSTRUMENT DRIFT
W	ZI2	027410	102579	TX	PS	SN	B00	N		U		S/G PRESSURE CHANNEL 2P-516 FAILED HIGH	TRANSMITTER FAILED WITH NO CAUSE FOUND

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE&CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
W	ZI2	030518	012880	TX	LT	PX	A14	N		T		SG 2LT-538 SHIFTED HIGH	NORMAL INSTRUMENT DRIFT
W	ZI2	031353	020280	TX	LT	PX	A00	N		T		SG LEVEL XMTR 2LT-385 SHIFTED HIGH	DRIFT ATTRIBUTED TO NAT'L COMPONENT AGING
W	ZI2	030581	022480	IN	DG	NN	A14	N		T		CNTRL BANK D ROD POS IND ABOVE BANK DEMAND POS OOT	INSTRUMENT DRIFT
W	ZI2	030695	022780	CM	PS	SN	B00	N		U		SG PRESSURE COMPARATOR 2PC-536A-B SHIFTED HIGH	NO CAUSE GIVEN
W	ZI2	037163	031380	MO	RR	NN	A14	N		T		CLASS I PIPE TUNNEL RAD MON 2RT-PR078 OOT LOW	DRIFT OF HIGH VOLTAGE POWER SUPPLY
W	ZI2	030694	040280	TX	PS	SN	B00	N		U		SG PRESSURE XMTR 2PI-516 SHIFTED LOW	NO CAUSE GIVEN
W	ZI2	031213	050780	TX	PS	SN	A14	N		T		SG 2A PRESS CHNL 2P-516 OOT LOW	INSTRUMENT DRIFT OF TRANSMITTER
W	ZI2	032442	072680	IM	FT	PX	B00	N		U		2A SG STM FLO CHNL 2F-512 INOPERABLE	FAILD OUTPUT (LO) FROM SQ ROOT EXTRACTOR
W	ZI2	032349	080680	SE	NT	PX	B00	N		U		NIS CHNL 41 OCLRD INOP LARGE IN/EXCORE DIFFERENCES	UNKNOWN
W	ZI2	039299	011481	ZZ	ZT	PX	B00	N		U		LOOP "D" OVERTEMPERATURE DELTA T CH 2T-431C OPERA-	-TED ERRATICALLY. NO CAUSE FOUND
W	ZI2	039300	022781	MO	RR	NN	B14	N		T		PURGE IODINE RAD MON 2RI-PR09B FOW LOW BY 3 TIMES	ELECTRONIC VARIANCE
W	ZI2	036645	030581	GS	XS	SL	B00	T		U		MICRO SWITCH 2FIC-611A(CONTROLS RHR "B" RECIRC) F-	-AILED. NO CAUSE GIVEN
W	ZI2	037690	051381	ZZ	XT	PX	B00	M		U		LOOP "B" OVERPOWER/OVERTEMP DELTA T CH 2T-441 BEC-	-AME ERRATIC. NO CAUSE FOUND
W	ZI2	037471	051881	ZZ	XT	PX	B00	N		U		CH 44 OVERPOWER/DELTA-T FOUND ERRATIC	NO CAUSE GIVEN
W	ZI2	037867	061981	TX	LT	PX	B13	N		U		"28" S/G LEVEL INDICATION 2LI-548 FOUND INOPERABLE	FAILED FORCE MOTOR IN TRANSMITTER 2LT-548
W	ZI2	038571	082581	TX	LT	PX	A14	N		T		S/G LEVEL TRANSMITTER 2LT-537 FOUND READING HI 3.-	-25%. ZERO SHIFT OF TRANSMITTER
W	ZI2	038713	091381	MO	RR	NN	B07	N		T		CONDENSER OFF-GAS RAD MON 2RE-0015 FAILED LOW	CONDENSATE BUILT UP IN DETECTOR
W	ZI2	038618B	091481	GS	XG	CT	A14	T		T		PRESSURE SWITCH FOR 2A AFWP FOUND OOC	INSTRUMENT DRIFT
W	ZI2	038965	100381	MO	RR	NN	B00	N		U		PIPE TUNNEL IODINE RAD MON 2RT-PR078 TAKEN OOS	NO CAUSE GIVEN
W	ZI2	172171A	103181	TX	FT	PX	A14	M		T		STEAM FLO CHNL WF-512 LOOP 2A EXCEEDS LIMIT	XMTR DRIFT (F/P 1082491)
W	ZI2	172171B	103181	IM	FI	PX	A14	M		T		LOOP 2A STEAM FLOW CHNL WF-512 EXCEEDS LIMIT	SQUARE ROOT EXTRACTOR DRIFT HAGAN 127-112
W	ZI2	039378	111181	ZZ	LG	NN	B11	N		U		REACTOR VESSEL LEVEL IND SYS UPPER TAP SENSING LI-	-NE LEAKED. FAILED FITTING
W	ZI2	172137	121681	MO	RG	NN	B00	M		U		CNTMNT PART/GAS RAD MON 2RE-0011&12 INOP	LO VOLTAGE POWER SUPPLY FAILED
G	BF1	021783	070978	IM	DC	NN	B13	T		T		RSCS SYSTEM WAS DISCOVERED INOPERABLE	LOGIC CIRCUITS ON A PRINTED CIRCUIT BOARD
G	BF1	022082	072078	GS	LT	PX	A14	T		T		REACTOR WATER LEVEL SWITCH EXCEEDED TS LIMIT	SETPOINT DRIFTED BELOW SPEC. (LIS-3-203B)
G	BF1	023191	120178	AM	LG	NN	B07	T		D		WHEELER RESERVOIR LEVEL MONITORING SWITCH FAILED	MOISTURE CAUSED SHORT IN AMPLIFIER
G	BF1	023196	120678	GS	LS	SN	B00	T		T		SCRAM ACCUMLATOR LEVEL SWITCH FOR CRD 18-07 FAILED	UNKNOWN CAUSE,SWITCH NO. SL-1-85-34 REPLA
G	BF1	027775	112979	GS	LS	SN	A14	T		T		LIS-3-184 DID NOT TRIP AT EQUAL OR GREATER THAN //	544 INCHES. INSTRUMENT DRIFT
G	BF1	033810	012480	RE	XS	SA	B08	N		D		TIME DELAY RELAY 2E-K34 FAILED TO TIME PROPERLY	RANDOM MECHANICAL FAILURE
G	BF1	030764	032280	TI	XG	AS	A14	N		T		RHRSW PUMP 93 TIMER OUT OF CALIBRATION	INSTRUMENT DRIFT
G	BF1	031545	060480	MO	RR	NN	A08	T		D		DRYWL AIR SAMP SYS VAC PMP RM190256 INADQ VACUUM	NORMAL WEAR FROM OPERATION
G	BF1	031749	062680	GS	LT	PX	A13	M		T		SCRM DSCHRG VOL HI WTR LS-84-45A OUT OF SPEC	FLOAT STUCK ON LVL SW
G	BF1	033811	082050	MO	RR	NN	B08	N		D		CAMIRM90251 OF TURB BLDG ROOF VENT OOS	VACUUM PUMP FAILED
G	BF1	033234	110780	GS	TS	SH	A14	N		T		HPCI STM LINE SPACE HI TEMP SW TS-73-2E TRP HIGH	TEMP SW HAD DRIFTED
G	BF1	033549	121080	GS	LT	PX	A14	N		T		RX WTR LVL SW LIS-3-2038 SW 1 OOC	SETPOINT DRIFT
G	BF1	036180A	012581	GS	PG	NN	B00	N		U		SBGT "C" RELATIVE HUMIDITY HEATERS MALFUNCTION	PHOTOHELIC PRES SW/GAUGE CKT HH MALFUNCTN
G	BF1	036180B	012581	RE	XG	NN	B00	N		U		SBGT "C" RELATIVE HUMIDITY HEATERS MALFUNCTION	RELAY CONTACT BLOCK MALFUNCTIONED
G	BF1	163125	021181	GS	TG	NN	B00	T		U		RHR AREA COOLING FAN TEMPERATURE SW 1-TS-64-68 FA-	-ILED. NO CAUSE GIVEN
G	BF1	036512	030281	MO	RR	NN	A07	N		T		RX/TURB BLDG VENT EXHST 1-RM-90-250 INOP	WATER IN SAMP LINE DUE TO CONDENSATION
G	BF1	038419	082881	GS	PT	PX	A14	T		T		RECIRC PUMP TRIP RX HI PRES SW 1-PS-3-2048 OOT HI	SETPOINT DRIFT
G	BF1	038668*	090381	CA	NS	SN	A02	M		D	4	SRM'S B,D;IRM'S B,F HAD OPEN CABLES IN DRYWELL	OUTAGE WORK IN ROD GALLERY DAMAGED CABLES
G	BF1	038669	090881	MO	RR	NN	A13	N		T		TURB BLDG VENT EXHST RAD MON INOP DUE TO LOW FLOW	LOOSE BELT ON SAMPLE PUMP
G	BF1	039267	102781	PS	XS	IC	B13	N		D		CAD TANK "A" INDICATED BELOW MINIMUM OPERABLE LVL	LEAKY CAP IN PWR SUP OUTPUT VOLTAGE DROPD
G	BF1	039381	111181	GS	LG	NN	A14	T		T		1-LIS-3-2038 SW #2 OOC (LOW)	CALIBRATION HAD DRIFTED
G	BF1	039362	111281	TX	PS	SL	A14	T		T		1-PT-74-65 FOUND OUT-OF-TOLERANCE	INSTRUMENT DRIFT
G	BF1	039388	111481	MO	RR	NN	A14	T		T		CNTNS AIR MON 0-RM-90-252 READ DWNSCL	COUNTING RATEMETER DRIFTED
G	BF1	171781	111981	TX	LG	NN	A14	T		T		CAD TANK LEVEL TRANSMITTER LT-84-2 FOUND OOC LOW -	-BY 5%. INSTRUMENT DRIFT
G	BF1	171610	120781	GS	PG	NN	A14	T		T		PRESS SWICH 1-PS-1-72 IN MSL OP BELOW SPEL LIMIT	INSTRUMENT DRIFT
G	BF1	171609	120881	MO	RT	PX	A14	N		T		MSL RAD MONITOR GAVE A BAD READING	AMPLIFIER DRIFT
G	BF2	014662*	041276	RE	DC	NN	B04	T		D	5	FIVE REED RELAY FAILURES DISCOVERED	FAILED CONTACTS ON REED RELAYS/DESIGN ER.

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	BF2	019395	101977	GS	PT	PX	A14	T		T		DRYWELL PRESSURE SWITCH DRIFTED BEYOND SET POINT	SETPOINT DRIFT OF PS-64-56C
G	BF2	020379	110378	GS	PG	NN	B12	T		T		RX PRESS SWITCH PS-68-95 WOULD NOT FUNCTION	MOISTURE CAUSED CORROSION OF CONTACTS
G	BF2	022863	110378	GS	PG	NN	B08	T		T		RX PRESS SWITCH PS-68-96,SW 1 FAILED TO OPERATE	SWITCH NEEDED TO BE EXCERCISED
G	BF2	025176	021479	PS	DG	NN	B13	N		T		ROD POSITION INDICATION LOST	POWER SUPPLY FAILED DUE TO LOSS OF FAN
G	BF2	025675	041479	MO	RR	NN	A13	T		U		RX BLDG,TURBINE BLDG & REFUEL ZONE EXHUST MON RM-/	190-250 FAILED. INPUT CARD REPLACED
G	BF2	025954	051079	GS	LT	PX	B00	T		U		SCRAM ACC LEVEL SWITCH LS-2-85-34 WOULD NOT OPERAT	CAUSE OF THE SWITCH FAILURE IS UNKNOWN
G	BF2	026332	061579	GS	PT	PX	A14	T		T		RX HIGH PRESSURE SWITCH PS-S-22D EXCEEDED TS LIMIT	SWITCH HAD DRIFTED
G	BF2	026610	080279	GS	PT	PX	A14	T		T		SETPOINT FOR PRESSURE SWITCH PS-64-57A OOC	INSTRUMENT DRIFT
G	BF2	027741	112179	GS	PS	IC	A14	T		T		PCIS,LP MAIN STEAM LINE PS SETPOINT FOUND OOC LOW	SETPOINT DRIFT
G	BF2	027845	120579	GS	FS	SN	A14	T		T		MAIN STEAM LINE HIGH FLOW SW PDIS-1-50D UOC	MODEL 278 SWITCH HAD DRIFTED
G	BF2	028021	122379	IN	PG	IC	B13	N		U		DRYWELL TO TORUS DP IND PDI-64-137 FOUND INOPERABL	BLOWN FUSE,NO CAUSE GIVEN FOR BLOWN FUSE
G	BF2	030024	122979	GS	LS	SN	B00	T		U		SW # 1 ON LITS-3-58D,RX WTR LEVEL,FAILED TO OPERAT	NO CAUSE GIVEN FOR SW FAILURE
G	BF2	030416	021380	MO	RT	PX	B09	N		U		"B" STM LINE 2-RM-90-138 FAILED DWNSCL	LOSS OF PWR OUTPUT FROM PWR DRAWER
G	BF2	030635A	021380	ZZ	XC	PX	B00	N		U		ROD BLOCK MONITOR "A" BYPASSED	COLD SOLDER JOINT REPAIRED
G	BF2	030635B	030980	GS	XC	PX	B00	N		U		ROD BLOCK MONITOR "A" BYPASSED	RCL ELEC SW MOD 300 REPAIRED CHNL CALIBRA
G	BF2	030893	041380	AM	FT	PX	B14	N		T		FLOW SIG TO APRM CH A, C, & E HIGHER THAN NORMAL	OUTPUT OF PROPORTIONAL AMP DRIFTED HIGH
G	BF2	031097	042180	GS	PT	PX	A14	N		T		RX HP SW PS-3-22D EXCEEDED SETPOINT	SETPOINT DRIFT
G	BF2	031890	071280	LS	DT	PX	B12	N		T		LIMIT SW ON MSIV 1-38 INOPERABLE	CORROSION FROM STM TUNNEL WARM, MOIST AIR
G	BF2	032024	071580	GS	PS	SD	A14	N		T		CORE SPRAY DISCHARGE PS 2-PS-75-35 OOC	INSTRUMENT DRIFT
G	BF2	032899A	100980	GS	LC	NN	B00	M		U		SCRAM ACC LVL SW REPLACED	RANDOM FAILURE
G	BF2	033213*	111980	CA	NT	PX	B00	N		U	3	IRM'S B,D,&H DID NOT RESPND CABLE ON H & CONNECTO	//RS ON B & D REPAIRED. UNKNOWN CAUSE
G	BF2	033547	121580	GS	LT	PX	A14	N		T		RX WTR LIS-3-56A SW 2 SETPOINT OOC	MODEL 4418C SETPOINT DRIFTED
G	BF2	033694	123080	TX	FG	NN	A14	N		T		FLOW SYSTEM DECLARED INOPERABLE	MODEL 555 XMITTR FT77-16 INSTRU DRIFT
G	BF2	036008B	010281	GS	LS	SN	A14	T		T	2	SCRAM DSCHRG VOL 2-LS-85-45C/D OOC	SETPOINT DRIFT
G	BF2	036625	032561	GS	LG	NN	B00	N		U		HPCI TURBINE OOS TO REPAIR DFCTV SW 2-LS-73-5	NO CAUSE GIVEN FOR DEFECT
G	BF2	036777	040681	GS	LC	NN	A14	T		T		LEVEL SWITCH 2-LS-85-45A SETPOINT OOT (HIGH)	SETPOINT DRIFT
G	BF2	037176	050581	IN	XG	SQ	A00	T		U		ANNUNCIATOR FAILED TO OPERATE	RELAY 23AK51 FAILED
G	BF2	166660	051281	GS	LS	SN	B08	T		U		SCRAM DISCHR VOLUME LEVEL SW 2-LS-85-45A FAILED	FLOAT HAD BECOME DISCONNECTED
G	BF2	038010	060481	GS	PS	SN	A14	T		T		SWITCH 2-PDIS-75-56 OOT (LOW)	MODEL 288 D/P SW SETPOINT HAD DRIFTED
G	BF2	037832	070281	GS	PS	SQ	B12	T		U		RX LP PRMSSV SW 2-PS-68-96 #1 FAILED TO OPERATE	STUCK SWITCH-REASON UNKNOWN
G	BF2	038931*	100581	TX	LS	IC	A14	T		T	2	TORUS WATER 2-LT-64-54,-66 OOT	CALIBRATION HAD DRIFTED
G	BF2	039243	102981	IN	PG	IC	A14	N		T		D/W TORUS D/P OOT (LOW)	SETPOINT DRIFT
G	BF2	172030	123181	GS	LS	SN	B00	T		U		SCRAM DSCHRG LVL SW 2-LS-85-45E FOUND INOPERABLE	SWITCH FAILURE
G	BF3	016057	092376	CA	XG	SN	B13	T		T		RHR PUMP 3C FAILED TO START	OPEN CABLE IN RHR LOGIC,CABLE REPLACED
G	BF3	017529	031477	GS	PT	PX	A14	T		T		DRYWELL HIGH PRESS SWITCH PS-64-56A EXCEED TS LIM.	SETPOINT DRIFT
G	BF3	022087	070878	IN	DG	SQ	B09	N		T		RCICS DISCHARGE VALVE IND. LIGHT WAS NOT ON	SHORT CIRCUIT IN AN INDICATING LIGHT CIR.
G	BF3	022456	091178	CA	FS	SQ	B09	T		T		RCIC TUR. HIGH STEAM FLOW SW.PDIS-71-1B FOUND INOP	BROKEN WIRE DUE TO LOOSE CONNECTION
G	BF3	025088	011179	GS	LG	NN	B14	T		T		SW ON LIS-3-56B,RRP MOTOR GEN FIELD TRIP,FAILED	FOUND TO BE OUT OF CALIBRATION
G	BF3	026399	062779	CA	XS	SQ	B00	T		U		NO SPEED INDICATION AVAILABLE FOR RCIC PUMP	BROKEN WIRES ON MAGNETIC PICKUP
G	BF3	026618	072379	GS	PT	PX	A14	T		T		RX LOW PRESSURE SWITCH 68-96 SW #1 SETPOINT LOW	INSTRUMENT DRIFT
G	BF3	028032A	121679	ZZ	NT	PX	A14	T		T		APRM "B" HIGH FLUX WAS FOUND TO BE GREATER THAN //	120 PERCENT. INSTRUMENT DRIFT
G	BF3	028032B	121679	IN	NC	PX	A00	T		U		APRM "D" INOP ROD BLOCK AND ANNUNCIATOR TRIPPED//	WITH 12 INSTEAD OF 13 INPUTS. UNKNOWN
G	BF3	030888	040480	RE	XS	IC	B07	N		T		PRIMARY CNTNMNT ISOL SYS VLVS FAILED CLOSED	RELAY OVERHEATED
G	BF3	031324	051980	GS	PS	SL	A14	N		T		RX LP SW PS-3-74B SW 1 OUT OF TOLERANCE	INSTRUMENT SETPOINT DRIFT
G	BF3	031407	052780	TX	FG	NN	B00	N		U		DRYWELL SUMP FLO XMITTR FT-77-16 OUTPUT SIG SHIFT	CAUSE OF SHIFT UNKNOWN
G	BF3	032459	082980	RE	TS	SL	B00	M		U		3A RHR PMP AREA COOLER FAN THRML OVRLD RLY FAILED	RANDOM FAILURE DEFECTIVE OVERLOAD RELAY
G	BF3	033052	101780	GS	PT	PX	A14	N		T		DRYWELL HP PS-64-58B SW 2 ABOVE TECH SPEC LIMIT	MODEL 12NAA4 DRIFTED OUT OF TOLERANCE
G	BF3	033354	111880	GS	PS	SL	A14	N		T		RECIRC DSCHRG VLV ACTVTN 3-PS-68-95 SW 1 BELOW TS	MODEL B2T-M12SS SETPOINT DRIFTED
G	BF3	033746	121080	MO	RR	NN	B09	N		D		CAM 3-RM-90-250 INOP	WINDOW CRD IN MODEL AM-331F(BF) MALFUNC
G	BF3	036312	021381	GS	PS	SL	A14	T		T		D/W HP SW 3-PS-64-58C (LPCI PRMSSV) OOT (HIGH)	SETPOINT DRIFT

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE&CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	BF3	036778	040881	IN	LG	SN	B12	M		U		RX WTR 3-LI-3-46B OOS FOR MAINTENANCE	FAULTY BRG CAUSED IND MOVEMENT TO STICK
G	BF3	036991	041481	MO	NC	NN	A14	N		T		CMFLPD EXCEEDED TECH SPEC LIMIT	LPRM DRIFT DURING/PRIOR TO CALIBRATION
G	BF3	038427	082281	MO	RT	PX	A14	T		T		MAIN STM LINE RADIATION "D" HI ALRM OOT (HIGH)	SETPOINT DRIFT
G	BF3	038540	083081	GS	LS	SN	B00	T		U		SDV 50 GALLON SCRAM SW 3-LS-85-45B FAILED TO OPER	NO CAUSE GIVEN
G	BF3	038712	090881	IN	TG	IC	A14	N		T		INDICATOR 3-TI-64-55 GAVE ERRONEOUS INDICATION	INDICATOR CALIBRATION HAD DRIFTED
G	BF3	038939	093081	GS	PS	IC	A14	T		T		PS-64-67 (D/W HP) OPERATED ABOVE TECH SPEC LIMITS	CALIBRATION HAD DRIFTED
G	BF3	038999	100781	GS	LG	CI	A14	T		T		RX WATER LIS-3-58D #1 (LPCI & CORE SPRAY INIT) OOT	CALIBRATION HAD DRIFTED
G	BF3	172156	122181	IN	LG	CT	B00	T		U		FW LVL INDICATOR LI-3-46B OOC BY 13 INCHES	INTERNAL PROBLEMS
G	BP1	018101	050377	PS	PS	SA	B13	M		T		ACT. CIRCUITRY,CH4 OF RX DEPRESS. SYS. FAILED	FAILED DUE TO FAILED POWER SUPPLY
G	BP1	018663	072877	SE	LS	SA	A14	T		T		STEAM DRUM LOW LEVEL SENSOR EXCEEDED TRIP SETPOINT	SETPOINT DRIFT
G	BP1	018883*	081277	PS	FG	SF	B13	T		D	2	BOTH CONT. SPRAY FLOW TRANSM. GROSSLY INACURATE	TRANSISTOR FAILURES IN D&C PWR SUPPLY
G	BP1	020937	040778	GS	PT	PX	A14	T		T		VACUUM SWITCH SETPOINT FOUND TO BE OUT OF T/S TOL.	SETPOINT DRIFT (MINOR)
G	BP1	021438	051278	GS	PG	SN	A00	T		U		ACCUMULATOR PRESSURE SWITCH OPERATING TOO LOW	CAUSE UNKNOWN (DRIVE A5)
G	BP1	021986	071278	IN	PG	SN	B13	N		T		ANNUNCIATOR CIRCUITRY FAILED BLOWING PS FUSE	FAILED DIODES IN AMPLIFIER
G	BP1	027986	103079	PS	XS	IC	B13	N		T		POWER SUPPLY ES 8501A FAILED	TRANSISTOR FAILED
G	BP1	030238	012380	ZZ	XS	SA	A00	N		U		AUTO TST CKT ALRM IND "D" RX DEPRESS SYS WAS REMVD	// FOR TRBLSHTNG. UNKNOWN CAUSE & COMP
G	BP1	032022	071380	IN	PG	IC	A13	N		T		VISUAL ALRM ON CONT PRES IND ON UNIT P15-173	DEFECTIVE ELECTRONIC COMPONENTS IN UNIT
G	BP1	033693	123080	TX	LS	SN	A00	N		U		CHTNMNT BLDG LVL XMITTER INDICATED LO LVL OUTPUT	EXACT CAUSE OF XMITTER DEFICIENCY UNKNOWN
G	BP1	036893	040781	IN	PG	IC	B00	N		U		CNTRL UNIT IND PORTION INADQ PRES DISPLAY PUT OOS	DEFECTIVE NEON LAMP ELEMENT
G	BP1	037357	050781	CL	TG	SN	B13	N		U		RX VESSEL LVL SENSING CHAMBER TEMP OOT (HIGH)	FAILD CAP IN TEMP CNTRL CKT OF TEMP SW
G	BP1	037801	061781	PS	XS	SA	B00	M		U		"B" RX DEPRESSURIZG SYS INVERTER PWR SUP REMVD F//	OR MAINT. DFCTV ELECTRONIC COMPONENTS
G	BR1	016827	111876	GS	FG	NN	B13	T		T		LOW FLOW INTERLOCK SWITCH FOUND OPERATING ERRATIC	4 BAD TRANSISTORS,TRANSISTORS REPLACED
G	BR1	016851	121576	MO	RT	PX	B13	T		T		MAIN STEAM LINE D RAD MON. DISCOVERED OUT OF CAL.	COMPONENT FAILURE,MONITOR RECALIBRATED
G	BR1	016934	011077	AM	NC	SN	B13	N		T		ROD BLOCK MONITOR B HAD EXCESSIVELY LOW READING	FAILED AMPLIFIER
G	BR1	017082	012677	GS	PT	PX	A05	T		D		HIGH DRYWELL PS C71-PS-N002C FOUND TO HAVE FOR.SUB	FOREIGN SUBSTANCE BEEN THERE SINCE INSTAL
G	BR1	017600	021077	GS	PS	SD	A14	T		T		RX LOW PRES. SW B21-PS-N021A SET TO HIGH	SETPOINT DRIFT (CORE SPRAY VALVE OPENING)
G	BR1	018544	071377	MO	RT	PX	A14	T		T		MS LINE HIGH RADIATION INST. FOUND OUT OF CAL.	SETPOINT DRIFT,D12-RM-K603C
G	BR1	018889	081577	MO	RT	PX	A00	T		U		HIGH STEAMLINE RAD MONITOR SETPOINT FOUND TO BE HI	UNKNOWN CAUSE,INST. ID D12-RM-K603A
G	BR1	019148	092377	GS	LG	CT	B05	T		D		CONDENSATE STORAGE TANK LOW LEVEL SW FAILED TO OP.	SLUDGE IN FLOAT CHAMBER,E41-LS-N002
G	BR1	019332	092777	MO	RR	NN	B00	T		U		RX BLDG VENT EXHUST RAD MONITOR FAILED DOWNSCALE	UNKNOWN CAUSE,INST ID D12-RM-N010A
G	BR1	019388	101277	ZZ	NC	SN	B09	M		T		FUSE F1 ON RBM "A" BLEW	FUSE REPLACED,RBM "A" RETURNED TO SERVICE
G	BR1	019561	103177	CM	LS	SN	A14	T		T		RX LOW LEVEL #2 GROUP I ISOLA. SW SETPOINT WRONG	SETPOINT DRIFT,INST. ID. B21-LIS-N024B
G	BR1	019826	112977	GS	TG	SQ	B00	T		U		SUPP POOL AREA VENT HIGH DT RCIC ISOLA SW FAILED	UNKNOWN CAUSE,SWITCH ID E51-TS-N604B
G	BR1	020384A	011778	IN	NG	PX	A14	T		T		IRM "A" METER FOUND OUT OF CALIBRATION	METER RECALIBRATED AND RETURNED TO SERVIC
G	BR1	020384B	011778	IN	NG	PX	B00	N		U		IRM "C" WAS FOUND TO BE NOT RESPONDING	CAUSE NOT SPECIFIED
G	BR1	020679	012878	CM	NT	PX	A14	T		T		APRM CHANNEL E TRIPED AT >120 PERCENT (122 PER)	SETPOINT DRIFT
G	BR1	020680	021478	CM	NT	PX	A14	T		T		APRM CHANNEL C SETPOINT FOUND ABOVE TS LIMIT	SETPOINT DRIFT
G	BR1	020769	030278	ZZ	NC	SN	B13	N		T		ROD BLOCK MONITOR INDICATED DOWNSCALE,INI ROD BLOC	BAD I.C. CHIP
G	BR1	020767	030578	MO	RR	NN	B00	T		U		RM D12-RM-N010B WOULD NOT ISOLATE RX BLDG VENT	INST TECH CHECKED LOGIC CIRCUITS,TEST SAT
G	BR1	021187	041478	MG	RT	PX	A00	T		U		MAIN STEAM LINE RAD MON D12-RM-N603C OUT OF SPECS	INST RECALIBRATED,RETURNED TO SERVICE
G	BR1	021188	041778	CA	DC	NN	B09	N		T		CONTROL ROD POSITION FOR ROD 22-39 READING ERRATIC	GROUNDED WIRE
G	BR1	022701	100678	GS	LG	CT	B14	T		T		CONDENSATE LOW WATER LEVEL SW FAILED TO ACTUATE	INSTRUMENT OUT OF CAL,ID E41-LS-N003
G	BR1	023194	120278	GS	DC	NN	B09	N		T		POSITION IND FOR NOTCH 18 & 28 INOP FOR ROD 02-23	SWITCH 48 HAD A GROUND
G	BR1	025669	042579	CA	DG	NN	A00	N		D		NO INDICATION FROM NOTCH 34 ON CONTROL ROD 34-27	CUT IN WIRE FROM REED SWITCH
G	BR1	025880	042979	GS	DG	NN	A09	T		D		ROD 10-07 HAD NO INDICATION AT NOTCH 47	SWITCH WAS FOUND GROUNDED FOR NOTCH 47
G	BR1	025892	050479	ZZ	DG	NN	A00	N		U		FULL IN OR FULL OUT INDICATION FOR ROD 22-47 LOST	NO CAUSE FOUND
G	BR1	025984	050879	SE	FS	IC	B11	M		D		IND FOR MS LINE FLOW SW,1B21-DPIS-N008A PEGGED HI	BLOCKED SENSING LINE
G	BR1	025961	051079	RC	FG	NN	B13	M		T		DRYWELL EQUIP DRAIN RECORDER FOUND DRIVING DOWN-//	SCALE. MOTOR DRIVE AMP TRANSISTOR FAILED
G	BR1	025985	051379	LM	XG	NN	B09	N		T		COMPUTER FAILED TO VERIFY APLHGR,MIPF,MCPR & LHGR	SCANNING SYSTEM OF COMPUTER WAS CALIBRATE
G	BR1	025960	051579	IN	NC	NN	A14	T		T		APRM "A" UPSCALE ROD BLOCK ALARM WAS OOC HIGH	INSTRUMENT DRIFT

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	BR1	026036*	051779	HS	XG	IC	B09	R		T	3	CONTROL SWITCHES FOR 1E11-F079A,1E11-F080B & 1B32-	F020 FOUND INOPERABLE. SHORTED
G	BR1	026160	060979	SE	DG	NN	A00	N		T		CONTROL ROD 18-23 HAD NO INDICATION FOR NOTCH 30	REED SWITCH FOR NOTCH 30 FOUND DEFECTIVE
G	BR1	026620	071679	SE	NG	NN	B08	N		D		TRANSVERSE INCORE PROBE MACHINE. SPRING TENSION//	HOLDING PROBE TO COUNTER LOUSENED
G	BR1	026619A	071779	ZZ	DG	NN	B13	N		T		FULL-IN INDICATION REMAINED ON AFTER ROD 10-23 OUT	BAD IC CHIP ON PROBE BUFFER CARD
G	BR1	026619C	071979	ZZ	DG	NN	B00	N		U		FULL-IN SIGNAL NOT PROVIDED TO ROD CONTROL FOR ROD	//22-11. LIGHT ISOLATOR HAD BURNED
G	BR1	026517*	072879	SE	DG	NN	A00	N		U	2	NO INDICATION FOR ROD 26-15 AT NOTCH 38 AND NONE//	FOR ROD 18-23 AT NOTCH 30. BAD REED SW'S
G	BR1	026581	080579	PS	XG	NN	B13	N		T		RBM CHANNEL A FAILED DOWNSCALE INOPERABLE	FILTER CAPACITOR IN PS HAD FAILED
G	BR1	026950	090579	RE	DS	SH	B13	N		T		NO INDICATION FOR VALVE POSITION FOR E41-F006,HPCI	BLOWN PS FUSE DUE TO RELAY COIL SHORT
G	BR1	026955	091679	TX	PG	AS	B13	T		T		DP TRANSMITTER 1E11-PDT-N002BX FAILED	TRANSMITTER CAPSULE FAILED
G	BR1	027157	100379	MO	RT	PX	A09	N		T		MS LINE HI RAD MON,D12-RM-K603A,FOUND SPIKING	LOOSE HI VOLTAGE CABLE CONNECTOR
G	BR1	027227	100779	MO	RR	NN	A08	N		T		CAC MONITOR 1263 MADE A 2% INCREASE JUMP	SAMPLE FLOW REG FOUND PARTIALLY CLUGGED
G	BR1	027317	101179	MO	RR	IC	B09	N		D		CAC MONITOR CAC-AT-1259 UNABLE TO TAKE SUCTION ON/	/TORUS. VALVE DIDN'T OPEN DUE TO SWITCH
G	BR1	027440A	110179	IN	FG	SL	B14	N		T		RHR FLOW IND 1E11-FI-3338 INDICATED 2500 GPM WITH/	/NO FLOW. INSTRUMENT DRIFT
G	BR1	027787A	111579	AM	DG	NN	A00	N		U		FULL-OUT NOT BEING RECIEVED BY RSCS FROM ROD 18-31	OPTICAL ISOLATOR FOUND DEFECTIVE
G	BR1	027787B	111579	AM	DG	NN	A13	N		T	2	FULL-IN IND REMAINED ON FOR RODS 18-11&26-11	DEFECTIVE GATE AND SHORT ON BUFFER CARDS
G	BR1	027835	120579	GS	PS	SH	B00	T		U		PRESSURE SW 1E41-PS-N012A,HPCI EXHAUST DIAPHRAM HP	//FOUND INOPERABLE. MICRO SWITCH FAILED
G	BR1	027838*	120679	GS	PS	SH	A00	T		U	2	HPCI ISOLATED DUE TO SPURIOUS INPUTS FROM DP SW'S/	/2-E41-DPIS-N004 & N005. NO CAUSE FOUND
G	BR1	027840	121179	IN	PG	IC	A14	N		T		DRYWELL PRESSURE IND CAC-PI-3341 READING HIGH	INDICATOR ZERO SHIFT
G	BR1	028029	122279	RC	LG	NN	B08	M		U		DISCOVERED TORUS LEVEL INDICATOR CAC-LT-2602 INOP	NO CAUSE GIVEN
G	BR1	030038	011380	SE	DG	NN	B00	T		U		CNTRL ROD 42-35 NO POS IND AT NOTCH 47	FAULT IN REED SW LOCATED IN PIP PROBE
G	BR1	030175	012280	MO	RT	PX	A14	N		T		MAIN STM LINE RAD DRW 1012-RM-K603B OOC	INSTRUMENT DRIFT
G	BR1	030525*	022780	SE	RR	NN	B07	N		T	3	PRIMRY CNTNMNT GAS MON CAC-AQH-1260-3, -1261-3,//	-1262-3 INOP. WTR IN DETECTOR CHAMBER
G	BR1	030755	031880	MO	RT	PX	A14	N		T		HI STMLIN RAD CH DRW D12-RM-K603D OOC	INSTRUMENT DRIFT
G	BR1	030772	031880	MO	RR	SN	A13	N		T		CNTNMNT ATMOS MON CAC-AR-1263 ERRATIC	DET INLT VLV CLOG BY INLT HOSE INTRN SURF
G	BR1	030839	040580	AM	DC	NN	A09	N		D		CNTRL ROD 30-30 ERRONEOUS INDICATIONS	SHORT ON PROBE BUFFER CRD CNNCT PI-176-18
G	BR1	030957	041680	MO	RT	PX	A14	T		T		HI STM LINE RAD CH DRW D12-RM-K603B OUT OF SPEC	INSTRUMENT DRIFT
G	BR1	031409	052580	IN	DC	NN	A00	N		U		ABNORMAL INDICATIONS ON ROD BLOCK MONITOR PANEL	CAUSE UNKNOWN
G	BR1	031410B	052680	SE	NT	PX	A04	T		T		SRM C COUNT RATE DIDN'T DECR WHEN DET OUT OF CORE	PULSE HEIGHT DISCRIMINATOR OUT OF ADJUST
G	BR1	033833A	062880	SE	DG	NN	A00	T		U		POSITION 30 FOR ROD 46-11 DIDN'T INDICATE	DEFECTIVE REED SWITCH
G	BR1	033833B	062880	SE	DG	NN	A13	T		D		POSITIONS 12,13,16,17&19 FOR ROD 14-35 NO INDICATN	LOOSE PIP PROBE CONNECTOR
G	BR1	032026	071580	TX	PG	NN	A14	T		T		CORE SPRAY DISCHARGE 1-E21-PT-N001B OOC	INSTRUMENT DRIFT
G	BR1	031926B	072080	SE	DG	NN	A00	T		U	3	INDICATION PROBLEMS WITH CNTRL RODS 30-35,38-13,//	26-15. DEFCTV ROD POS IND REED SW
G	BR1	032413	082280	IM	DS	SN	A00	N		U		ERRONEOUS ROD BLOCKS FROM RWM SYSTEM	UNKNOWN CAUSE
G	BR1	032452	082280	PS	FG	NN	A13	N		D		DRYWL FLR DRN FLO INTGRTR DID NOT CHANGE WHEN SIG	DYWL FLR DRN FLO XMITTR PWR SUP BLWN FUSE
G	BR1	032453	082780	IN	FG	SL	A08	N		D		ERRATIC IND FROM RHR FLO IND 1-E11-FI-3338	MECH FAILURE OF INDICATOR METER MOVEMENT
G	BR1	032545	090180	IM	DS	SN	A14	N		T		"A" RBM HI FLO TRP ACTUATED OUT OF SPEC (LOW)	INSTRUMENT DRIFT
G	BR1	032659	091280	LS	DG	NN	A08	T		D		RPS CH A LOGIC RLY C71-K3E DIDN'T DE-ENERGIZE	MECH STUCK CNTCT IN VLV POS LIMIT SWITCH
G	BR1	032792	100780	SE	DG	NN	A00	N		U		CNTRL ROD 30-35 HAD NO "FULL OUT" INDICATION	DEFECTIVE ROD POS INDICATION REED SW
G	BR1	033084	110180	MO	RR	SN	A14	N		T		CNTNMNT ATMOSPHERIC MON 1-CAC-AI-1259 INDIC DWNSCL	OOC DUE TO INSTRUMENT DRIFT
G	BR1	033698*	110580	SE	DG	NN	A00	N		U	2	INDICATION PROBLEMS WITH CNTRL RODS 50-27 & 38-23	DEFECTIVE ROD POSITION INDICATION REED SW
G	BR1	033699	122880	IM	DC	NN	B04	N		D		ROD WORTH MINIMIZER INOP	COMPUTER RWM SOFTWEAR DESIGN PROBLEMS
G	BR1	036023A	010381	IM	DS	SN	B00	N		T		CR 26-35 FULL-IN POS IND LIT REGARDLESS OF ACT POS	ROD BUFFR CRD LOGIC CHIP G-33 FAILED EOL
G	BR1	036023B	011381	SE	DS	SN	B00	N		U		NO POS IND FOR ROD 18-51 AT POS "48"	DFCTV REED SW IN PIP PROBE
G	BR1	036023C	011481	SE	DS	SN	B00	N		U	2	RODS 38-31,22-15 LACKED POSITION INDICATION	DFCTV REED SW IN PIP PROBE
G	BR1	038929	011881	GS	DC	NN	B00	T		D		ROD 26-07 WOULD NOT SELECT	LOOSE SOLDER JOINT IN ROD SELECT SW
G	BR1	036258*	012281	SE	DG	NN	B00	N		U	2	ROD 26-35,34-35 NO POS IND AT POS "03","02"	DFCTV ROD POS IND REED SWITCHES
G	BR1	036314	020581	TX	PG	NN	B00	N		U		RX 1-C32-PT-3332 INPUT SIG SPAN OUT OF SPEC	SHIFTED DIAPHRAGM IN INDICATOR XMITTER
G	BR1	036386*	020981	GS	PG	NN	A14	T		T	2	MSL 1-B21-DPIS-N006D,-N007D OOT (HIGH)	INSTRUMENT DRIFT
G	BR1	036653	030281	GS	LS	SN	B00	T		D		LO LVL SW 1-B21-LIS-N031B-2 WOULD NOT ACTUATE	LOOSE SET SCREW PREVNT SW CNTCTS FRM CLSG
G	BR1	036610A	032581	RC	RG	NN	A14	N		T		HI EFF RAD DETECTED BY RADWST SYS DSCHRG MON	RECORDER OOC DUE TO INSTRUMENT DRIFT

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	BR1	036610B	032581	MO	RR	NN	A14	N		T		HI EFF RAD DETECTED BY RADWST SYS DSCHRG MON	MONITOR LOG RATE INTEGRATOR OOC DRIFT
G	BR1	038749A	092481	SE	DS	SN	B00	N		U		CR 26-31 ROD DRIFT ALARM ACTIVATED ERRONEOUSLY	FAILED REED SW IN POS IND PROBE OF CR
G	BR1	038749B	092581	SE	DS	SN	B00	N		U		CR 02-31 DID NOT HAVE RTGB POS IND AT NOTCH "30"	FAILED REED SW IN POS IND PROBE OF CR
G	BR1	038870	092781	TX	FG	NN	B00	N		U		HI FLO SIG FROM C MSL HI FLO INSTR 1-B21-PDT-N008C	CAUSE COULD NOT BE DEFINITELY DETERMINED
G	BR1	038928A	100281	GS	PS	IC	A14	T		T		BUTTERFLY VLV 1-CAC-V17 OPENED OOT (LOW)	AUTO-OPEN ACTUATION SW DRIFTED
G	BR1	038839	100381	SE	DS	SN	B00	N		U		CR 14-43 DID NOT HAVE FULL-IN OR OO RTGB POS IND	DFCTV ROD POS IND PROBE REED SWITCH
G	BR1	038896	100781	GS	PS	IC	B00	N		U		LP SIG FROM B MSL LP INSTR 1-B21-PS-N015B	INSTR DIAPHRAGM CAUSED IRREGULARITIES
G	BR1	038928B	101781	GS	PS	IC	A14	T		T		BUTTERFLY VLV 1-CAC-V16 OPENED OOT (LOW)	AUTO-OPEN ACTUATION SW DRIFTED
G	BR1	039118	103081	SE	DS	SN	B00	N		U		CR 34-39 DID NOT HAVE RTGB POS IN AT POS "06"	DFCTV ROD POS IND PROBE REED SWITCH
G	BR1	039390	111681	SE	FG	NN	B00	T		U		RHR SYS FLO IND REC'D AN APPLIED INPUT TEST SIG	INPUT CKT RESISTOR R5 WAS OPENED
G	BR1	171552	112481	ZZ	NG	NN	A08	N		D		C TIP MACHINE WOULD NOT RETRACT	ISOL BALL VLV ISOL SHEAR VLV INOP
G	BR1	171890	112481	SE	DS	NN	B00	N		U		RPI POSITION INDICATION FOR ROD 34-39 FAILED	FAILED REED SWITCH
G	BR1	171582	120481	SE	DS	SN	B00	N		U		CR 26-31 IND FAILED TO SHOW FULL IN RTGB POSITION,	PROBABLY DEFECT ROD POS IND PROBE REED SW
G	BR1	172043	122681	IN	LG	PX	A00	R		D		RPS VESSEL LO LVL TRP INSTR 1-B21-LT-N017D-1 IND//	UPSCALE NOT RECORDED. LICENSED OPER ERR
G	BR1	172360	122881	GS	LT	PX	B00	N		U		RX LVL INSTR 1-B21-LT-N017D-1 INDICATING UPSCALE	VALVE STEM PACKING LEAK
G	BR2	014133	010276	ZZ	TG	SQ	A00	N		U		RCIC ISOLATED ON HIGH AMBIENT TEMPERATURE	CAUSE UNKNOWN AND SYSTEM IMEDIATELY RESET
G	BR2	014126	011076	GS	PS	IC	A14	T		T		PRI CONT. ISO. LOW STEAM LINE PRESS SW FOUND OOC	SETPOINT DRIFT OF B21-P6-N0-15D
G	BR2	014196	011776	GS	TG	SH	A00	N		U		HPCI SYSTEM ISOLATED THROUGH DT SW E41-TDS-N601A	CAUSE UNKNOWN,OP RHR ROOM COOLERS CL ISO.
G	BR2	014637	030576	MO	TG	NN	A12	T		T		PRI CONT TEMP RECORDER INDICATING IRRATIC	RELAY CONTACTS STICKING,2-CAC-TR-1258
G	BR2	014630	030676	GS	PS	SN	A14	T		T		MAIN STEAM LINE LOW PRESS SWITCH FOUND OUT OF CAL	SETPOINT DRIFT OF 2-B21-PS-N015A
G	BR2	014620	031276	GS	LG	CT	A14	T		T		CONDENSATE STORAGE TANK LOW LEVEL ALARM,ALARMED HI	SETPOINT DRIFT OF E41-LS-N003
G	BR2	015404	061376	RC	XG	NN	A00	T		U		CONT O2 RECORDER 2-CAC-AR-1259-2 INDICATED HIGH	NO MALFUNCTION FOUND
G	BR2	015428	071376	GS	PS	SL	A14	T		T		LOW REACTOR PRESSURE SWITCH FOUND OUT OF CAL LOW	SETPOINT DRIFT OF 2-B21-PS-N021B
G	BR2	015435	080876	GS	DG	SL	B08	T		T		"A" RHR COOLER BLOWER FUNCTIONING IMPROPERLY	BLOW SWITCH ACTUATING ARM BECAME LOOSE
G	BR2	015943	083176	RC	TG	NN	A12	T		T		CONTAINMENT TEMP RECORDER FOUND DRIVING DOWN SCALE	SLIDE WIRE AND CONT. DIRTY,2-CMC-TR-1258
G	BR2	016064	100276	GS	LS	SN	A14	T		T		RX LOW WATER LEVEL SW FOUND TO HAVE HIGH SETPOINT	SETPOINT DRIFT OF B21-LIS-N017D
G	BR2	016820	121076	GS	LG	SH	A14	T		T		HPCI CONDENSATE STORAGE TANK LEVEL INTER SW. OOC	SETPOINT DRIFT OF E41-LS-N003
G	BR2	016821	121776	GS	LG	SQ	B02	T		D		RCIC STEAM LINE DRAIN FOUND FULL W/O SW ACTUATING	E51-LSH-N010 FOUND LOOSE IN MOUNT BRACKET
G	BR2	016819A	010577	SE	TG	SQ	B08	N		T		RCIC SYS ISOLATED ON SPURIOUS SIGNAL	SHORT ON THERMOCOUPLE E51-TE-N023A
G	BR2	016819B	010577	CA	TG	SQ	B08	T		T		RCIC SYS ISOLATED ON SPURIOUS SIGNAL	TERM SCREW OF DT SW E51-DTS-N601A LOCSE
G	BR2	017324	030477	ZZ	TG	SH	B13	T		T		HPCI EQ ROOM VENT HIGH DT MODULE FAILED TO ACTUATE	FAILED MODULE,E41-N601A
G	BR2	017533	040577	GS	PS	SL	A14	T		T		RX PRESS HIGH S/D COOLING ISO SW FOUND OOC HIGH	SETPOINT DRIFT OF B32-PS-N018B
G	BR2	018151	041077	GS	LS	SQ	B13	T		T		CONDSATE STORAGE TANK LOW WATER SW DECLARED INOP	INSTRUMENT FAILURE OF E41-LS-N003
G	BR2	018677*	062977	GS	FS	SN	A14	T		T	2	MAIN STEAM LINE HI FLOW SWITCHES FOUND OOC HIGH	SETPOINT DRIFT OF B21-DPIS-N008C,9D (40%)
G	BR2	020204A	122577	AM	LS	IC	B13	T		T		TORUS LEVEL FOUND OUT OF T/S LIMITS FOLLOWING CAL.	AMPLIFIER FOR CAC-LT-2601 REPLACED
G	BR2	020766	022878	MO	RR	NN	A14	T		T		CONTAINMENT RAD. MON. CAC-AQH-1260-2 IND DOWNSCALE	DRIFT CAUSED BY SLIDE WIRE POTENIOMETER
G	BR2	020971*	022878	GS	TG	NN	A07	N		D	2	2A SBGT FIRE DETECTION INITIATED A WATER DELUGE	TEMP SW TS5 & TS6 HAD CONDENSATE ON THEM
G	BR2	020917	040378	CA	NI	PX	B12	T		T		IRM E HAD NO RESPONSE TO CHANGING FLUX	DIRTY AND WET DETECTOR CABLE CONNECTIONS
G	BR2	021486	050978	GS	LS	SN	A14	T		T		SUPP POOL HIGH WATER LEVEL SW FAILED TO ACTUATE	SETPOINT DRIFT DUE TO WEAR,E41-LSH-N015B
G	BR2	021771	062278	HS	NC	NN	B13	N		T		ROD SELECT SW FAILED TO RETURN FROM PUSHED-IN POS.	DEFECTIVE ROD SELECT SWITH,BEING REPLACED
G	BR2	022452	090478	RE	TG	SQ	B13	N		T		RCIC CH A TRIPPED MOMENTARILY CAUSING RCIC INOP.	FAILED RX-2 RELAY CAUSED FALSE ISOLATION
G	BR2	022464	090478	IM	NC	NN	B13	T		T		ROD BLOCK MONITOR "B" INOP TRIP CAME ON	FAILD INTEGRATED CIRCUIT
G	BR2	022822	110178	IM	NC	NN	A14	T		T		ROD BLOCK MONITOR CHANNEL A FOUND OUT OF CAL.	SETPOINT DRIFT
G	BR2	025733	041979	GS	XG	NN	B00	T		U		TURBINE VALVE FAST CLOSURE SW TIME SET TOO LOW	NO CAUSE GIVEN,SWITCH REPLACED
G	BR2	025889*	050779	LS	XG	IC	A14	T		T	3	MSIV LIMIT SWITCHES 2B21-F022A,B & C FOUND OOT	SWITCHES WERE ADJUSTED
C	BR2	025988	051079	TX	FG	NN	B07	N		D		DRYWELL EQUIP DRAIN RECORDER READ DOWNSCALE	AIR TRAPPED IN SENSING LINES & XMITTER
G	BR2	026156	052579	TX	FG	NN	A07	T		D		DRYWELL FLOOR DRAIN INTEGRATOR OOC.(2G16-FT-N013)	XMITTER WAS WET SUPPOSED TO BE DRY DRG CA
G	BR2	026157	061279	CA	DG	NN	B09	N		U		INDICATIONS FOR MSIV'S LOST. POWER LEAD TO DC SO/	/LENOID TERMINATED AT AC SOLENOID
G	BR2	026628	080379	SE	DG	NN	A00	N		U		FULL OUT INDICATION FOR ROD 42-23 NOT RECEIVED	PROBLEM IN PIP PROBE
G	BR2	026737	081079	MO	RT	PX	A14	T		T		HI STEAM LINE RAD MON FOUND TO BE ACTUATING TO HI	INSTRUMENT DRIFT OF CHANNEL "D"

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE&CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	BR2	026733	081579	GS	PS	SN	A14	T		T		B21-PS-N021D,RX LOW PRESS,FOUND OUT OF TOLERANCE	INSTRUMENT DRIFT
G	BR2	026771	081879	ZZ	FG	NN	A00	N		U		LOW FLOW INDICATED ON 2-CAC-1263	NO CAUSE FOUND
G	BR2	026953B	091079	CA	NT	PX	B00	T		U		APRM "B" OUT OF SERVICE DUE TO OPEN SIGNAL LEAD	NO CAUSE GIVEN. APRM "B" WILL BE REPLACE
G	BR2	027714	101979	IM	DG	NN	B02	N		D		TORUS LEVEL HIGH/LOW ALARM DID NOT ALARM	ANNUNCIATOR CARD LOGIC INCORRECT
G	BR2	027442	110479	LS	DG	IC	B00	T		U		DRYWELL TO TORUS VCM BKR 2-CAC-X18D HAD NO CLOSE /	/INDICATION DUE TO BAD LIMIT SWITCH.
G	BR2	027680	112079	AM	NT	PX	A14	N		T		PRE-AMP FOUND OOT FOR IRM "D"	INSTRUMENT DRIFT
G	BR2	027785	112079	AM	DG	NN	A00	N		U		FULL-OUT INDICATION NOT RECEIVED FROM ROD 06-27	DEFECTIVE OPTICAL ISOLATOR
G	BR2	027844	121479	LS	DG	IC	B00	T		U		DRYWELL-TORUS VAC BKR CLOSE IND FAILED TO D-ENERG/	/IZE. LIMIT SWITCH FAILED(INDICATION)
G	BR2	030025	010280	SE	DG	NN	A00	N		U		RSCS WOULDN'T PULL RODS UNTIL ROD 34-27 WAS BYPASS	DEFCTV "FULL-IN" ROD 34-27 REED SWITCH
G	BR2	030039A	010380	SE	DG	NN	A00	N		U		NO POS IND AT NOTCH 48 FOR CONTROL ROD 26-07	FAULTY REED SW IN PIP PROBE
G	BR2	030044	010580	GS	PG	NN	B00	M		U		ISOL VLV FOR PS 2-E11-PS-N010D SHUT SW INOP	UNKNOWN CAUSE FOR VLV BEING SHUT
G	BR2	030039B	010980	SE	DG	NN	A00	N		U		NO POS IND AT NOTCH 7 FOR CONTROL ROD 34-35	FAULTY REED SW IN PIP PROBE
G	BR2	030035A	011080	LM	XG	NN	B00	N		U		COMPUTER HAD SOFTWARE STALL & COULDN'T STAY ON LIN	UNKNOWN
G	BR2	030035B	011080	RC	TG	NN	B00	N		U		TEMPERATURE RECORDER CAC-TR-1258 POINT 14 INOP	UNKNOWN
G	BR2	030188	011680	GS	LS	SN	B14	M		T		LEVEL SW E41-LSH-N015A INOP	OOC DUE TO INSTRUMENT DRIFT
G	BR2	030203	011780	RC	LG	SN	A00	N		U		TORUS LVL RECORDER 2-CAC-LR-2602 RDG ERRONEOUSLY	MISSING SCREW ON PIN MOUNTING ASSEMBLY
G	BR2	030452A	021980	MO	RR	SN	B00	N		U		CNTNMNT ATMOS MON CAC-AT-1263 INOP DUE TO LO FLOW	UNKNOWN
G	BR2	030452B	022780	MO	RR	SN	B00	M		U		CNTNMNT ATMOS MON CAC-AT-1263 WOULD NOT CALIBRATE	UNKNOWN
G	BR2	030790	032580	GS	LC	NN	B09	T		D		LEAK DET LVL SW FOR HCU 26-47 DID NOT ACTUATE	SW CONTACTS WERE NOT MAKING
G	BR2	031091A	042480	IM	NT	PX	B00	M		U		IRM A FAILED UPSCALE	DEFCTV CAL AND DIODE LOGIC MODULE
G	BR2	031174B	050280	PS	NT	PX	B0G	M		U		IRM "H" INOP DUE TO POWER SUPPLY PROBLEM	UNKNOWN TROUBLESHOOTING CONTINUING
G	BR2	031273A	051680	ZZ	NG	NN	B00	T		U		SRM A DIDN'T GIVE FULL IN OR OUT INDICATION	BLOWN DRIVE CIRCUIT FUSES
G	BR2	031273B	051680	SE	NT	PX	A07	T		T		SRM D PRODUCED ERRATIC INDICATIONS	MOISTURE IN THE DETECTOR CONNECTOR
G	BR2	031731	070180	GS	PS	IC	A14	T		T		PS 2-C72-PS-N002B ACTUATES OUT OF TOLERANCE	INSTRUMENT DRIFT
G	BR2	032548*	090380	ZZ	DG	SN	A13	N		U	3	CNTRL RODS 22-31,26-23,26-19 HAD POS IND PROBLEMS	DEFCTV TRANSISTOR IN INSTRUMENTAIN EQUIP
G	BR2	033878	090380	TX	FS	SL	B00	M		T		SQR ROOT XMITTR 2E11-FY-3338 INOPERABLE	DFCTV RESISTOR R5 NAT'L END OF LIFE
G	BR2	032708B	091580	IN	LG	SN	A14	T		T		TORUS HIGH LVL ALARM OUT OF CALIBRATION	INSTRUMENT DRIFT
G	BR2	032905	101180	RE	DG	NN	B12	T		T		SRM "C" WOULD NOT WITHDRAW	STICKING RELAY IN DET DRIVE CONTROL CKT
G	BR2	032999	101980	MO	RR	IC	B11	T		T		RIP ISOL VLV X76B CLOSED CAC MON 1259-61 INOP	LOSS OF SAMPLE FLOW THROUGH PENETRATION
G	BR2	033055	102280	GS	PS	SL	B11	N		T		"A" LOOP OF RHR SERVICE WTR SYS INOPERABLE	CRACKED SENSING LINE ON 1-SW-PS-1176
G	BR2	033058*	102680	HS	XC	NN	B00	M		U	2	RODS 34-23,18-23 WOULD NOT SELECT	ROD SELECT SWITCHES FAILED END OF LIFE
G	BR2	033089	110280	SE	DC	NN	B00	N		U		CNTRL ROD 30-11 INDICATION PROBLEMS	REED SW IN ROD POS IND PROBE FAILED
G	BR2	033835	120280	CN	FG	NN	A14	N		T		DRYWELL EQUIP DRAIN LEAKAGE INTGRTR IND INCORRECT	DRYWELL EQUIP DRAIN SQ ROOT CONVERTER OOC
G	BR2	033556	121280	AM	DG	NN	B13	N		T		NO "FULL-OUT" POS IND ON ROD 26-35	LIGHT ISOL OF ROD GRP AUX BFFR BRD FAILED
G	BR2	033704	122980	TX	LG	NN	A14	N		T		RX LVL INSTRU 2-B21-LI-R604A NOT RDG PROPERLY	LVL XMITTER 2-B21-LT-N026A DRIFTED OOC
G	BR2	033700	123180	GS	PS	SA	A14	T		T		2-E11-PS-N010A ACTUATED OUT OF SPEC	INSTRUMENT DRIFT
G	BR2	033702	123180	SE	DG	NN	A13	N		U		CNTRL ROD 38-11 FAULTY POS IND AT POS "48"	REED SW PROBLEM IN ROD PIP PROBE
G	BR2	033758	123180	ZZ	NC	NN	A00	N		U		LPRM 36-21C GAVE FAULTY INPUT SIG TO "A" RBM	UNKNOWN
G	BR2	036090	010481	LS	DG	IC	B00	T		U		VAC BRKR X-18A HAD OPEN-CLOSE POS IND WHILE OPENED	PROBLEM W/ VAC BRKR POSITION LIMIT SW
G	BR2	036091A	011081	PS	NT	PX	B13	M		U		IRM "A" DID NOT RESPOND TO CHANGES IN INPUT SIG	2 FAILD CAPACITORS IN HI VOLTG PWR SUPPLY
G	BR2	036091B	011081	ZZ	NT	PX	B00	N		U		IRM "C" INDICATED DWNSCL WHEN ON RANGE 7	FAILD HI FREQ CHNL TRANSISTOR
G	BR2	036091C	011181	CA	NT	PX	B00	N		U		IRM "E" INDICATED DOWNSCALE	OPEN SIG AT MONITOR PRE-AMP CONNECTOR
G	BR2	036449	020681	GS	PS	IC	A14	N		T		BUTTERFLY VLV 2-CAC-V17 OPENED ERRONEOUSLY	AUTO-OPEN ACTUATN SW 2CAC-DPS4423 DRIFTED
G	BR2	036518	022281	IN	DG	NN	B00	N		U		ROD 26-39 FULL-OUT POSITION IND NOT ACHIEVED	CAUSE COULD NOT BE DETERMINED
G	BR2	036562*	022381	GS	FT	PX	B13	N		T	2	RPS MSL HI FLO INSTR 2-B21-DPIS-N008A/B ISOLATED	FW CNTRL INSTR BOURDON TUBE RUPTURED EOL
G	BR2	036656	030381	CN	LS	IC	B00	N		U		PRIMARY CAC SUPPRESSION POOL LVL IND RDG DOWNSCALE	BLOWN PWR SUPPLY FUSE IN SIG CONVERTER
G	BR2	036935	041081	PS	XS	SQ	B00	T		T		RCIC TURBINE TRIPPED DUE TO OVERSPEED	OPEN VLTG DROPG RESISTR TO 48 VDC PWR SUP
G	BR2	037493	061181	CN	FS	IC	A14	N		T		DWFD SUMP FLO INTEGRATOR IND FLO W/O PUMP RUNNING	FLO INTGRTR SQ ROOT CNVRTR OOC -- DRIFT
G	BR2	038156	070481	SE	DS	IC	B00	N		U		CNTRL ROD 14-27 NO FULL-IN POS IND LIGHTS LIT	FAILED REED SW IN DRYWELL
G	BR2	037957	071481	IM	FS	IC	A14	N		T		D/W EQUIP DRAIN FLO INTEG IND W/O PUMPS RUNNING	INSTRUMENT DRIFT OF INTEGRATOR

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE&CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	BR2	038067*	072781	ZZ	DG	SN	B00	N		T	2	CNTRL ROD 34-19 CONTINUOUS FULL-IN REGARDLESS OF//	ACTUAL POS. XSTR & INTEG CKT NAT'L EOL
G	BR2	038229	080181	RC	TG	NN	A08	N		D		TEMP READOUT PTS 1,3,4,7 OF TEMP REC RDG DWNSCALE	PRINT MECHANISM HITTING MECHANICAL STOP
G	BR2	038400	080481	GS	PG	AS	A13	N		D		HEADER 2-SW-PS-1175 READ PMP SUCTN HEADER LO PRESS	FLUID LEAK-LOOSE PLUG IN DIAGHRAGM HOUSG
G	BR2	038402	080881	GS	DS	SN	A00	T		U		NO RTGB POSITION INDICATION AT POS 47 FOR 26-11	DFCTV RPI PROBE SWITCH
G	BR2	038542	090381	RE	NC	NN	B00	T		U		RBM "A" WOULD NOT "INOP" W/ LESS THAN 4 LPRM INPUT	INSTRUMENT RELAY K-12 FAILED
G	BR2	038492	090481	GS	LS	SN	A14	T		T		RX LVL INSTR 2-B21-LIS-N042B OOC	INSTRUMENT DRIFT
G	BR2	038543	090881	SE	NT	PX	B00	N		U		APRM D,F INOP SENT RPS TRP "B" SCRAM SIGNAL	SHORTENED NEUTRON DET IN LPRM 12-21A
G	BR2	038992	100781	GS	TS	SH	B07	N		T		ELEC SHORT TO GRND OF HPCI STM LIN TUNNEL TEMP SW	MOIST ACCUM IN SW HOUSING
G	BR2	039070	101481	GS	LS	SN	A12	T		T		CST LO LVL SW 2-E41-LSL-N002 WOULD NOT ACTUATE	CORROSION BUILDUP AT SW ACTUATOR ARM
G	BR2	039165	102981	SE	XS	SL	B02	M		D		LOGIC "A" PWR SUP FUSE F1A BLEW LPCI FUNC INOP	SHORT TO GRND OF N020C INSTR PWR SUP LEAD
G	BR2	171876	111881	SE	LS	IC	A00	N		U		TORUS WATER LEVEL INST 2-CAC-LI-2601-3 SENSOR OOC	NO CAUSE GIVEN
G	BR2	171884	112681	TX	LG	NN	A08	T		U		RTGB LEVEL TRANSMITTER 2-CAC-LT-2602 READ 3.5" LO	NEEDLE VLV FOR TRICKLE FLOW FAILED
G	BR2	172074	121081	IN	LS	SA	B00	T		U		LEAKY SENSING LEG ISOL VLV OF ADS RX LVL INSTR //	2-B21-LIS-N042B MADE ADS INOP. UNKNOWN
G	BR2	172034*	122281	GS	PS	IC	A14	T		T	2	BUTTERFLY VLV 2-CAC-V16,V17 OPENED OOC LOW	INSTR DRIFT OF VLV AUTO-OPEN ACTUATN SW
G	C01	014498	031976	GS	PS	SN	A14	N		U		PRESSURE SWITCH FAILED TO OP AT REQ'D SETPOINT	DRIFT CAUSED BY INCREASED PRESS IN DRYWEL
G	C01	014839	050776	SE	NI	PX	A14	N		T		WHILE SHUTTING DOWN IRMS COULD NOT BE SET AS REQ'D	SENSITIVITY DECREASE WITH EXPOSURE
G	C01	015871	081676	IN	LG	IC	A00	N		U		TORUS LEVEL INDICATIONS PROVIDING INCORRECT INDICA	CAUSE UNKNOWN STILL INVESTIGATING
G	C01	016604	111276	FS	LG	NN	B07	T		U		REACTOR RECIRC PUMP TRIPPED, FALSE OP OF LIS	MOISTURE FROM LEAKING VALVE ABOVE SWITCH
G	C01	017070	010577	GS	PG	SH	A06	T		U		HPCI PS TRIPPED AT LESS THAN REQUIRED PRESSURE	IMPROPERLY CALIBRATED-INACCURATE PROCEEDU
G	C01	017069	010677	GS	PG	SH	B13	T		U		HPCI LOW SUCTION PRESS TRIP SWITCH SETPOINT LOW	SETPOINT DRIFT, SWITCH REPLACED
G	C01	017299	012877	SE	NI	PX	B13	N		T		APRM B BYPASSED AND DECLARED INOPERATIONAL	LPRM SEAL FAILED, LPRM CALIBRATED
G	C01	017522	030477	GS	PG	SQ	A14	T		T		RCIC DSCHG PIPE NOT FULL ALARM PRESS SWITCH FAILED	SWITCH SETPOINT CHANGED BY NORMAL DRIFT
G	C01	018897	041677	ZZ	NT	PX	A14	T		T		IRM "H" FOUND TO READ 80 AS OPPOSED TO 125-TEST	INSTRUMENT DRIFT IN TWO MODULES
G	C01	018002	042677	RE	XG	SL	A14	T		T		RHR TIME DELAY RELAY,TDR-K45A FAILED TO OPERATE	EXCESSIVE INSTRUMENT DRIFT
G	C01	018023	051177	MO	RR	NN	B08	T		U		DRYWELL ATMOSPHERIC RAD MONITOR REMOVED FROM SERVI	CHECK SOURCE BECAME DISLODGED AND DROPPED
G	C01	018441*	060877	GS	PT	PX	A14	T		U	4	TGF PRESSURE SWITCHES FAILED TO OPERATE WITHIN LIM	SWITCHES HAVE EXCESSIVE SETPOINT DRIFT
G	C01	018899	081077	AM	NT	PX	B13	N		T		APRM FLOW INDICATION DECREASED-CAUSED UPSCALE ALAR	BAD ISOLATION AMP IN SUMMER UNIT-REPLACED
G	C01	020342	010578	GS	LG	SH	B08	T		U		HPCI GLAND STEAM COND HIGH LEVEL SWITCH FAILED	FLOAT TO BODY INTERFERENCE-ARM ADJUSTED
G	C01	020799	012978	PS	NT	PX	B13	N		T		APRM +20V POWER SUPPLY FLUCTUATED-CAUSED HALF SCRA	ZENER DIODE FAILED IN POWER SUPPLY
G	C01	021065	030978	GS	FG	NN	B08	T		U		SGT FLOW SWITCH WOULD NOT RESET AFTER LOW FLOW CON	SETPOINT RESET-ACTUATING DEVICE ALIGNED
G	C01	026693	070679	GS	LG	NN	A07	T		T		RX VESSEL LEVEL SWITCH NBI-LIS-58A FOUND OOC	DUST AND MOISTURE IN SWITCH MECHANISM
G	C01	027344	083179	GS	PT	PX	B14	T		T		PRESSURE SWITCH NBI-PS-55D FOUND OUT OF CAL	INSTRUMENT DRIFT. SWITCH REPLACED
G	C01	027469	100179	GS	FG	NN	A04	T		D		MS-DPIS-119B FOUND OOC(MS ISO & CONTROL)	"SET" IN NEW INST AFTER INSTALLATION
G	C01	030271	011580	RE	DS	SL	B13	N		D		LGHT FOR RHR VLV M018 UNLIT NO CNTRL PWR VLV INOP	RELAY COIL FAILED/BLEW VLV CNTRL CKT FUSE
G	C01	032111	061680	GS	PS	SH	B12	T		T		HPCI STEAM SUPPLY ISOLATED LEAVING SYSTEM INOP	STICKING CONTACTS IN HPCI-PS-68B
G	C01	032118A	070180	RC	FG	NN	B13	N		T		DRYWL EQUIP DRAIN SMP FLO INSTRU INOP	BROKEN RECRDR SLIDE WIRE NAT'L END OF LIF
G	C01	032118B	070180	PS	FG	NN	B13	N		O		DRYWELL EQUIP DRAIN SUMP FLOW INSTRUMENT INOP	PS FUSE FAILED FROM SLIDE WIRE FAILURE
G	C01	032209	071380	MO	RR	NN	B02	N		T		RX VENT MON RMP-RM-452A FAILED DWNSCL	2 PS CAPACITORS FAILED DEGRADE WITH TIME
G	C01	032213	072580	SE	LS	SH	B00	T		D		HPCI ISOLATION SYSTEM INOPERABLE	POSSIBLE TRASIENT IN COMMON SENSING LINES
G	C01	033501	111580	IM	XG	NN	B00	T		U		100 DEGREE COOL DWN RATE EXCEEDED	FAILED CRD IN COMPUTER. NO CAUSE GIVEN
G	C01	037937	051981	GS	PS	SH	A14	T		T		HPCI-PS-68D TRIPPED OOT (LOW)	RANDOM INSTRUMENT DRIFT
G	C01	038151	062581	GS	PS	SN	A14	T		T		PRESS SW NBI-PS-52A TRP PT LESS CNSRVTV THAN T.S.	SETPOINT DRIFTS AFTER PLANT REFUELING
G	DA1	014024	010576	GS	LS	SN	A14	T		T		LIS 4533 TRIP POINT EXCEEDED LIMITS	INSTRUMENT DRIFT
G	DA1	014025	011276	GS	FS	SN	A14	T		T		MSL HI FLOW PDIS 4434C EXCEEDED TRIP LIMIT	INSTRUMENT DRIFT
G	DA1	014437	021676	GS	PS	SD	A14	T		T		CORE SPRAY LOGIC PDIS 2139 TRIPPED TOO SOON	INSTRUMENT DRIFT
G	DA1	014335	030776	LS	XI	PX	B08	T		T		RPS LIMIT SWITCH 4420 FAILED TO RESET	LOOSE AND OUT-OF-ADJUSTMENT ACTUATING ARM
G	DA1	014514	041776	IM	FT	PX	B13	T		U		APRM/RBM FLOW UNIT D COMPARATOR EXCEEDED LIMIT	DEFECTIVE FLOW UNIT SUMMER CIRCUIT
G	DA1	014732	051276	CM	NT	PX	A14	T		T		APRM CH A UPSCALE TRIP EXCEEDED LIMIT	INSTRUMENT DRIFT
G	DA1	015105	061676	GS	LG	CT	B09	T		T		CST LOW LEVEL SWITCH FAILED TO SIGNAL SUCTION TRAN	ALGAE-LIKE GROWTH LOWERED PROBE RESISTANC
G	DA1	014952	062376	GS	LG	NN	A14	T		T		CONTAINMENT SPRAY-RX SHROUD LEVEL PERM SW EXCEEDED	INSTRUMENT DRIFT

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE D&U CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	DA1	015322	081276	CM	NT	PX	A14	T		T		SRM D UPSCALE RB TRIP EXCEEDED LIMIT	INSTRUMENT DRIFT
G	DA1	015751	090876	MO	RR	NN	A00	T		U		RX BLDG VENT RAD MON RM7606B DID NOT RESPOND PROPE	UNKNOWN
G	DA1	016266	101976	SE	NT	PX	B13	T		D		LPRM CALIB CALC INDICATE CPRRAT ABOVE SPEC	LPRM DRIFT DUE TO LEAKING SEALS
G	DA1	016205	102476	SE	NT	PX	A00	T		U		DURING STARTUP IRM F DID NOT DEMONSTRATE OVERLAP	UNKNOWN
G	DA1	016446	110876	GS	PS	SN	A14	T		T		DRYWELL HI PRESS PS4311C EXCEEDED LIMIT	INSTRUMENT DRIFT
G	DA1	016448	112776	GS	FS	SN	A14	T		T		MSL D HI FLOW PDIS 4438C EXCEEDED LIMIT	INSTRUMENT DRIFT
G	DA1	016918	010577	GS	PS	SA	A14	T		T		ADS PERM LIS 4561 EXCEEDED TRIP SETPOINT	INSTRUMENT DRIFT
G	DA1	016767	011777	MO	RR	NN	B07	N		D		OFFGAS STACK RAD MON LOW FLOW ALARM RECEIVED	SAMPLE LINE FROZE WHERE NOT HEAT TRACED
G	DA1	016928	012277	RC	FG	NN	B00	N		U		OFFGAS STACK DIL AIRFLOW RECORDER FR4133 FAILED UP	UNKNOWN
G	DA1	017310	021377	GS	PG	NN	B04	T		U		RECIRC RISER D/P SWITCH PDIS 4644 NEEDLE STICKING	NEEDLE STICKING ON ADJUSTMENT LOCKSCREW
G	DA1	017625	031177	IN	TG	SN	A09	T		U		MSIV-LCS HEATER INDICATOP OPERATING IMPROPERLY	PROBABLE CAUSE-STATIC CHARGE ON IND COVER
G	DA1	017638*	041677	GS	PG	NN	A14	T		T	3	3 PRESS SWITCHES IN MSIV-LCS A & B EXCEEDED LIMITS	INSTRUMENT DRIFT
G	DA1	017965*	051277	SE	NC	NN	A14	T		T	2	RBM CH A & B EXCEEDED SETPOINTS	INSTRUMENT DRIFT
G	DA1	018279B	061377	GS	FS	SQ	A14	T		T		RCIC STM LINE HI FLOW PDIS 2442 TRIPPED BELOW SPEC	INSTRUMENT DRIFT
G	DA1	018523B	062877	GS	PS	IC	A14	T		T		SUP CHAM TO RX BLDG D/P SW PDS 4305 EXCEEDED LIMIT	INSTRUMENT DRIFT
G	DA1	018522	071177	GS	FS	SQ	B13	T		D		RCIC STM LINE HI FLOW PDIS 2442 TRIPPED BELOW SPEC	FRACTURED MOUNTING SCREW ALLOWED DRIFT
G	DA1	018592	072677	GS	TS	SN	A14	T		T		MSL AREA HI TEMP TIS 4445 EXCEEDED LIMIT	INSTRUMENT DRIFT
G	DA1	019130	081577	GS	TS	SN	A14	T		T		SUP POOL AREA HI AMB TEMP TS2526B TRIPPED BELOW SP	INSTRUMENT DRIFT
G	DA1	019131B	082477	TX	TS	IC	A14	T		T		TORUS WATER TEMP TT4325 OPERABLE BUT DRIFTING	INSTRUMENT DRIFT
G	DA1	019703*	101177	TX	FG	NN	A14	T		T	2	CONTROL BLDG H&V UNIT A STBY FILTER OP IMPROPERLY	INSTRUMENT DRIFT OF FLOW INDICATOR(A & B)
G	DA1	019708	110877	GS	PG	SL	B08	T		U		LPCI LOOP SEL LOGIC PDIS4641 WOULD NOT RESET	PDIS MICROSWITCH OUT OF ADJUSTMENT
G	DA1	020148*	010378	SE	TG	SH	B09	T		U	2	HPCI LEAK DET TE2263A & B NOT PRODUCING OUTPUT SIG	TERMINALS VIBRATED LOOSE
G	DA1	020143	011178	GS	PS	SL	A14	T		T		DRYWELL HI PRESS PS 4312C EXCEEDED LIMIT	INSTRUMENT DRIFT
G	DA1	020657	022178	GS	TS	SN	A14	T		T		MSL TUNNEL HI TEMP TIS 4443 TRIPPED OUT OF SPEC	INSTRUMENT DRIFT
G	DA1	021172*	040178	GS	LS	SN	B00	T		U	2	CRD WATER LEVEL SWITCHES WOULD NOT RESPOND	UNKNOWN-SWITCHES REPLACED
G	DA1	025700	032179	RE	TG	NN	B13	N		D		HIGH TEMP LOGIC RELAY FAILED IN THE MADE UP POS.	CONTACT ARM HAD BROKE OFF
G	DA1	026204*	042479	MO	RR	NN	A14	T		T	2	BOTH RIM 7606A & 7606B (MAIN EXHAUST RAD MON) OOC	INSTRUMENT DRIFT
G	DA1	026878B	072679	GS	PG	NN	B00	T		U		PRESSURE DP SW PDS 4304 FAILED TO TRIP.	NO CAUSE FOUND. (VACUUM BKR CONTROL)
G	DA1	026877	081079	TX	LG	NN	B13	N		T		LT 2325,XMITTER FOR SUPPRESSION CHAMBER LEVEL FA//	ILED. FAULTY AMPLIFIER CARD
G	DA1	028002	092679	MO	RR	NN	A13	T		T		OFF GAS RAD MON RM 4101B FOUND IND IMPROPERLY	POWER SUPPLY PREREGULATOR DEFECTIVE
G	DA1	028001	092879	RC	LG	NN	A13	N		U		SUPP CHAMBER LEVEL INDICATION READ LOW, LR4385	PEN WAS NOT POSITIONED PROPERLY
G	DA1	027997	111079	IM	XC	NN	A14	N		T		CH 'B' ROD BLOCK MONITOR FAILED 'INOP'	COUNT TRIP LEVEL SETPOINT HAD DRIFTED
G	DA1	027992*	122579	IN	XG	SF	B13	N		D	3	ANNUNCIATOR PANELS 1C-03,4 & 5 (CORE SPAY SPARGER/	/BREAK DETECTION). PS FUSE BLEW
G	DA1	030419	021180	GS	PS	SL	A14	T		T		RHR LP PERMSSV PS-4555 OOT (LOW)	INSTRUMENT DRIFT
G	DA1	031423*	052980	GS	PS	SN	A14	T		T	2	PRESSURE DIFFERENTIAL SW-4303,4305 OOT (HIGH)	INSTRUMENT DRIFT
G	DA1	031524	060680	GS	TG	NN	A14	T		T		TEMPERATURE SW TIS-4478 SETPOINT OOT (HIGH)	INSTRUMENT DRIFT
G	DA1	031882	070980	GS	PS	SL	A00	T		U		LPCI LOOP SELECTN LOGIC PDIS-4641 INOP	MICROSW ADJUSTMENT SCREW TOO TIGHT
G	DA1	032716	090680	GS	LG	NN	A07	T		T		CST 1T-5A LO LVL SW LS-5218 INOPERABLE	CORROSION ON PROBE LEADS MOIST FROM CST
G	DA1	032915	101480	GS	XG	NN	A00	T		U		EMERG D/G 1G-21 UNRESPONSIVE TO VOLTAGE CNTRL	LOOSE CAM SWITCHES CAUSE UNKNOWN
G	DA1	164270	020281	RC	FG	NN	B11	N		T		OFF GAS STACK FLO RECORDER INDICATING UPSCALE	AIR FLO MON 7601 SENSOR LINE FROZEN
G	DA1	037582	060781	CL	FG	SQ	A14	T		T		RCIC TURBINE TRP ON OVERSPEED ON FAST STARTS	FLO CONTROLLR FIC2509 HI LMT SETPT DRIFT
G	DA1	037700B	061581	MO	RR	NN	B13	N		U		RADIATION ELEMENT RE-8101A INOPERABLE	ELEMENT REPLACED
G	DA1	037888	062081	MO	RR	NN	B09	N		D		OFF-GAS POST TREATMENT RM-4101A FAILED UPSCALE	EQUIPMENT DRAWER GENERATES SIGNAL SPIKES
G	DA1	168098	070381	IN	FG	SH	B11	N		D		HPCI FLOW INDICATOR FIC-2309 FOUND FAILED	AIR LOCK IN SENSING LINES
G	DA1	038549	082081	GS	TS	SQ	A14	T		T		RCIC SUPPRSN POOL AREA STM LEAK DETCTN TDS-2521C//	TRPD (HIGH). INSTRUMENT DRIFT
G	DA1	171827	120481	GS	PS	SN	A14	T		T		DRYWELL PRESSURE SWITCH PS-4311B FOUND OOC HI .2#	INSTRUMENT DRIFT
G	DR1	016591	112676	AM	NT	PX	A14	T		T		IN CORE NEUTRON FLUX AMPLIFIER 103C TRIPPED HIGH	INSTRUMENT SETPOINT DRIFT
G	DR1	017734	042277	GS	LT	PX	B13	T		U		SCRAM DUMP TANK LEVEL SWITCH LS-264 FAILED	FLOAT ASSEMBLY LEAKED
G	DR1	017733*	042377	CM	NT	PX	A14	T		T	2	POWER RANGE CH 1 & 2 ACTUATED ABOVE SPEC	INSTRUMENT SETPOINT DRIFT
G	DR1	018932	062677	PS	NS	SN	B13	N		T		CH 9 REACTOR PERIOD MONITOR POWER SUPPLY FAILED	TWO 2-OA2 TUBES REPLACED

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	DR1	019157	090777	GS	PS	IC	A14	T		T		PRESSURE SWITCH PSL-9 EXCEEDED TRIP LIMIT	SETPOINT DRIFT
G	DR1	019199	093077	AM	NT	PX	B13	M		T		CH 2 OUT OF CORE NEUTRON MONITOR FAILED DOWN SCALE	TUBE FAILURE IN AMPLIFIER CIRCUIT
G	DR1	019320	101777	SE	NT	PX	A14	I		T		CH 1 RIC-281 TRIP EXCEEDED LIMITS WHEN TESTED	SETPOINT DRIFT
G	DR1	019648	103177	GS	LT	PX	B00	T		U		SCRAM DISCHARGE LEVEL SWITCH LS264 FAILED TO OPERA	CAUSE UNKNOWN-SUBSEQUENT TESTS SAT
G	DR1	019649	110577	GS	PS	SD	B13	T		U		REACTOR PRESS TO CORE SPRAY HDR D/P PS-CS1258 FAIL	RUPTURED BELLOWS
G	DR2	014189	020776	GS	PI	PX	A14	I		T		DRYWELL HIGH PRESS SCRAM SENSOR PS21621D SETTING H	SETPOINT DRIFT
G	DR2	015199	062176	GS	PS	SH	A14	T		T		SUST HI RX PRESS SW PS226353C ACTUATED ABOVE LIMIT	INSTRUMENT SETPOINT DRIFT
G	DR2	015202	062176	GS	PG	SL	A14	T		T		LPCI PERMIS PS226352A ACTUATED ABOVE LIMITS	INSTRUMENT SETPOINT DRIFT
G	DR2	015160A	063076	AM	NT	PX	B09	N		D		APRM CH5 INDICATION DROPPED FROM 54 TO 31 PERCENT	BROKEN LEAD ON DC AMPLIFIER
G	DR2	015160B	063076	ZZ	NT	PX	A14	N		T		APRM CH5 AGAF HIGH VALUE	INSTRUMENT DRIFT
G	DR2	017291	022577	GS	PS	SN	A14	I		T		MAIN STEAM LP ISOLATION SW PS226130C SETPOINT LOW	INSTRUMENT SETPOINT DRIFT
G	DR2	017508	032177	IN	LG	NN	B13	N		D		RADWASTE FLOOR DRAIN SURGE TANK LEVEL ANNUNCIATOR	HIGH LEVEL ALARM ANNUNCIATOR FAILED
G	DR2	017737	041577	MO	RR	NN	A09	N		D		OFF-GAS MONITOR"A" APPEARED ERRATIC	INST DRIFT & GROUND IN INPUT CIRCUITRY
G	DR2	018186	060577	SE	NC	SN	A14	T		I		APRM CH 1 ROD BLOCK TRIP SETTING ABOVE SPEC	INSTRUMENT DRIFT
G	DR2	019156	090877	GS	TS	SN	A07	N		D		MS LINE TEMP ISO SWITCH 2261160 INITIATED ISOLATIO	HIGH TEMP AND WATER IN SWITCH(PACKING LE)
G	DR2	019190	092077	SE	NT	PX	A14	I		T		APRM 5 WAS FOUND TO INOP ON 12 INSTEAD OF 11 LPRMS	ELECTRONIC DRIFT OR DIRTY CONTACTS ON CAR
G	DR2	019192	092977	GS	PS	IC	A14	T		T		DRYWELL HI PRESS SW PS2150162A TRIPPED ABOVE SPEC	INSTRUMENT DRIFT
G	DR2	019657	111177	GS	LT	PX	A14	T		T		REACTOR WATER LEVEL SWITCH LIS226357A ABOVE SPEC	INSTRUMENT SETPOINT DRIFT
G	DR2	019904	113077	CM	NT	PX	B13	T		D		1RM#13 DID NOT TRIP AS REQ'D BY SURVEILLANCE PROCE	DEFECTIVE DUAL TRIP MODULE
G	DR2	020779	022778	SE	LG	NN	A14	N		T		N2 STORAGE TANK LEVEL FELL BELOW 60 INCHES	ALARM SETPOINT DRIFTED LOW
G	DR2	021513	050978	GS	PS	SD	B08	T		T		CORE SPRAY PUMP PS214301466C FAILED TO OPERATE	EXCESS SCALE BUILDUP IN SWITCH INTERNALS
G	DR2	021539	052878	GS	TS	SN	B00	N		U		MSL TEMP ISO SWITCH 2-261-18A ACTUATED INADVERTENT	EXACT CAUSE OF FAILURE UNKNOWN
G	DR2	021880	060578	ZZ	XG	NN	B13	N		U		"A" SBGT FAILED TO START ON AUTO INITIATION SIGNAL	BLOWN FUSE TRIPPED TRAIN ON AUTO START
G	DR2	021678	061978	GS	TS	SN	B00	N		U		MSL TEMP ISO SWITCH 2-261-18C INITIATED INADVERTEN	EXACT CAUSE UNKNOWN
G	DR2	022071	080178	ZZ	FT	PX	B13	T		U		APRM CH#3 SCRAM SETPOINT FOUND ABOVE SPEC	BROKEN WIRE AND TRANSISTOR FAILURE
G	DR2	022072	080778	GS	PS	SA	A12	T		I		AUTO BLOWDOWN PERM SW PS2143014660 TRIPPED HIGH	STICKY ACTUATOR ON SWITCH
G	DR2	022551	093078	GS	PG	SH	A14	T		T		HPCI PS2-2360 TRIPPED ABOVE SPEC(LOW SUCT PRESS)	INSTRUMENT DRIFT
G	DR2	025140	010579	GS	PS	SD	A14	I		T		FOUND PS 2-1430-1466D (CORE SPRAY DISCH PS) OOC	INSTRUMENT DRIFT
G	DR2	025900	042879	LS	DG	IC	B00	I		U		2C TIP DID NOT RETRACT ON CNTNMNT ISO SIGNAL	LIMIT SW ON BALL VLV DID NOT MAKE-UP
G	DR2	025978	050879	GS	PS	SD	B12	T		T		PS 2-1430-1466D FAILED TO TRIP (LPCS DISCH PRESS//	SW. STICKING PLUNGER IN PRESSURE SWITCH
G	DR2	026214	060879	GS	FS	SH	A14	T		T		HPCI STEAM LINE HIGH FLOW SW DPIS 2353 FOUND OOC	INSTRUMT DRIFT
G	DR2	027114	090879	MO	RR	NN	B08	N		T		UNIT 2/3 A STACK GAS SAMPLE PUMP SEIZED	NORMAL WEAR TO CARBON VANES
G	DR2	027262	092579	GS	PS	SN	A14	T		T		PS 2-1632 D-1 TRIPPED AT 56.2" INCREASING	INSTRUMENT DRIFT
G	DR2	027576	100379	GS	FG	NN	A14	N		T		LOW FLOW SWITCH 213-7541-45B HAD HIGH FLOW SETTING	DIAPHRAM DRIFT
G	DR2	027261	100479	IN	DG	SA	B13	M		D		SOCKET SHORTED WHEN CHANGING LIGHT FOR 2-D ELECTR/	//OMATIC RELI'' VLV. SOCKET REPLACED
G	DR2	027568	111079	ZZ	XG	NN	BC0	N		U		BLOWN FUSE OCCURED IN "A" SBGT HEATER CONTROL CIRC	NO CAUSE GIVEN
G	DR2	030253	010680	GS	DT	PX	B14	N		T		1/2 SCRAM ON RPS CHNL A	MICRO SW OUT OF ADJ CAUSING SW TO FAIL
G	DR2	030251	011480	GS	LT	PX	A14	N		T		RX WATER LVL SW LIS-2-263-58A OOC (HIGH)	INSTRUMENT DRIFT
G	DR2	033838	050580	GS	DS	SN	A08	N		T		TORUS TO DRYWL BRK 2-1601-320 NO REDUNDNT OPEN IND	SW STUCK DUE TO LOOSE BRACKET
G	DR2	033275	111380	GS	PT	PX	A14	N		T		CONDENSER LO VACUUM PRESS SW 2-503D OOT (LOW)	INSTRUMENT DRIFT
G	DR2	033323	112480	GS	PG	NN	B09	N		D		2A SAFETY-RELIEF VLV INOP PRESS ALRM ANNUNCIATED	SHORTED & GROUNDED BELLOWS LEAK PRESS SW
G	DR2	033403	120180	GS	PS	SL	A14	N		T		LPCI SYS DRYWL HP INTERLCK PS-1501-62D OOT (HIGH)	INSTRUMENT DRIFT
G	DR2	033405	120480	GS	PG	NN	A14	I		T		PRESSURE SWITCH PS-261-30D TRIPPED OOT (LOW)	SETPOINT DRIFT
G	DR2	033712	123180	GS	PS	SF	A08	N		D		PRESSURE SW1501-62D OOT (HIGH)	MISALGN ACTUATG ARM & MICROSW SCREW HIGH
G	DR2	164275	012281	GS	TG	NN	B13	T		U		STEAM LINE AREA TEMP SWITCH TS 2-261-18D FAILED	BROKEN CAPILLARY TUBE
G	DR2	166537A	051481	CA	XG	NN	B09	N		U		ACOUSTIC MON ON 2-203-3B SAFETY VLV FAILED	CABLE HAD SHORT TO GROUND
G	DR2	166537B	051481	SE	TG	NN	B00	N		U		THERMOCOUPLE DOWNSTREAM OF SAFETY VLV 2-203-3B FA-	-ILED. NO CAUSE GIVEN
G	DR2	037815	062481	IN	LG	SN	B08	T		D		LVL INSTR 263-73A POINTER FOUND HANGING UP	NEEDLE RUBBING ON THE INSTRUMENT HOUSING
G	DR2	038595	082881	GS	PS	SN	B00	I		D		D/W HP SW 2-1632D TRIPPING OOC (HIGH)	WEAR OF SWITCH INTERNALS
G	DR2	039049	101181	GS	LS	IC	A14	N		T		TORUS WATER LVL EXCEEDED TECH SPEC LIMIT	SETPOINT DRIFT

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	DR2	171793	112681	RE	XS	IC	B13	N		U		RELAY 595-136 FAILED CAUSING LOSS OF CONTROL POWE-	-R TO VARIOUS PCIS VLVS. BURNT COIL
G	DR2	172419	120381	CL	FG	NN	B12	N		T		SBGIS TRAIN B TRIPS AFTER SPURIOUS START	FLO CNTRLLR 2/3-7541-28B ORIFICE PLUGGED
G	DR3	017025	011177	GS	PS	SQ	B12	N		D		DPIS 3-1349A FAILED IN THE OPEN POSITION(RCIC)	MICROSWITCH DIRTY OR OXIDIZED CONTACTS
G	DR3	017181	012877	IN	FG	PX	A06	T		D		APRM FLOW BIAS FLOW INDICATION EXCEEDED 100%	PROCEDURAL DEFICIENCY-TOTAL FLOW ADJUSTM
G	DR3	017212	020877	RE	NT	PX	B13	N		T		APRM #6 FOUND FLUCTUATING	FAILED REED RELAY CONTACTS
G	DR3	017325A	022077	CM	NT	PX	A14	T		T		APRM 3 ROD BLOCK TRIP EXCEEDED LIMITS	ELECTRONIC DRIFT
G	DR3	017325B	022077	CM	NT	PX	A14	T		T		APRM 6 ROD BLOCK TRIP EXCEEDED LIMITS	ELECTRONIC DRIFT
G	DR3	017973	052077	GS	FG	SL	A14	T		T		PS 301349B EXCEEDED LIMITS	INSTRUMENT SETPOINT DRIFT
G	DR3	017974	052677	AM	NT	PX	B13	N		T		CH A & CH B FLOW EXCEEDED MISMATCH	FAULTY PROPORTIONAL AMPLIFIER
G	DR3	018550	072577	PS	NT	PX	A12	T		D		APRM 4 WOULD NOT GENERATE AN INOP UNTIL 13 LPRM'S	VOLTAGE SHIFT-DIRTY POWER SUPPLY(PIN-16)
G	DR3	018937*	082777	IM	NT	PX	A14	T		T	2	APRM 1 & 2 WOULD NOT GENERATE INOP UNTIL 12 LPRM'S	ELECTRONIC DRIFT
G	DR3	019911	121677	CN	FG	SH	B13	T		D		HPCI FLOW CONTROLLER FAILED TO CONTROL MOTOR GEAR	FAILED PWR SUPPLY IN SIGNAL CONVERTER
G	DR3	020862	030878	GS	TS	SN	A08	T		D		TEMP SW 2371A EXCEEDED TRIP SETPOINT	DIRT DEPOSITS ON SW ACTUATION PLUNGER
G	DR3	021242	042878	GS	PS	SN	A14	T		T		PS 3-203-3C EXCEEDED TRIP SETPOINT	INSTRUMENT SETPOINT DRIFT
G	DR3	021509B	052078	CA	NT	PX	B13	T		T		SRM 21 DECLARED INOPERABLE	BAD SIGNAL CABLE
G	DR3	021883	060378	SE	NC	SN	A14	T		T		APRM 6 ROD BLOCK EXCEEDED LIMITS	INSTRUMENT DRIFT
G	DR3	021884	062178	IN	FG	SN	A08	T		T		MSL FLOW ISOL SW DPIS3-261-2C EXCEEDED SETPOINT	CORROSION DEPOSITS IN METER MOVEMENT GEAR
G	DR3	022773	093078	IN	LG	IC	A08	N		D		TORUS LEVEL MONITOR LI-1602-8 INDICATION ERRATIC	BINDING OF MECHANICAL LINKAGE
G	DR3	022941	101478	LS	DT	PX	B09	T		D		#2 TURB STOP VLV 10% CLOSURE SW MALFUNCTIONED	LIMIT SWITCH OUT OF ADJUSTMENT
G	DR3	026080	051579	MO	RR	NN	A13	N		T		OFF GAS LOG RAD MON 1705 3A DRIFTED HIGH	ADJUSTMENTS ON RESISTOR ON A FEEDBACK CIR
G	DR3	026079	051779	IM	NT	PX	A14	T		T		IRM 17 WAS FOUND TO TRIP HIGH	INSTRUMENT DRIFT
G	DR3	026081	052479	IM	NT	PX	A14	T		T		IRM 11 DOWNSCALE ROD BLOCK WAS FOUND OOC	INSTRUMENT DRIFT
G	DR3	026574	071379	MO	RR	NF	B09	N		D		FUEL POOL ARM FAILED	CABLES BECAME LOOSE DUE TO HANDLING
G	DR3	027564	111079	SE	DC	NN	B13	T		D		POSITION INDICATION FOR CRD H-9 LOST. ELECTRICAL/	/PIN-SOCKET ALIGNMENT FAULTY ON PROBE
G	DR3	028062	121079	PS	XS	SN	B13	N		U		RBM 8 WAS PLACED OOS DUE TO A FAILED POWER SUPPLY	BAD FUSE FOUND IN POWER SUPPLY
G	DR3	030527A	030780	GS	TS	SN	A14	M		T		TEMPERATURE SW OOT (HIGH)	INSTRUMENT DRIFT
G	DR3	030527B	030780	GS	TS	SN	A00	M		U		TEMPERATURE SW OOT (HIGH)	EXCSSV GAP BETWN ACTUATR & SW PLUNGER
G	DR3	031025	042080	GS	PG	NN	A14	N		T		PS-3-203-3A TRIPPED OUT OF TOLERANCE	INSTRUMENT SETPOINT DRIFT
G	DR3	031170	042980	ZZ	NT	PX	A14	N		T		IRM 12 DWNSCL ROD BLOCK OOT (LOW)	ELECTRONIC DRIFT OF IRM 12
G	DR3	031321	052180	GS	FG	NN	A14	N		T		FLOW SW DPIS-3-261 3A OOT (HIGH)	INSTRUMENT DRIFT
G	DR3	033568	083180	CL	FG	NN	B00	N		U		3B RECIRC PUMP DROPPED FROM 42% TO 22% SPEED	MG SET SPEED CONTROLLER FAILED
G	DR3	032800	100980	IM	FG	NN	B00	N		U		RBM 7 WAS IN TRIPPED CONDITION	COMP FAILED ON FLO CNTRL TRIP REF CARD
G	DR3	032914	100980	CL	FG	SN	A00	N		U		"B" SBGTS TRIPPED DUE TO LOW SYSTEM FLOW	FLO CNTRL UNIT MODEL 130M CAUSE UNKNOWN
G	DR3	033104	110580	SE	NG	NN	A14	N		T		SRM 23 TRIPPED OOT (HIGH)	ELECTRNC DRFT OF HI ALRM SETPT POTENTMTR
G	DR3	037189	021281	CL	TG	SN	A00	N		U		INCORRECT SETTING FOR TEMPERATURE CONTROLLER	UNDETERMINED WHY INITIAL SETPT CHANGED
G	DR3	036652	030381	CL	XG	NN	B00	N		U		3A RECIRC PUMP SPEED MISMATCH ALRM ANNUNCIATED	MG SET SPEED CONTROLLER FAILED
G	DR3	037861*	061681	GS	PI	PX	A14	M		T	2	PS-3-302-99A,B ACTUATED OOC (LOW)	INSTRUMENT SETPOINT DRIFT
G	DR3	038665	090481	GS	LG	NN	A07	T		T		WEST BANK/EAST & EAST BANK/EAST XDCR HI-HI LVL TRP	HI AMBIENT TEMP IN CABINETS CAUSD DRIFT
G	DR3	171915	110281	GS	PS	SN	B11	T		U		PRESSURE SWITCH PS3-1554E FAILED WHILE TESTING AU-	-TO BLOWDOWN. INST SNUBBER HAD PLUGGED
G	EN1	014140*	010976	GS	FG	AS	B04	N		U	2	TWO SERV WATER ISO SWITCHES(P41-N523&525)FROZE	DESIGN ERROR-HEAT TRACING WAS INSTALLED
G	EN1	014772	021976	HS	NI	PX	B08	T		U		APRM CH C FAILED TO INDICATE INOP	OPERATE SWITCH DID NOT INDICATE POSITION
G	EN1	014776	022876	LS	DS	IC	A08	N		U		DRYWELL/TORUS VAC BKR IND LIGHTS FOUND EXTINGUISHE	MALADJUSTED SWITCH
G	EN1	014784A	042776	TX	FG	SL	A04	T		D		RHR PUMP FLOW TRANSMITTER E11-N015A CAL RANGE WRON	DESIGN ERROR-DESIGN DATA INCORRECT
G	EN1	014784B	042776	RC	FG	SL	A04	T		D		RHR FLOW RECORDER E11-R608 CAL RANGE WRONG	DESIGN ERROR-DESIGN DATA INCORRECT
G	EN1	014793	050176	RE	DT	PX	B05	N		D		REACTOR SCRAM-RPS RELAYS BURNED OUT & FUSES BLEW	FABRICATION ERROR-WRONG TYPE RELAYS
G	EN1	015572*	060176	GS	PS	SN	A00	T		U	2	TWO MSL PRESS SWITCHES FOUND OUTSIDE ACCEPTANCE CR	PRESS SWITCHES DID NOT MEET ACCEPTANCE CR
G	EN1	015554	061576	GS	LG	SD	B00	T		U		CORE SPRAY DSCHG LEVEL SW E21-N010B FAILED TO OPER	CAUSE UNKNOWN
G	EN1	016125	091076	GS	LS	SN	A14	T		T		RX LEVEL SW B21-N024A EXCEEDED LIMIT	SETPOINT DRIFT
G	EN1	016833	102776	GS	PG	SH	A14	T		T		HPCI D/P SWITCH E41-N005 OUTSIDE LIMITS	SETPOINT DRIFT
G	EN1	016836	110476	GS	PG	SH	A14	T		T		PRESS SW E51-N006 FOUND TO EXCEED LIMIT	INSTRUMENT DRIFT

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	EN1	016839	110576	GS	LJ	SN	A14	T		T		RX WATER LEVEL INST BEYOND LIMIT	SETPOINT DRIFT
G	EN1	020507	010677	GS	FS	SQ	A14	T		T		FLOW SW E51-N002 EXCEEDED LIMIT	SETPOINT DRIFT
G	EN1	017592	012977	GS	PS	SQ	A14	T		T		SW E21-N012B #1 OPERATED ABOVE SPEC	SETPOINT DRIFT
G	EN1	017295*	020377	GS	PG	NN	A14	T		T	2	FILTER DAMPER T46-F001B DID NOT AUTO OPEN	SETPOINT DRIFT OF PRESSURE SWITCHES
G	EN1	018145	050377	GS	LS	SN	A14	T		T		RX WATER SHROUD LEVEL IND B21-N037 EXCEEDED LIMIT	SETPOINT DRIFT
G	EN1	018188	060477	RE	XG	SN	B13	T		T		SAFEGUARD EQUIPEMENT COOLING FAN FAILED AUTO-START	RELAY COIL BURNED OUT IN RELAY T41-K33A
G	EN1	020020	100477	CM	NT	PX	A14	T		T		APRM CH A FOUND OUT OF TOLERANCE	SETPOINT DRIFT
G	EN1	020018	101377	GS	TS	SQ	A14	T		T		RCIC D/T SWITCH E51-N604A EXCEEDED LIMIT	SETPOINT DRIFT
G	EN1	020011	120777	IN	LG	NN	B13	T		D		UNIT 1 NITROGEN BANK LEVEL BELOW LIMIT	POINTER STUCK ON MAX LEVEL INDICATOR
G	EN1	020102	122977	GS	LG	SH	A14	T		T		HPCI HI LEVEL SW E41-N015A FAILED TO OPERATE	SETPOINT DRIFT
G	EN1	020192	122977	GS	PS	SQ	A14	T		T		RCIC STM LINE D/P SW E51-N017 EXCEEDED LIMIT	SETPOINT DRIFT
G	EN1	020376*	010178	GS	FG	SL	A14	T		T	2	CORE SPRAY RHR PS B21-N021A & D OUTSIDE LIMIT	SETPOINT DRIFT
G	EN1	021088	022578	CM	XG	SQ	B13	T		D		RCIC ELECTRIC OVERSPEED INOPERABLE	FAILED TRANSISTORS
G	EN1	021778	063078	RE	XG	SH	B08	T		T		RELAY E41-K36,TURB HPCI ISOL CH A FAILED TO ALARM	CONTACTS STUCK DUE TO MISALIGNMENT
G	EN1	021758	070578	GS	PS	SQ	A14	T		T		RCIC TURB EXH DIAPHRAGM SW E51-N012O FAILED TO ACT	SETPOINT DRIFT
G	EN1	022014	071478	GS	LG	SD	B00	T		U		CORE SPRAY LINE LEVEL SW E21-N010B FAILED TO ACTUA	UNKNOWN CAUSE
G	EN1	022096	072878	GS	PS	SQ	A14	T		T		RCIC STM LINE D/P SW E51-N017 EXCEEDED LIMIT	SETPOINT DRIFT
G	EN1	022199	081678	IM	MC	SN	B13	T		T		RBM A DID NOT GO INOP AS REQUIRED	SECOND LEVEL MULTIPLEXER CARD FAILED
G	EN1	023198	121478	GS	LG	SD	A14	T		T		CORE SPRAY DSCHG LINE LEVEL SW E21-010B EXCEEDED L	ACTUATING SCREW DRIFTED FROM SETPOINT
G	EN1	025014	011379	RE	FG	NN	A08	T		T		RWCU DIFFERENTIAL FLOW FT&C,TDR G31-R616O,FAILED	LOOSE SCREW ON DIAPHRAM
G	EN1	025376	031379	IM	FG	NN	A13	T		T		WATER CLEAN-UP DELTA FLOW INPUT SUMMER G31-K604 //	FOUND OOC. LEAKY TRANSISTOR
G	EN1	026824	082979	ZZ	NG	NN	B00	N		U		TIP MACHINE MALFUNCTIONED	NO CAUSE GIVEN
G	EN1	026947	090479	ZZ	XG	NN	B13	N		U		RBM "B" WAS TAKEN OUT OF SERVICE	CIRCUITS WERE MALFUNCTIONING
G	EN1	027155*	100979	TX	FG	NN	B12	N		T	2	MAIN STACK FLOW XMITTERS D11-N026A&B FOUND INOP	XMITTER BLADES BECAME DIRTY
G	EN1	030464	022980	CL	XG	NN	B13	N		U		MANUAL VOLTAGE REGULATOR INOPERABLE	DIODES THAT SUP VOLT TO MAN ADJUSTG MTR
G	EN1	031142	042780	RC	PG	SN	B13	N		T		DRYWELL/TORUS D/P RECORDER 1T48-R631A GAVE NO IND	DISPOSABLE PEN NOT INKING
G	EN1	031580	061280	GS	PG	NN	A14	N		T		SWITCH 1B31-N018B OOT (HIGH)	SETPOINT DRIFT
G	EN1	031598	061780	IN	DG	SN	B00	N		U		CLOSED IND LGHT FOR VLV 1T48-F323F OFF	UNKNOWN
G	EN1	031742	070880	GS	PG	NN	A14	N		T		PRESSURE SW 1B21-N023B OOT (HIGH)	SETPOINT DRIFT
G	EN1	032133	073180	RC	LG	NN	B13	N		U		TORUS WATER LVL RECORDER 1T48-R607B INOP	DEFECTIVE RECORDER AMPLIFIER
G	EN1	032305	081680	IN	DG	SN	B00	T		U		CLOSED IND LGHT ON VLV 1T48-F323H INOP	UNKNOWN
G	EN1	033171	110680	GS	LS	SA	B08	N		D		ADS RX WTR LVL SW 1B21-N042A OOT (LOW)	GALLING OF THE RANGE ADJUSTING SCREW
G	EN1	033420A	121280	MO	RR	NN	A14	N		T		FISSION PRODUCT MON 1D11-K631 OOC	DISCRIMINATOR SETPOINT DRIFT
G	EN1	033420B	121280	MO	RR	NN	A14	N		T		PARTICULATE & NOBLE GAS COUNT MON 1D11-K633 OOC	INSTRUMENT DRIFT
G	EN1	033718	123080	RE	PT	PX	A13	N		D		D/W HP RELAYS 1C71-K4B DID NOT FUNCTION PROPERLY	BROKEN INSULATION PRVNT CKTCTS DEENERGZ
G	EN1	163661	011381	RC	TG	IC	B08	N		V		1T47-R612,DRYWELL TEMPERATURE RECORDER FAILED	MECHANICAL MISALIGNMENT
G	EN1	036554*	030781	RE	XS	SA	A14	T		T	2	TIMER RELAYS B21-K752A,B FOUND OOC	SETPOINT DRIFT OF RELAYS
G	EN1	036945*	041381	RE	XT	PX	A14	N		T	3	RPS MG SET OVERVOLTG RELAY 1C71-K751B,D;UNDERVOLTG	//RELAY 1C71-K752C OOC. SETPOINT DRIFT
G	EN1	166321	050581	MO	RS	NN	A14	T		T		1D11K619A RX BLDG RAD MONITOR ALARM FOUND OOC LOW	INSTRUMENT DRIFT
G	EN1	037521	060581	RE	XS	SQ	B08	T		D		RELAY FAILED WHICH CAUSED RCIC VLV 1E51-F105 NOT -	-TO OPEN. COVER BOUND UP RELAY
G	EN1	038486	082881	GS	LS	SQ	A14	M		T		RX LVL IND SW #3 1B21-N031A ACTUATED OOC (HIGH)	SETPOINT DRIFT
G	EN1	039302	110481	SE	NT	PX	B09	T		U		IRM 1C51-K601E FAILED IRM FUNCTIONAL TEST	COLD SOLDER JOINT ON J1 SIG INPUT TO DRWR
G	EN1	171832	111681	CL	XG	NN	B13	T		D		SBGT FILTER TRAIN "A" HEATER CONTROL BOX FAILED	SHORT IN IND LIGHT FAILED TRANSFORMER
G	EN1	172151	121881	CA	DG	NN	B09	N		D		RPI SYSTEM INOP DUE TO SHORT CIRCUIT	LOOSE CNNCTN ON FUSE BLOCK
G	EN2	022286	080378	GS	LS	SH	B13	T		D		LEVEL SW 2B21-N031B ASSEMBLY FAILED TO OPERATE	TECH TRYING FOR REPEATABILITY
G	EN2	022204	082278	IN	LG	SN	A14	N		T		YARWAY 2B21-L1S-N031B INDICATING HIGH	ZERO SHIFT OF INDICATOR CALIBRATION
G	EN2	022704	101678	IM	NT	PX	A14	N		T		RPS CHAN A INOPERATIVE	APRM E DRIFTED HIGH TO 109
G	EN2	022752*	101778	GS	LS	SN	A05	N		U	2	LEVEL SW SETPOINT HIGHER THAN INTENDED	INSTALLATION DEVIANT FROM SPECIFICATIONS
G	EN2	022981	111778	IN	LG	SN	B08	T		V		YARWAY 4418C 2B21-B025A FAILED TO CALIBRATE	BINDING OF POINTER SHAFT BUSHING LOW END
G	EN2	023453A	122978	GS	LS	SN	B13	T		T		SW NO 1 INOPERATIVE PART OF SW ASSY 2B21-NO 318	BROKEN FOOT 2B21-NO 318

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	EN2	023453B	122978	GS	LS	SN	A14	T		T		SW NO 3 SETPOINT 122.2" VICE 117.2" P/O SW ASSY	2B21-NO 31B SETPOINT DRIFT
G	EN2	025099	010279	GS	PS	SN	A14	T		T		RX PRESSURE SWITCH 2B21-N021C #2 FOUND OOC HIGH	INSTRUMENT SETPOINT DRIFT
	EN2	025101	010279	RE	PS	SN	B13	T		U		RX PRESS INST FT&C,RELAY 2B21-K344 FAILED	OPEN COIL, RELAY REPLACED
G	EN2	025029*	011779	GS	XS	SN	A16	T		T	3	SWITCHES 2B21-N301F,H&L DID NOT ACTUATE	DIAPHRAM FAILED IN ALL SWITCHES
G	EN2	026028*	052779	GS	PG	NN	A14	T		T	2	PRESS SWITCHES 2B1-N020A&B FOUND OUT OF CAL HIGH	INSTRUMENT SETPOINT DRIFT
G	EN2	026421	070379	IN	XG	SN	A14	T		T		WHILE PERFORMING HNP-2-3055 RPM 'A' DOWNSCALE SET/	/POINT FOUND HIGH. SETPOINT DRIFT
G	EN2	026454	071179	TX	FS	SL	B13	T		U		RHR FLOW INDICATION LOST	XMITTER POWER SUPPLY FUSE BLEW
G	EN2	026424	071279	GS	PT	PX	A14	T		T		HIGH DRYWELL PRES SW E211-N010 SETPOINT FOUND HIGH	SETPOINT DRIFT
G	EN2	026425	071779	CA	XS	SL	B00	N		U		OPEN LINK BETWEEN TRANSMITTER AND CONTROLLER FAIL	UNKNOWN. CONTROLLED VLV 2E11-F068A
G	EN2	026447	071879	ZZ	XG	NN	B00	N		U		FLOW FOR RWCU LEAK DETECTION SYS INDICATED ERRATIC	NO CAUSE FOUND
G	EN2	026644	080279	GS	PS	SH	A14	T		T		2E41-N012C,HPCI EXHUST PRESSURE SWITCH,FOUND OOC	INSTRUMENT DRIFT
G	EN2	026728	081379	MO	RR	NN	A14	T		T		MSL RAD MON INST 2D11-K603B SET POINT FOUND OOC HI	INSTRUMENT SETPOINT SWITCH
G	EN2	026727	081879	GS	PG	NN	A14	T		T		MSL PRESSURE INSTRUMENT 2B21-N015A FOUND OOC HI	SETPOINT DRIFT
G	EN2	026830*	090379	GS	LS	SH	A14	T		T	2	RX WTR LEVEL SW'S WHICH ISO HPCI SYS,2B21-N017B //	& 2B21-N017D FOUND OOC HI. SETPOINT DRIFT
G	EN2	026946*	091879	GS	FS	IC	A14	T		T	4	MSL FLOW SWITCHES 2B21-N006A,6B,6D,7A FOUND OOC	SETPOINT DRIFT
G	EN2	027519	111379	IM	NG	NN	A14	T		T		APRM 'F' WENT INOP WITH 9 LPRM INPUTS INSTEAD OF /	/10 INPUTS. INSTRUMENT SETPOINT DRIFT
G	EN2	027776	120579	GS	LS	SA	A14	T		T		RX WTR LEVEL (ADS) SWITCH,2B21-N042B,FOUND OOC	INSTRUMENT DRIFT
G	EN2	027771	121479	MO	RR	NN	J09	T		U		2D11-K633 FAILED TO GIVE INOP RESPONSE WHEN TURNED	//OFF. BAD WIRING CONNECTIONS(FISSION PRU
G	EN2	027849	122479	RC	TG	IC	B13	N		D		DRYWELL AND TORUS TEMPERATURE RECORDER INOPERABLE	COLD SOLDER JOINT IN 2T47-R626
G	EN2	030032	010280	TX	LG	NN	A14	T		T		LVL TRANSMITTER 2T48-N021B OOT	ZERO AND RANGE DRIFT
G	EN2	030305	020480	ZZ	NT	PX	B14	T		T		APRM "C" DECLARED INOPERABLE	INSTRUMENT DRIFT
G	EN2	030533*	022980	GS	PS	SH	A14	N		T	2	HPCI EXHAUST DIAPHRAGM PRESSURE SWITCHES OOT (HI)	INSTRUMENT DRIFT
G	EN2	030593	030880	RE	XS	SL	A14	N		T		RELAY 2E11-K75A OOT (HIGH)	INSTRUMENT DRIFT
G	EN2	030594	031580	RE	XG	NN	B00	N		U		ISOL VLV 2P41-F316A DIDN'T ACTUATE TO ITS ISOL POS	TIME DELAY RELAY 2P41-K4 DIDN'T TIME OUT
G	EN2	030652	032080	GS	PG	NN	A14	N		T		PRESSURE SW 2C71-N005D OOT (LOW)	INSTRUMENT DRIFT
G	EN2	030765B	032180	GS	XC	NN	B00	T		U	2	LEAK DETECTOR SW INOP	UNKNOWN
G	EN2	031017	041980	RE	XG	NN	B00	T		U		SYS INITIATION PERMSV CNTCTS FAILED TO OPEN	RELAY 2E32-K33B FAILED CAUSE UNKNOWN
G	EN2	030975	042180	GS	FS	SN	B00	T		U		MIN FLO CNTRL VLV 2E41-F012 CYCLED FOR NO REASON	FLO SW FOR HI/LO SIG TO VLV FAILED
G	EN2	030980	042480	PS	XS	SQ	B00	N		U		RCIC INOPERABLE	COMPONENT FAILURE CAUSE UNKNOWN
G	EN2	031319	052180	CL	XG	SQ	B06	N		D		RCIC TRPD ON OVERSPEED IN MAN S/U USED TEST INST//	EAD OF AUTO FLO CNTRLLR. DFCTV PROC
G	EN2	031555	060480	ZZ	XS	SH	A06	N		D		HPCI AUTU ISOL LOGIC "B" INOP	CAL PROCDR HAS TOO CONSERVATIVE SETPOINT
C	EN2	031556	061180	PS	AC	NN	B00	N		U		"B" RBM INOPERABLE	+20V POWER SUPPLY FAILED
G	EN2	031602	061780	IN	FG	NM	312	T		T		"A" MSL INBRD LEAKAGE CNTRL SYS FLO IND PEGD UPSCL	BENT & DIRTY FLO ELEMENT FLOAT
G	EN2	031659A	061980	GS	PG	NN	B00	N		U		RX BLDG TO TORUS VAC BRKR ISOL VLV FAILED OPEN	DELTA PRESSURE SW 2T48-N211 FAILED
G	EN2	031723*	062580	GS	FS	SQ	A14	N		T	2	FLO SW 2E41-N004 #1 & 2 OOT (LO/HIGH)	SETPOINT DRIFT
G	EN2	031724	062680	TX	PS	SH	A14	N		T		HPCI PMP SUCTN PRESS IND 2E41-R606 INDICATING LOW	PRESS XMITTR 2E41-N019 DRIFTED OOT
G	EN2	031659B	062780	GS	PG	NN	B00	N		U		RX BLDG TO TORUS VAC BRKR ISOL VLV FAILED OPEN	DELTA PRESSURE SW 2T48-N211 FAILED
G	EN2	031722*	070980	GS	PS	IC	A14	N		T	4	HI D/W PRESS SW 2E11-N010A THRU D OOT (HIGH)	SETPOINT DRIFT
G	EN2	032379	082480	SE	XG	NN	B00	N		U		INBOARD MSIV LEAKAGE CNTRL SYS INOP & NO VLV LGHTS	OPEN FUSE IN VLV CONTROL CIRCUIT
G	EN2	032569	091080	GS	PS	SD	A14	T		T		CORE SPRAY PUMP DSCHRG PRESS SW 2E21-N008B OOT LOW	SWITCH SETPOINT DRIFT
G	EN2	032668*	092380	GS	LT	PX	A14	T		T	2	RX WATER LVL SW 1 & 2 TRIPPED OOT (HIGH)	SETPOINT DRIFT
G	EN2	032768A	092580	IN	LG	SN	A12	N		T		RX LVL SW 3 & 4 TRIPPED OOT (HIGH)	INDICATING POINTER BINDING ON FACEPLATE
G	EN2	032768B	092580	IN	LG	SN	A00	N		U		RX LVL SW 3 & 4 TRIPPED OOT (HIGH)	LOOSE MAGNET ASSEMBLY
G	EN2	032927	101480	GS	PS	SH	A14	N		T		HPCI STEAM LINE DP 2E41-N004-#2 SW OOT (HIGH)	SETPOINT DRIFT
G	EN2	032929	101580	GS	PS	IC	A14	M		T		MAIN STM LINE PRESS SW 2B21-N015B OOT (LOW)	SETPOINT DRIFT
G	EN2	033209	110280	GS	PS	SH	B00	N		U		HPCI STM LINE PRESS "A" LOGIC DIDN'T AUTO ISOLATE	UNKNOWN
G	EN2	036409	022281	CL	FG	SQ	A13	T		U		FLO CONTROLLER OP IMPROPERLY IN AUTO POSITION	LOOSE RIBBON CNNCTR ON FLO CNTRL A/M STAT
G	EN2	036950	041381	IN	DG	NN	B00	N		U		B RECIRC PMP DSCHRG VLV POS IND LIGHTS OUT	BLOWN FUSE IN VALVE CONTROL CIRCUIT
G	EN2	037029	042281	GS	TS	SQ	A14	N		T		RCIC SUPPRESSN CHAMBER AREA D/T SW 2E51-N604B OOC/	/(HIGH). SETPOINT DRIFT
G	EN2	037205	043081	TX	FS	SQ	B13	M		U		DFCTV WTR FLO XMTR 2E51-N003 IN REMOTE S/D PANEL	DFCTV SPANNING SWITCHING ASSEMBLY

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	EN2	037723*	061181	GS	PT	PX	A14	N		T	3	TURB 1ST STG PRESS PRMSSV SW 2C71-N003A-C OOC	SETPOINT DRIFT
G	EN2	168634	080481	IM	FT	PX	B00	N		U		CH III FEED FLOW INDICATOR BEGAN SPIKING	FAILED SQUARE ROOT CARD,NO CAUSE GIVEN
G	EN2	038413	082281	GS	PS	SN	A14	N		T		TORUS-TO-ATMOSPHERE HI D/P SW 2T48-N210 OOC (HIGH)	SETPOINT DRIFT
G	EN2	038500	083081	TX	LG	NN	A00	N		U		RX WTR LVL RECORDER 2B21-R615 RDG FAULTY	XMTR/CONVERTER 2B21-K751 OUT-OF-TOLERANCE
G	EN2	171784	111981	RC	TG	IC	B09	N		U		DRYWELL TEMPERATURE RECORDER 2T48-R627 FAILED	LOOSE POWER CONNECTION
G	EN2	172232	122781	GS	LS	SN	A14	T		T		RX WTR SHROUD LVL SW 2B21-N036 OOC (HIGH)	INSTRUMENT SETPOINT DRIFT
G	FP1	014485*	040376	GS	PT	PX	A14	T		T	9	NINE HIGH DRYWELL SWITCHES SETPOINTS WERE HIGH	NORMAL DRIFT AND TOO CLOSE TO T S LIPITS
G	FP1	014480	040876	MG	RR	NN	B02	N		U		ATMOSPHERE ANALYZER B INOP FOR CAL., A UNPLUGGED	ANALYZER A INADVERTANTLY UNPLUGGED
G	FP1	015061	061076	MO	RT	PX	A00	N		U		MN STM LINE RAD MONITOR EP-17-RM-251A SPURIOUS	TESTED AND WORKED PROPERLY CAUSE UNKNOWN
G	FP1	015238	070376	IN	RG	NN	A00	N		U		HIGH RADIATION ALARM CONTROL ROOM ANNUNCIATOR	NO APPARENT CAUSE SPURIOUS TRIP
G	FP1	015678	080576	MO	RR	NN	B13	T		T		RAD WASTE VENT SYST MONITOR B INOPERABLE	FAILED COMPONET IN MONITOR CRM-51M
G	FP1	015497	080876	SE	NT	PX	A14	T		T		APRM C WOULD NOT TRIP AT LESS THAN 11 INPUTS	RANDOM SET POINT DRIFT
G	FP1	015517	080976	SE	TG	SN	B13	T		T		LEAK DETECTION TC DEFECTIVE NO OUTPUT	FAILED THERMOCOUPLE
G	FP1	015851	090576	IM	NT	PX	A14	T		U		APRM INOP SIGNAL WOULD NOT FUNCTION	CAUSE NOT GIVEN, DRIFT ASSUMED
G	FP1	015972*	092976	MO	RR	NN	B09	T		U	2	RAD WASTE BLDG VENT MNTRS FAILED TO TRIP EXHAUST	TRIP CKTS ELECTRICALLY MALFUNCTIONED
G	FP1	016375	110976	SE	FS	SH	A05	N		U		SPURIOUS HPCI INITIATION UPON REACTOR SCRAM	LACK OF STEAM SENSING FLOW SNUBBERS
G	FP1	016414	111576	GS	PS	SN	A14	T		T		PRESS SW 2-3-52C (1 OF 4) ACTUATED EARLY	SW MODEL B2T-M12SS SETPOINT DRIFTED
G	FP1	016506	120176	CA	PG	SN	B09	N		U		LOSS OF BELLOWS MONITOR SAFETY REL VALVE 02-71A	BROKEN WIRE FROM SENSOR
G	FP1	016599	121276	CA	PG	SN	A09	N		U		BELLOWS LEAK ALARM ON RELIEF VALVE 02-RV-71E	DAMAGED WIRING
G	FP1	016778	010377	GS	LS	SN	A14	T		T		REACTOR LOW WATER LEVEL SETPOINT 11 INCH VICE 12.5	NORMAL DRIFT
G	FP1	017338	030777	CL	FG	SQ	B13	N		T		B RX RECIRC PUMP SPEED INCREASE W/O OPERATOR ACTIO	CAPACITOR FAIL IN CONTROLLER
G	FP1	019497	102177	GS	PS	IC	B13	T		T		PRESS SWITCH 2-134D HAD MINOR LEAK	SWITCH FAILED AND WAS REPLACED
G	FP1	019774	111677	MO	RR	NN	A14	T		T		INST OUT OF CALIBRATION INST 17-355B	INST DRIFTED AND WAS RECALIBRATED
G	FP1	019772*	111777	RE	XG	NN	B05	T		U	2	TURBINE BLDG EXH FANS 67FN23A&B DID NOT STOP	TIMING RELAY REMOVED DURING PLANT MOD
G	FP1	019770	120677	IM	NC	SN	A02	T		D		ROD BLOCK MONITOR B TRIP PTS HIGH	PERSONNEL ERROR AND INST DRIFT
G	FP1	019769*	121277	GS	PS	IC	A14	T		T	2	PRESS SW 2-134C AND D SETPOINTS INCORRECT	LOW PRESS SETTINGS AT 848 6 846 VICE 850
G	FP1	020249	010978	GS	PS	IC	A14	T		T		PRESS SW 2-134B SETTING INCORRECT	LOW PRESS SETTING AT 846 VICE 850
G	FP1	020250	011078	GS	PG	SL	A14	T		T		PRESS SW 02-3-PS-52A OUT OF SPEC	SW ACTUATED APPROX 7 LBS LATE
G	FP1	020688	021778	CL	XG	NN	B13	N		T		SBGT HUMIDITY CONTROLLER FAILED	FAILED RECTIFIERS
G	FP1	023498	062278	CS	DC	NN	A12	N		D		ROD POSITION IND INCORRECT	STUCK REED SWITCH, RETURNED TO NORMAL
G	FP1	021712	062978	GS	TG	SH	B13	N		T		TEMP SW 13-TS-107C INOPERATIVE	SWITCH DEFECTIVE, REMOVED AND REPLACED
G	FP1	021935*	072178	IN	XG	NN	B09	N		U	2	BOTH PH METERS FOR MUDWNT INOPERATIVE	ELECTRICAL GROUND IN CABLE
G	FP1	021944	072678	MO	RR	NN	A14	T		T		OFF-GAS RAD MONITOR INDICATING LOW	INSTRUMENT DRIFT
G	FP1	022116	080178	GS	PS	IC	A14	T		T		SW 33-PS-135A TRIP POINT HIGH	INST DRIFT OF SETPOINT
G	FP1	022121	080278	MO	RR	NN	B00	N		U		OFF-GAS RAD MON FAILED DOWNSCALE	CLEARED SELF CAUSE UNKNOWN
G	FP1	022117	080578	TX	FG	SL	B09	T		U		FLOW IND 10-FI-133A FAILED UPSCALE	ELECTRICAL SHORT FLOW XMTR 10-FT-109A
G	FP1	022277	082878	GS	LS	SN	A14	T		T		REACTOR L-L LEVEL SETPOINT -135 VICE -38	INST DRIFT SUSPECTED, INCREASING SURVEILL
G	FP1	022328	090578	GS	LS	SN	A14	T		U		LEVEL SW SETPOINT -55 VICE -38	SETPOINT DRIFT SUSPECTED, LATER REPLACED
G	FP1	023120	120478	GS	DI	PX	B02	T		D		MSIV 3 29-AOV-80B POS SW INCORRECT SIGNAL	WIRING ERROR DURING MAINTENANCE
G	FP1	023147	120978	IN	NG	SN	B00	N		U		RBM UP & DOWNSCALE CHECKS NOT WORKING	PROBLEM CLEARED SELF, UNKNOWN CAUSE
G	FP1	025085	010879	AM	NT	PX	B00	T		U		'B' APRM FLOW BIAS PORTION OF INS LOOP FOUND INOP	OPERATIONAL AMPLIFIER FAILED,UNKNOWN
G	FP1	025047	011579	GS	FS	SQ	A14	T		T		MSL HIGH FLOW INST 02-DPIS-116B FOUND OOC HI	INSTRUMENT DRIFT
G	FP1	025164	020279	IM	FG	NN	B00	N		U		STEP CHANGE NOTED CORE TOTAL FLOW	SQUARE ROOT EXTRACTOR FAILED. UNKNOWN
G	FP1	025542*	031579	ZZ	XC	NN	B00	T		U	2	ROD SEQUENCE CONTROL SYSTEM FAILED TEST	VARIOUS CIRCUIT BOARDS REPLACED,UNKNOWN
G	FP1	025625	040979	MO	RR	NN	A14	T		T		MAIN STACK RAD MON 17-RM-50B DID NOT GIVE ALARMS	PULSE HEIGHT DISCRIMINATOR DRIFTED
G	FP1	025971A	051479	GS	LS	SN	A00	T		U		RX WTR LEVEL INST 02-3-LIS-72D DID NOT TRIP	NO CAUSE GIVEN. INSTRUMENT RECALIBRATED
G	FP1	025971B	052879	GS	LS	SN	B00	T		U		RX WTR LEVEL INST 02-3-LIS-72D DID NOT TRIP	INSTRUMENT REPLACED. NO CAUSE GIVEN
G	FP1	026075	060779	GS	PS	SQ	A14	T		T		RCIC LOW PUMP SUCTION PRESS SW 13PS-67A FOUND OOC	INSTRUMENT DRIFT
G	FP1	026387	072079	MO	RR	NN	A14	T		T		"D" MSL TUNNEL RAD MON,17-RM-251D,FOUND OUT OF CAL	SETPOINT DRIFT
G	FP1	026861	082879	RC	RG	NN	A00	T		U		OFF GAS RAD MON RECORDER,17-RR-U52,DID NOT CORRES/	/POND TO 'A' CH MONITOR. NO CAUSE GIVEN

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	FP1	026847*	083079	ZZ	TG	NN	A14	T		T	2	INLET AND DISCHARGE DT FOUND OUT OF CALIBRATION	DRIFT
G	FP1	026919	090279	MO	RR	NN	B14	T		T		'A' RADWASTE BLDG EXHAUST MON,17-RIS-458A, OOC	INSTRUMENT DRIFT--INSTR REPAIRED,RECALED
G	FP1	026920	090279	MO	RR	NN	A14	T		T		'B' RX BLDG EXHAUST MON,17-RIS-452B,FOUND OOC	INSTRUMENT DRIFT
G	FP1	026925	090579	GS	LS	SH	B00	T		U		PLUG IN INSTRUMENT 2-3-LIS-72A FOUND LEAKING	NO CAUSE GIVEN
G	FP1	027004*	090779	IM	NT	PX	A00	T		U	3	APRM CHANNELS A,D & F FOUND TO HAVE TRIP SETPOINTS	//SET TO HIGH(.5%). NO CAUSE FOUND
G	FP1	027005	090779	RE	XC	NN	B00	N		U		ROD SEQUENCER FAILED,DID NOT ALLOW MOVEMENT OF ROD	RELAY FAILED, NO CAUSE GIVEN
G	FP1	027001	090979	IM	XC	NN	B00	N		U		IMPROPER INPUTS TO LEVELS 'A' & 'C' OF RBM 'A' FO/	/UND INCORRECT. FAILED INTEGRATED CKT
G	FP1	027022	091579	PS	FG	NN	B13	N		U		DRYWELL EQUIP DRAIN SUMP FLOW INTEG FOUND INOP	BLOWN FUSE IN POWER SUPPLY TO INTEGRATOR
G	FP1	027203	100279	GS	LS	SN	A14	T		T		RX WATER LEVEL INST 02-3-LIS-72A FOUND OUT OF CAL	INSTRUMENT DRIFT. (RX LO LO/LO LO LO)
G	FP1	027326	101379	GS	TS	SH	B09	N		U		HPCI AREA TEMP SW GIVING INTERMITTENT ISO SIGNAL	LOOSE LEAD
G	FP1	027403	103179	MO	RR	NN	B13	T		U		RADWASTE BLDG EXHAUST MON 17-RIS-458B FOUND INOP	TRIP CIRCUIT HAD FAILED
G	FP1	027400D	110279	TX	PS	IC	B00	N		U		DRYWELL TO SUPPRESSION CHAMBER DP XMITTER DECLARED	//INOPERABLE. NO CAUSE GIVEN
G	FP1	027605	111079	ZZ	NT	PX	A00	T		U		SRM 'A' EXHIBITED ERRATIC OPERATION	NO CAUSE COULD BE FOUND
G	FP1	027822	111879	ZZ	DT	PX	B00	T		U		MSIV 29-AOV-80A DID NOT GIVE A HALF SCRAM	NO CAUSE COULD BE DETERMINED
G	FP1	027828	121379	PC	TG	IC	A13	T		T		DRYWELL & SUPPRESSION POOL TEMP RECORDER FOUND OOC	FAILED PRINTED CIRCUIT BOARD
G	FP1	027829	121479	GS	TS	IC	B13	N		U		HPCI SL ISOLATION VLV CLOSED DUE TO SPURIOUS	THERMOCOUPLE HAD LOOSE WIRE
G	FP1	027830	121479	GS	FS	SH	A14	T		T		ONE OF FOUR FLOW INST FOUND OOC,NON-CONSERVATIVE	INSTRUMENT DRIFT
G	FP1	027871	122179	MO	RR	NN	B11	N		U		LOW FLOW ALARMS ASSOCIATED WITH STACK GAS MON SYS	PLUGGED SENSING LINES,NO CAUSE FOUND
G	FP1	027894A	122779	PS	NT	PX	B13	N		U		SRM CHANNEL D FOUND INOPERABLE	FAILED POWER SUPPLY VOLTAGE REGULATOR
G	FP1	027894B	122779	ZZ	NT	PX	B00	N		U	2	PROBLEMS ENCOUNTERED WITH SRM CHANNELS 'A' & 'C'	NO CAUSE DETERMINED
G	FP1	030054	010780	GS	PS	SD	A14	T		T		CORE SPRAY INJECTION PERMISSIVE SW OOT (LOW)	INSTRUMENT DRIFT
G	FP1	030183	011480	SS	LS	SN	B00	T		U		RX LO-LO-LO LEVEL SW A DID NOT OPERATE PROPERLY	DID NOT CLOSE AT SET POINT
G	FP1	030361	020780	CA	NT	PX	B00	N		D		IRM B SIG CABLE CNNCTR CENTER PIN DAMAGED	NORMAL WEAR/TEAR IN ROUTINE INSTR CAL
G	FP1	030422	021380	GS	TS	SH	A00	N		U		HPCI STM ISOL VLV CLOSED DUE TO SPURIOUS ISOL SIG	LOOSE WIRE IN T/C SW
G	FP1	030587	022880	ZZ	NT	PX	A14	T		T		APRM B INOP WHEN FUNCTION SW RETURNED TO OPER POS	NORMAL HYSTERESIS EFFECT CAUSED PROBLEM
G	FP1	031144	042180	TX	PG	NN	A14	N		T		DIFFERENTIAL PRESSURE XMITTR OUT OF PROCEDURE TOL	INSTRUMENT DRIFT
G	FP1	031145	042880	RC	NG	NN	B00	N		T		RECORDER PEN FOR SRM B & D STUCK	NORMAL WEAR/TEAR RPLCD BRG,PRE-AMP,CAL RC
G	FP1	031165	042880	ZZ	NT	PX	A14	T		T		APRM B SCRAM & ROD BLOCK SETPOINT OOT (HIGH)	INSTRUMENT DRIFT
G	FP1	031163*	042980	SE	NS	SN	B00	N		T	2	RBM A INOP WHEN CR 26-19 SELCTD INADQ # LPRM INPUT	LPRM FAILURES DUE TO AGE
G	FP1	031290	052180	RC	NG	NN	A14	T		T		SRM A/C RECORDER INDICATED LOW	CAUSE OF FAILURE ATTRIBUTED TO DRIFT
G	FP1	031426	052880	LS	PG	NN	A14	N		T		NO INTERLCK ON REFUEL BRDG MVMNT TO OVER CORE AREA	DRIFT OF REFUEL BRIDGE POS SENSING LMT SW
G	FP1	031605	060780	ZZ	NT	PX	A14	N		T		IRM A INDICATING IMPROPERLY (LOW)	INSTRUMENT DRIFT
G	FP1	031597	061080	GS	XG	NN	B09	N		U		EDG "C" TRIPPED ON HI CIRCULATING CURRENT	HI RESISTANCE CNTCTS ON REGULTRY DROOP SW
G	FP1	031729A	070380	GS	XC	NN	A14	N		T	99	CRD HYDRLC CNTRL UNIT ACC PS,LVL SW,PRES IND OOC//	OR OPER IMPROPRLY. MAINLY INSTR DRIFT
G	FP1	031729B	070380	GS	XC	NN	A14	N		T	27	CRD HYDRLC CNTRL UNIT ACC PS,LVL SW,PRES IND OOC//	OR OPER IMPROPRLY. MAINLY INSTR DRIFT
G	FP1	031729C	070380	GS	XC	NN	B00	N		U	2	CRD HYDRLC CNTRL UNIT ACC PS,LVL SW,PRES IND OOC//	OR OPER IMPROPRLY. (2) REPLACED
G	FP1	032187	080680	TX	FS	IC	A14	N		T		D/W EQUIP DRAIN SUMP PUMP FLOW XMITTER OOT (LOW)	INSTRUMENT DRIFT
G	FP1	032188	080780	RE	XS	SA	A14	N		T		ADS TIMER OUT (LOW)	INSTRUMENT DRIFT
G	FP1	032562	090380	GS	PI	PX	A14	N		T		HIGH D/W 05-PS-128 OOT (HIGH)	INSTRUMENT DRIFT
G	FP1	032802	100580	TX	FS	IC	B00	N		U		D/W EQUIP DRAIN SUMP INTEGRTR & FLO RECORDER INOP	REPLACED FLO XMITR 20-FT-364
G	FP1	033325*	112480	GS	LS	SN	A14	N		T	2	WTR LVL INSTR 02-3-LIS-72D SW 3/4 OOT (LOW)	INSTRUMENT DRIFT
G	FP1	033327	113080	LS	DT	PX	A14	N		T		MSIV 29-AOV-80A 10% CLOSURE LMT SW DID NOT RESET	MECHANICAL DRIFT
G	FP1	033575	121280	GS	LT	PX	B08	N		D		RX WTR LVL SW 02-3-DPIS-101D ERRATIC SET POINT	WORN (STRIPPED) SET POINT LOCK SCREW
G	FP1	033618	121680	GS	LS	SN	A14	N		T		WTR LVL SW 02-3-LIS-58A OOT (LOW)	INSTRUMENT DRIFT
G	FP1	033716	122980	GS	LT	PX	A00	N		T		RX LVL SW 02-3-LIS-101B OOT (LOW)	NORMAL WEAR AND TEAR (AGE)
G	FP1	036401	011781	CL	XS	SH	B00	N		U		HPCI SYS STARTED DIDN'T OP AUTO AT RATED SPEED	NOT GIVEN SEE LER 81-020
G	FP1	036232	012481	IM	FS	SH	A14	N		T		HPCI FLO SQ ROOT COMPUTATN MODULE OOC (HIGH)	INSTRUMENT DRIFT
G	FP1	036402*	020981	GS	FS	IC	A14	N		T	2	STM LINE HI FLO SW 02-DPIS-116A/B OOC (HIGH)	INSTRUMENT DRIFT
G	FP1	036403	021381	CL	XS	SH	B13	N		U		HPCI CONTROLLER FAILURE NOTED BY OPERATIONS PERS	XSTR Q8 & Q9 FAILED IN AMPLIFIER
G	FP1	036523A	022581	GS	LT	PX	B13	N		U		RX WTR LVL INSTR 02-3-LIS-101C OOC (LOW)	BROKEN SWITCH LOCK

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	FP1	036523B	030281	GS	LT	PX	B13	N		U		RX WTR LVL INSTR 02-3-LIS-101C OOC (HIGH)	BROKEN SWITCH LOCK
G	FP1	036614	032381	GS	LT	PX	A14	N		T		RX WTR LVL SW 02-3-LIS-101A OOC (HIGH)	INSTRUMENT DRIFT
G	FP1	036698	032481	IX	FS	SL	A14	M		T		RHR SERVICE WTR FLO XMTR B OOC IN HI DIRECTION	INSTRUMENT DRIFT
G	FP1	036902*	040181	SE	DS	SN	B00	N		U	2	RSCS WOULDN'T ALLOW NORMAL CNTRL ROD MOVEMNT IN SD	CR PUS PROBE REED SWITCHES FAILED
G	FP1	037021	041481	LM	XG	NN	B12	N		T		COMPUTER OOS NO DIRECT IND OF DW/TORUS D/P AVAIL	DIRTY PRINTED CKT BRD CONTACTS
G	FP1	166105	041881	MO	RT	PX	B09	N		U		MSL RADIATION MONITOR "B" BECAME ERRATIC	LOOSE FUSE
G	FP1	037303	050581	IN	FG	SL	A14	N		T		RHR FLO INDICATOR 10-FI-133A OOC (HIGH)	INSTRUMENT DRIFT
G	FP1	037585A	060181	GS	LG	NN	B00	N		U		RX WTR LVL INSTR 02-3-LIS-58A SW #3 INOPERABLE	FAILURE COULD NOT BE DUPLICATED
G	FP1	037585B	060281	GS	LG	NN	B00	N		T		RX WTR LVL INSTR 02-3-LIS-58A SW #3 INOPERABLE	MAGNETIC SW FAILED DUE TO AGE
G	FP1	037587	060381	IM	FG	NN	A14	N		T		D/W FLOOR DRAIN SUMP FLO RECORDER/SQ ROOT MOD OOC	INSTRUMENT DRIFT
G	FP1	037518	060881	TX	TG	NN	A14	N		T		TORUS WTR TEMP XMTR 27-TT-101D OOC BY 1.6%	INSTRUMENT DRIFT
G	FP1	037713	070181	GS	PS	IC	A14	K		T		CONDENSER VACUUM SW 33-PS-135B OOC (LOW)	INSTRUMENT DRIFT
G	FP1	168107	072381	MO	RT	PX	B14	T		T		"C" MSL RAD MONITOR 17-RM-251C FOUND OOC 25%	INSTRUMENT DRIFT
G	FP1	038279	080581	CA	MT	PX	A09	N		T		IRMG ERRATIC W/ UPSCL SPIKES CAUSG HALF-SCRAMS	LOOSE CNNCTR AT PRE-AMP CAUSD GROUNDING
G	FP1	038524	082181	GS	PS	SD	A14	N		T		CORE SPRAY PRMSSV PRESS SW 02-PS-52A OOC (LOW)	INSTRUMENT DRIFT
G	FP1	038525	082481	GS	FS	SH	A14	N		T		HPCI HI STM FLO D/P SW 23-DPIS-76 OOC (HIGH)	INSTRUMENT DRIFT
G	FP1	038788*	091581	SE	DG	NN	B00	N		U	2	BOTH SAFETY RELIEF VLV PRIMARY POS IND INSTR INOP	DETERMINED AT NEXT PRIMARY CNTNMNT ENTRY
G	FP1	038994	100681	GS	PS	SH	A14	N		T		HPCI TURB EXHST DIAPHRAGM PRESS SW 23-PS-86B OOC	INSTRUMENT DRIFT
G	FP1	171820	111781	CL	XG	NN	B00	T		U		"A" SGTS HEATER CONTROLLER FAILED TO MAINTAIN HUM-	-IDITY GREATER THAN 70%. NO CAUSE GIVEN
G	MI1	014214	012076	MO	RT	PX	A14	T		T		MAIN STEAMLINE RADIATION MONITOR 40% LOW OUTPUT	AMPLIFIER DRIFT WITHIN MONITOR
G	MI1	014229	021076	GS	PT	PX	A14	T		T		CONDENSER VAC SWITCH OUT OF TOLERANCE BY 0.1 IN HG	DIT-H185S VAC/PRESS SW INST DRIFT
G	MI1	014291	021976	GS	PT	PX	A14	T		T		TURBINE CONT VALVE ACC RELAY PRESS SW EARLY TRIP	P72AA-997 PRESS SW SETPOINT DRIFT
G	MI1	015456	081376	CM	NT	PX	A14	T		T		INTERMED RANGE MONITOR SETPOINT LESS CONSERVATIVE	SETPOINT DRIFT OF INSTRUMENT CHANNEL
G	MI1	016617	121376	MO	RR	NN	B05	T		D		RADIATION MONITOR INOPERABLE, DOWN FOR REPAIRS	PAINT BUILDUP ON CONNECTOR
G	MI1	016671	122176	MO	RR	NN	B13	T		T		AIR EJECT OFF-GAS RAD MONITOR WILL NOT ADJUST	SHORT ZERO ADJUSTMENT POTENTIOMETER
G	MI1	017208	021477	GS	PT	PX	A14	T		T		DRYWELL HIGH PRESS SCRAM & CONT ISOL SW TRIP HIGH	MODEL 288 0-5PSI PRESS SW SETPOINT DRIFT
G	MI1	017215*	021577	GS	PT	PX	A14	T		T	2	2 OF 4 COND LOW VAC SCRAM SW TRIPPED OUTSIDE T.S.	MODEL DIT-H185S PRESS SW SETPOINT DRIFT
G	MI1	019494	110177	MO	RR	NN	B13	N		U		OPERATING STACK SAMPLE PUMP TRIPPED OFF LINE	PUMP WEAR CAUSED MOTOR TO TRIP OFF
G	MI1	019628	110777	GS	LS	SN	B08	T		U		RX LOW-LOW WATER LEVEL SW WOULD NOT ACTUATE	FOREIGN PARTICLES BINDING SHAFT ASSEMBLY
G	MI1	020514	021478	RE	XT	PX	A14	T		T		TURB CONT VALVE FAST CLOSURE TIME DELAY RELAY EXCE	SETPOINT DRIFT EXCEED TECH SPEC
G	MI1	022077	070578	GS	PT	PX	A14	T		T		CONDENSER LOW VAC SW TRIP LESS CONSERV THAN T.S.	BARKSDALE PRESS SW SETPOINT DRIFT
G	MI1	022473	090578	GS	LS	SN	B08	T		T		RX LEVEL SW WOULD NOT TRIP AT ANY LEVEL	LACK OF MECHANISM LUBRICATION
G	MI1	022860	110678	GS	PT	PX	A14	T		T		DRYWELL HIGH PRESS SW TRIP 2.1PSI VICE 2PSI	BARTON 288 SW SETPOINT DRIFT
G	MI1	025009	010779	RE	XS	IC	B08	N		U		RELAY THAT STARTS SBGT AND OPER DRYWELL SUMP ISO//	VLV DIDNT OPERATE. CONTACT COVER OOA
G	MI1	025740	031779	LS	PT	PX	B08	T		U		RELAY 917-590-120D DID NOT DEENERGIZE WHEN MSIV //	REACHED 10%. ACTUATING ARM ON LS OOA
G	MI1	025876	042379	MO	RR	NN	A14	T		T		RX BLDG EXHUST DUCT AND REFUEL FLOOR CH 1 HI RAD /	/MON FOUND OOC.INSTRUMENT DRIFT
G	MI1	037443*	051579	GS	FS	SN	A14	T		T	2	DP SWITCHES IN BREAK DETECTION SYS LOGIC FOUND OOC	INSTRUMENT DRIFT
G	MI1	026143	060279	GS	TG	NN	A14	T		T		STEAM TUNNEL HIGH TEMPERATURE SWITCH FOUND OOC	INSTRUMENT DRIFT
G	MI1	026649	071179	GS	LS	IC	A14	T		T		RX LOW-LOW LEVEL ISOLATION SWITCH FOUND OOC	INSTRUMENT DRIFT
G	MI1	026726	073179	MO	RR	NN	A14	T		T		CHANNEL 1 OF REFUEL FLOOR HIGH RAD MON FOUND OOC	INSTRUMENT DRIFT
G	MI1	027513	111379	GS	PS	IC	A14	T		T		PRESSURE SWITCH FOR GROUP I ISOLATION FOUND OOC //	LOW. INSTRUMENT DRIFT
G	MI1	030200	012180	GS	FS	IC	A14	N		T		MSL HI FLO SW OOT (HIGH)	SETPOINT DRIFT
G	MI1	031519	060580	GS	PS	SL	A14	N		T		PRESSURE SW 263-55C TRIPPED OOT	SETPOINT DRIFT
G	MI1	032219	072580	ZZ	NI	PX	A14	N		T		APRM CHANNEL 5 READING 10 PERCENT LOW	ADJSTD TO PROPER VALUE
G	MI1	032634	090880	GS	PT	PX	A14	N		T		PRESS SW 2206-16218 TRPD OUTSIDE ALLOWABLE BAND	SETPOINT DRIFT
G	MI1	166575*	040181	SE	NT	PX	A09	T		D	2	HI COUNT RATE ON SRM CHNLS 22 & 23	ELECTRICAL INTERFERENCE
G	MI1	036969	041781	MO	RR	NN	B13	T		T		RX BLDG EXHUST DUCT OR REFUEL FLOOR RAD MON FAILED	FAILED SENSOR CONVERTER
G	MI1	037663	060381	RE	PS	SQ	A14	T		T		TIME DELAY RELAY 595-117B FOR ISO CONDENSER PRES//	SURE ACTUATION FOUND OOC. SETPOINT DRIFT
G	MI1	037989	070181	GS	PT	PX	A14	T		T		HIGH PRESSURE SCRAM SWITCH PS-263-55A FOUND OOC	SETPOINT DRIFT
G	MI1	038044	071081	GS	PT	PX	A14	T		T		CONDENSER LOW VACUUM SCRAM PS 503D FOUND OOC	SETPOINT DRIFT

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	MI1	038662	090581	GS	PG	NN	A14	T		T		ISOLATION CONDENSER PRESSURE SW 13498 FOUND OOC	SETPOINT DRIFT
G	MI1	038804	090881	GS	LS	SN	B00	T		U		REACTOR LOW LOW WATER LEVEL SW 263-73B FOUND STUCK	NO CAUSE FOUND
G	MI1	038998	100681	GS	LS	IC	A14	T		T		REACTOR LOW LOW LEVEL SW 263-57A FOUND OOC HIGH	INSTRUMENT DRIFT
G	MI1	039432	111281	GS	PT	PX	A14	T		T		HIGH DRYWELL PRESSURE SCRAM & CNTNMNT ISO SWITCH//	FOUND OOC. INSTRUMENT DRIFT OF 2206-1621D
G	MI1	171599	112481	RE	PS	IC	B13	N		T		HFA RELAY 595-102D RLY CKT FUSE BLEW MSL CHAN B	A DEFECTIVE RELAY COIL BURNED OUT
G	MO1	014446	040576	GS	PG	SQ	A07	T		U		RCIC TURBINE TRIPS SPURIOUS AT 25, RAISED TO 40PSI	HIGH EXHAUST LINE PRESS TRIP PT TOO LOW
G	MO1	015941	091976	LS	DI	PX	B13	T		T		MSIV NOT-FULL-OPEN SCRAM RELAY DID NOT ENERGIZE	LIMIT SWITCH REPLACED
G	MO1	017364	030177	TX	LG	IC	B13	T		T		LEVEL DISCREPANCY OF 2 TORUS LEVEL INDICATORS	555111ABAA3ABA DP XMTR FAILED BELLOWS
G	MO1	017373*	032177	ZZ	RR	NN	B01	N		D	2	AIR-EJECT SAMPLE SYSTEM FOUND ISOLATED, INOPERATIV	WORK CONTROL PROCESS, SU PROC TO BE REVIS
G	MO1	018465	062377	CL	FG	NN	B04	T		D		SGTS "A" INADEQUATE FLOW AS REQUIRED BY T.S.	ISOL VAVLE CONTROL IMPROPER INSTALLATION
G	MO1	018670	080577	PS	XC	[illegible]	B13	T		T		HPCI GOVERNOR CONTROL INOPERATIVE	FAILED RESISTOR IN PWR SUPPLY
G	MO1	019226*	100277	GS	[illegible]	SN	[illegible]	T		T	3	3 MN STM LINE AREA TEMP SW TRIP ABOVE T.S.	17002-40 TEMP SWITCH SETPOINT DRIFT
G	MO1	022725	100278	GS	[illegible]	[illegible]	[illegible]	T		T		HPCI ISOL TEMP SW FAIL TO TRIP	LOOSE WIRE INSIDE SW 17023-6
G	MO1	023391	121478	RE	PS	[illegible]	[illegible]	N		D		RX HIGH PRESS INST CHANNEL RELAY FAIL TO ENERGIZE	CR3095 SOCKET CONTACT LOOSE FROM SOCKET
G	MO1	027391	103079	GS	TS	SQ	[illegible]	T		T		RCIC ISOLATION TEMPERATURE SWITCH FOUND OOC HIGH	INSTRUMENT DRIFT
G	MO1	030125	011780	GS	PS	IC	B08	T		T		MSL LP ISOL SW PS2-134C SETPOINT DRIFT	SETPT SCREW MACHINING RING CAUSED DRIFT
G	MO1	030476	030980	LS	DG	NN	B0G	N		U		ROD WITHDRAWAL BLOCK NOT RECEIVED	ACTUATNG ARM OF LIMIT SW OUT OF ADJSTMNT
G	MO1	037151	050881	ZZ	PG	SA	A04	N		D		AC INTERLOCK PERMITTING AUTO BLOWDOWN FOR ADS ACT-	-UATED. PRESSURE TAP PLACED IN WRONG
G	MO1	039110	102281	SE	FG	NN	B11	T		D		FLOW SENSOR AT OFF-GAS STACK FAILED	PLUGGED SENSING LINES
G	MO1	039050	102481	RE	FS	IC	B13	N		T		CNTNMNT ISOLATION SYS LOGIC RELAY FAILED NONCONSE-	-RVATIVELY. COIL FAILED DUE TO NRML EOL
G	NM1	014248	020776	GS	PT	PX	A14	T		T		HIGH DRYWELL PRESS TRIP 3.35 VICE 3.5 PSIG	BARTON INSTRUMENT SETPOINT DRIFT
G	NM1	014246	021076	MO	RR	NN	B13	T		T		REFUEL PLATFORM RAD MONITOR IND 350 VICE 800 MR/HR	DETECTOR FAILED AND REPLACED
G	NM1	014245	021576	GS	PG	SH	B02	N		D		LOSS OF HPCI DUE TO INOPERABLE PUMP SUCTION SWITCH	LINKAGE ARM DISCONNECTED
G	NM1	014979	030376	SE	NT	PX	B13	N		T		IRM #13 ERRATIC OPERATION	LOW DETECTOR RESISTANCE, REPLACED
G	NM1	014583	032176	CM	FT	PX	A02	T		D		APRM #18 FAILED TO TRIP AT 20% FLOW POINT	TEST METER OFFSET CAUSED BAD CALIBRATION
G	NM1	014667	042376	GS	FS	SH	A14	T		T		EMER COOL HIGH FLOW SW TRIP AT 20.4 VICE 19 PSI	SETPOINT DRIFT WITHIN EXPECTED RANGE
G	NM1	015170*	061376	CM	FT	PX	A14	T		T	2	2 OF 8 APRM FAILED TO TRIP AT REQUIRED FLOW BIAS	APRM 17 & 18 SETPOINT DRIFT
G	NM1	015171*	062776	CM	FT	PX	A14	T		T	2	APRM 11 & 15 FAIL TO TRIP AT REQUIRED FLOW BIAS	SETPOINT DRIFT LESS THAN 1%
G	NM1	017398	030477	GS	LT	PX	A14	T		T		RX LEVEL LO-LO-LO TRIP AT 119 VICE 125 INCH	INSTRUMENT SETPOINT DRIFT
G	NM1	017436	031777	GS	PG	SL	B13	T		T		#12 FW PUMP DISCH PRESS SW FAILED IN CLOSED POS	SWITCH FAILURE
G	NM1	017442	032077	GS	LT	PX	A14	T		T		RX LOW-LOW LEVEL TRIP AT 1 IN VICE 5 INCH	SETPOINT DRIFT
G	NM1	017443	032677	MO	RR	NN	A14	T		T		EMERG CONDENSER VENT MONITOR INDICATING HIGH	OUTPUT OF DETECTOR RESET TO CONFORM
G	NM1	018165	060477	GS	LT	PX	A14	T		T		RX LOW LEVEL TRIP OUT OF ADJUSTMENT DID NOT TRIP	SWITCH OUT OF ADJUSTMENT
G	NM1	018389	072277	GS	LS	SN	A14	T		T		RX LO-LO-LO LEVEL IND SW TRIP 129 VICE 125 INCH	BARTON 288 IND SW SETPOINT DRIFT
G	NM1	018593	073177	ZZ	NT	PX	A14	T		T		BYPASS 6 VICE 5 LPRMS TO GET APRM-16 INOP LIGHT	APRM 216X513G2 SETPOINT DRIFT
G	NM1	018594	080177	GS	FS	SN	A14	N		T		MN STM HI FLOW TRIP AT 101 VICE 105 PSID CONSERV	BARTON DP 278 INST DRIFT
G	NM1	019150	092377	GS	LS	SN	A12	T		T		RX HIGH-LOW LEVEL IND SW TRIP 33 VICE 53	CORROSION ON RELAY CONTACTS
G	NM1	019585	110477	GS	PS	SN	A14	T		T		TURB ANTIC TRIP LOW OIL PRESS SW LOW	SQUARE-D PRESS SW DRIFT 170 TO 165 PSI
G	NM1	020110	011378	GS	FS	SN	A14	T		T		MN STM HIGH FLOW SW SETPOINT HIGH	RE22G BARTON 288 DP SW SETPOINT DRIFT
G	NM1	022834	110378	GS	LS	SL	A14	T		T		RX LO-LO LEVEL SW TRIP +2 VICE 5 INCH WATER	4316 LEVEL SW SETPOINT DRIFT
G	NM1	025285	021879	CM	FC	NN	B00	T		U		FLOW COMPARATOR #11 DID NOT GIVE ROD BLOCK AT 14%	REPLACED COMPARTOR,NO CAUSE GIVEN
G	NM1	026137	061079	RE	XS	SN	B13	T		D		TIME DELAY RELAY IN ECCS SYSTEM FAILED TO OPERATE	BAD CLUTCH COIL
G	NM1	026460	072679	GS	PS	IC	A00	N		U		VACUUM SWITCH,68-128,FAILED TO OPERATE AT DESIRED/	/SETPOINT. NO CAUSE FOUND
G	NM1	027405	102779	CN	FT	PX	B00	T		U		FLOW CONVERTER FOR # [illegible] APRM COULD NOT BE ZEROED	NO CAUSE GIVEN
G	NM1	030003	010980	TX	TG	NN	A14	N		T		CONDENSER INLT/SCREENWELL DSCHRG D/T OOT (HIGH)	DIFF RECORDER TRANSMITTER OOC
G	NM1	030199	012480	ZZ	TG	NN	B00	N		U		CONDENSER INLT/CIRC WTR DSCHRG DELTA T OOT (HIGH)	FAILED INSTRUMENT/TRANSITIONAL PLNT OPER
G	NM1	031841	041980	GS	PT	PX	A14	T		T		RX SCRAM SW 02-13A OPERATING OUTSIDE SETPOINT	INSTRUMENT DRIFT
G	NM1	032382*	080880	GS	PT	PX	A14	T		T	2	RX SCRAM SW 02-13B/D OOC (HIGH)	INSTRUMENT DRIFT
G	NM1	033287	092780	SE	NT	PX	B09	N		D		#18 APRM UNIT INOP LPRM DETECTOR HAD FAILED	INTERNAL SHORTING IN DETECTOR
G	NM1	036339	020981	MO	RT	PX	B00	N		U		MSL RAD MONITOR FOR #11 RPS TRIP SYS DECLARED INOP	NO CAUSE GIVEN

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	NM1	037036	041081	GS	LT	PX	A14	T		T		RX LOW WATER LEVEL ELECTRONIC TRIP FOUND OOC LOW	INSTRUMENT DRIFT
G	NM1	038006	062481	GS	PT	PX	A14	T		T		TURBINE OIL PRESSURE SWITCH FOUND OOC 5 PSIG HIGH	INSTRUMENT DRIFT
G	NM1	039289*	081281	SE	TG	NN	B00	T		U	3	ONE RELIEF AND TWO SAFETY VLV THERMOCOUPLES FOUND-	-INOPERABLE. NO CAUSE GIVEN(D367,E31260)
G	OC1	014489	040676	GS	PT	PX	A14	T		T		DRYWELL HI PRESS SCRAM SENSOR TPD AT 2.1 VS 2.0	INSTRUMENT REPEATABILITY-CAT NU. 2N-K4
G	OC1	015286*	080576	CA	NT	PX	B13	T		D	2	TWO APRM'S IN THE SAME TRIP SYS CONCRNTLY INOPERAB	FAULTY [illegible] RECEPTACLE
G	OC1	017345	031777	MO	RR	NN	B02	N		D		GAS SMPL PMP "B" TRIPPD OUT DUE TO BRNG FAILURE	LOCKNG TABS NOT BENT ON PMP SHAFT NUT RET
G	OC1	018412	040577	GS	PS	SQ	A14	T		T		RX HI PRESS ISO COND INI PRES SW TPD AT 1070 VS	1066-INST REPTBY-(RE-15C)-(BZT-AT2SS)
G	OC1	019591A	111477	SE	XG	IC	A14	T		T	3	ISOLA. COND SYS LINE BREAK SENSORS IB11A2 & B2 HAD	TRIPS LESS CONSERVATIVE DUE TO OVERRANGIN
G	OC1	019591B	111477	RE	XG	IC	B07	T		D		RELAY 6K3A MALFUNCTND FOR ISOLA. COND "A"ISOLA.	CRACKD RESISTOR FROM OVERHEATING
G	OC1	021100A	040678	PS	RR	NN	B02	N		D		RO11B PWR SUP FOR AREA RAD MONITORS FAILED	MAINT PERSONNEL GROUNDED RIBBON CABLE
G	OC1	023116	112578	GS	PT	PX	A14	T		T		RX HI PRESS SCRAM SW RE03C TRIPS LESS CONSRV THAN	TS-SENSOR REPEATABILITY-9 PSI GT DES SETG
G	OC1	023170	121478	HS	DC	SN	B13	N		D		ATTEMPT TO INSERT ROD W EMERG ROD	BENT SWITCH STOP-CONTACT NOT MAINTAINED
G	OC1	025830	040879	IN	DG	IC	B08	T		T		TORUS TO VACUUM BKR ALARM DID NOT FUNCTION	LOOSE JAM NUT FOUND
G	OC1	025945	050679	GS	FS	SQ	A14	T		T		"A" ISO CONDENSER DIFFERENTIAL PRESS SWITCH OOC	INSTRUMENT DRIFT
G	OC1	026139	052679	GS	PS	SQ	A14	T		T		RX HIGH PRESSURE ISO CONDENSER INI SW FOUND OOC HI	INSTRUMENT DRIFT
G	OC1	026346	062079	GS	PS	SF	A14	T		U		INSTRUMENT 1P15A FOUND OUT OF CAL .2 PSIG HI	INSTRUMENT DRIFT
G	OC1	026660	080179	GS	TG	NN	B14	N		T		#2 DILUTION PUMP OIL TEMP SWITCH FOUND OUT OF CAL	INSTRUMENT DRIFT
G	OC1	027195	091779	GS	PS	SN	B14	T		T		1A83A,PRESSURE SWITCH FOR ELECTROMATIC RELIEF,OOC	INSTRUMENT DRIFT--SWITCH REPLACED
G	OC1	027361	092679	MO	RI	PX	A14	N		T		MSL RAD MON #3 FOUND READING LOWER THAN OTHER 3	AMPLIFIER ZERO SHIFT
G	OC1	027693	110579	CM	NC	SN	A14	T		T		ROD BLOCK SETPOINT FOR CH 1 FOUND OUT OF CAL HIGH	SETPOINT DRIFT
G	OC1	030339*	013180	SE	NT	PX	A14	T		T	6	APRM CH RECIRC FLO SENSORS OOT EXCEPT 5 & 6	INSTRUMENT DRIFT
G	OC1	031154	051280	GS	PT	PX	B05	N		D		PS PSL-D HAD MISLOCATED OPER LVR IN SW HOUSING	SW ACTUATOR WAS COCKED & CAUSED FAILURE
G	OC1	033850C	051680	SE	DG	NN	B00	M		U		GREEN-GREEN RPI REMAINED LIT WHEN W/DREW ROD 6-19	STUCK REED SW ON POSITION PROBE
G	OC1	031449B	053180	SE	PS	SN	A14	T		T		SENSOR 1A83F EXCEED TECH SPEC SETPOINT	INSTRUMENT DRIFT
G	OC1	031516*	060380	GS	PS	IC	A00	T		T	3	RX HP ISOL CNONSR INITIATION SW NON-CONSERVATIVE	UNUSUAL SERVICE COND OOS FOR 6 MONTHS
G	OC1	032265*	073080	SE	PT	PX	A14	T		T	2	RX HP SCRAM SENSORS RE03C,D TRIPPED HIGH	SENSOR REPEATABILITY
G	OC1	032638*	082980	GS	PT	PX	A14	T		T	2	LP MSL MSIV ISOLATION SENSOR SW RE23B,D TRIPPED LO	INSTRUMENT REPEATABILITY
G	OC1	032727	092580	GS	LS	SN	A14	T		T		RX TRIPLE LOW WTR LVL SENSOR RE18D TRPD LESS CNSRV	SENSOR REPEATABILITY
G	OC1	0335208	120480	SE	FG	NN	B13	T		U		MSL HI FLO SENSOR RE-22G TRIPPED HIGH	DRIFT MICROSWITCH NEEDED REPLACING
G	OC1	033592*	121180	GS	PS	SQ	A14	T		T	4	SW IB11A1,2/B1,2 TRIPPED HIGH	INSTRUMENT DRIFT
G	OC1	036627	030981	GS	FS	SQ	A14	T		T		ISO CONDENSER RETURN LINE PIPE BREAK SENSOR IB11B-	-2 FOUND OOC HI. INSTR REPEATABILITY
G	OC1	165883*	032481	GS	FG	NH	A14	T		T	2	MSL HIGH FLOW SWITCHES FOUND OOC HI (RE-22F&G)	INSTRUMENT DRIFT
G	OC1	166398	050181	IN	LG	SN	A11	T		T		ISOLATION CONDENSER LEVEL INST IG06B FOUND HIGH	WATER IN REFERENCE LEG EVAPORATED
G	OC1	038004	062781	GS	PS	SQ	A14	T		T		ISO CONDENSER HIGH PRESSURE SW,RE15A, FOUND OOC	INSTRUMENT REPEATABILITY
G	OC1	038037	070981	LS	XG	IC	B12	N		T		IN SHIELD LIMIT SWITCH FOR BALL VLV IN TIP SYSTEM-	-FAILED. MISALIGNMENT AND RESTRICTION
G	OC1	038005	071481	SE	FG	NN	B08	N		T		FLOW SENSOR IN SBGT SYSTEM FAILED	OUT OF ALIGNMENT
G	OC1	038509	082981	MO	RR	NN	B11	M		D		"A" STACK GAS LOW FLOW ALARM RECEIVED	AIR INLEAKAGE AT MOISTURE SEPARATOR
G	OC1	039214	101581	GS	PS	SD	B00	T		U		CORE SPRAY DISCHARGE PRESSURE SWITCH RV29C FAILED	NO CAUSE GIVEN
G	OC1	039318	102881	SE	PG	NN	A14	T		T		MSL LOW PRESSURE SW RE23D FOUND OOC LOW	INSTRUMENT REPEATABILITY
G	OC1	171574	112581	GS	PS	SD	A14	T		T		SENS RPTABILITY IN CORE SPRAY HI D/W PRESS SWITCH	INSTRUMENT DRIFT
G	OC1	172749	121081	GS	LT	PX	A14	T		T		REACTOR TRIP L-WATER LVL SWITCH RE18A TRIPPED HIGH	INSTRUMENT DRIFT
G	OC1	172492	123181	MO	RR	NN	B13	N		U		RADW LIQ EFFLUENT MONITOR INOPERABLE	PARTS NEEDED REPLACEMENT
G	PB2	014038	011276	GS	PG	SD	B08	T		D		CORE SPRAY-CORE PLATE DIFF PRESS SW RENDRD INOPER	HOLD DWN SCREW BRKN DURING CAL-MOD 268
G	PB2	014154	020676	TX	FG	NN	B00	T		U		FLO-INDIC XMITTER FAILED TO SHUT LIQ RAD WST DISCH	VALVE-READ DOWN SCL AT ZERO FLO-CSE UNKWN
G	PB2	014402	040876	MO	RR	NN	B09	N		T		CONTROL ROOM RADIATION MON FAILED IN LOW COUNT DIR	LOGIC CHIP VIBRATED OUT OF CB IN DRM-100
G	PB2	015029	052876	MO	RR	NN	B09	N		U		GROSS ACTIVITY RECORDER WAS INOPERABLE	DEFCTV AMPLFR-MOD 1095K66707 RECDR AMPLFR
G	PB2	015232	071076	LS	DC	NN	A09	N		U		TIP MACH SHIELD LIM SW CAUSED INCOMP TRVL OF PRCBE	SPURIOUS OPER-READJ & TESTED SATISFACTURY
G	PB2	015760	082876	CM	NI	PX	A14	N		T		APRM "A" TRIP PTS LESS CONSERVATIVE THAN TECH SPEC	INSTRUMENT DRIFT-INSTRUMENT RECALIBRATED
G	PB2	016173	100576	GS	LS	SA	A14	T		T		ADS CONFIRM LO LVL SW LIS 2-2-3-83A TRPD AT 0.85	IN BELOW TS-SETPT DRFT-MOD 4418C LVL IND
G	PB2	017263*	022677	GS	PT	PX	A14	T		T	3	COND LOW VACUUM SWS PS-2-5-11A,B&D TRIPD LOWR THAN	TS LIMIT-SETPT DRFT-MOD [illegible]T-H18SS PRES SW

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	PB2	017647	041377	PS	NC	SN	B09	N		T		POWR SUP FOR RBM "A" FAILED MAKING RBM "A" INOPER	SHORT BETWEEN PWR SUPPLY AND GROUND
G	PB2	017774	041777	IM	NT	PX	A14	R		T		APRM A INOP TRIP DID NOT OCCUR IAW TS ? VS 8 LPRM	SETPT SHIFT - MOD GEK-32537A APRM
G	PB2	019182	092277	SE	NC	SN	A14	T		T		SEVERAL SETPTS ON RBM "B" APPROX 2 PCT GT ALLOWED	SETPT SHIFT-MOD 176A1724 ROD BLOCK MUNITR
G	PB2	019329	101077	MO	RT	PX	A14	T		T		2C MN STM LN RAD MON HI-HI TRIP OUTSIDE TS LIMIT	SETPOINT DRIFT-RECAL & RETURNED TO SERVIC
G	PB2	019412	101777	IM	TG	SH	B12	T		T		LOGIC CARD FOR HPCI TURB LK DET FLD TO PERF ISOLAT	MON CONN STRIP HAD DIRTY CONT-MOD 653
G	PB2	019415*	102077	GS	PG	AS	B01	N		D	2	DP SWS DPIS-2-14-43A&B VALVED OUT OF SERV FOR MAIN	REPAIR LEAK ON COMMON SENSING LINE
G	PB2	019717	111077	GS	PG	SQ	A15	T		T		RCIC ISOL SW PS-213-87C SETPT OUTSIDE TS LIMIT	SETPT SHIFT-DEF MICROSW INTER TO INSTRUMT
G	PB2	020160	010478	MO	RR	NN	A14	N		T		OFF-GAS RAD MON "A"(RIS-2-17-150A) DEVLP A ZERO SH	ZERO SHIFT IN CONSERVATIVE DIRECTION
G	PB2	021192	032178	RE	LS	SN	A13	T		U		LO-LO LEVEL TRIP LIS-2-3-99D INOPERABLE;FAILD RELY	CAUSE TO BE DETERMIND BY MANUFACTURER
G	PB2	021707	070578	CM	NT	PX	A14	T		T		SCRAM CLAMP TRP STPT FOR "A" APRM WAS 1 PCT GT TS	SETPOINT DRIFT-IMMEDIATELY RECALIBRATED
G	PB2	022283*	090178	RE	XS	SA	A14	T		T	2	TESTING ADS,TIMERS "A"&"B" OUTSIDE TIME LIMIT	SETPOINT DRIFT OF TD RELAYS
G	PB2	022588	091878	RE	DC	NN	B13	T		U		WHEN 1 CONT ROD SELECTED,OTHER CR FLD TO DESELECT	1 CONTCT IN SLD RELAY-ROD CONT CKT-FLD CL
G	PB2	023188	120478	RE	FS	SN	B08	T		U		"A" CHNL MAIN STEAM LINE HI FLOW CKT IN CONTMNT IS	RELAY 5A-K30A RETURN SPRING OUT OF ADJUST
G	PB2	023297	121878	SE	NC	SN	B09	T		U		"B" ROD BLK MON SET POINTS SHIFTED UP 15 PERCENT	FAILURE OF ZENER DIODE IN FLO BIAS CKTRY
G	PB2	025185	021979	ZZ	FG	NN	A00	N		U		A .4 MLBS./HR. DELTA BETWEEN REAL AND COMPUTER SC/	/ANNED FEEDWATER FLOW. PWR LIMIT EXCEEDED
G	PB2	025640	032779	GS	PS	SN	A14	T		T		DRYWELL HI PRESSURE SWITCH 2-10-101D FOUND OOC HI	INSTRUMENT DRIFT
G	PB2	025743	041079	LS	DT	PX	B00	T		U		LIMIT SWITCH OF MSIV 2-2-86A FOR RPS B LOGIC FOU//	ND INOPERABLE. NO CAUSE FOUND
G	PB2	026000	052479	MO	RR	NN	B13	N		T		OFF GAS STACK RAD MON'S MADE INOPERABLE	BROKEN BELT ON SAMPLE PUMP
G	PB2	026406	062279	MO	RR	NN	B13	N		D		MAIN STACK SAMPLING SYSTEM WAS LOST	LIGHTNING BLEW ISO VLV POWER SUPPLY FUSES
G	PB2	026725*	081279	MO	RR	NN	B00	T		U	2	A & B CONTROL ROOM AIR RAD MONITORS FAILED	FAILED TRANSISTOR CIRCUITS IN BOTH
G	PB2	028030*	121379	PS	TG	NN	B00	N		U	4	FOUR B CHANNEL MSL TEMPERATURE MONITORS INOPERABLE	INSUFFICIENT OUTPUT FROM POWER SUPPLY
G	PB2	030275	012380	ZZ	XG	SN	B00	N		U		"B" FLO BIASED ROD W/DRWL BLCK SETPT ON RBM OOT	FAILED DIODE IN RBM ANALOG CIRCUIT
G	PB2	030483	030680	GS	PG	NN	A14	N		T		PRESS SW PS-2-2-134C SETPOINT OOT (LOW)	SETPOINT DRIFT
G	PB2	032157	080880	IN	LG	SN	A00	N		U		LVL GAUGE RDG INCURRCTLY IN "A" DIESEL STRG TANK	NO CAUSE GIVEN
G	PB2	032751	091880	GS	FS	SH	A14	T		T		HPCI TURB STM LINE HI FLO TRIP INSTRUMNT HI SETPT	SETPOINT DRIFT
G	PB2	032956	101580	GS	PS	SN	A14	T		T		DPIS-2-14-43B SETPOINT BELOW T.S. LIMIT	SETPOINT DRIFT
G	PB2	033128*	110380	GS	PS	SQ	A14	T		T	2	RCIC TURB STM LIN HI FLO DPIS-2-13-83,84 OOC HIGH	SETPOINT DRIFT
G	PB2	033129	110580	PS	XS	SH	B09	T		U		HPCI DECLARED INOPERABLE	OPEN RESISTOR IN PWR SUP TO HPCI TURB EGM
G	PB2	033521	120280	GS	PS	SN	A14	T		T		MSL LP SW PS-2-2-134C SETPOINT OOC (LOW)	SETPOINT DRIFT
G	PB2	033596	120980	GS	TG	NN	A14	T		T		RWCU DEMIN WATER INLET TEMP SW SETPOINT HIGH	SETPOINT DRIFT
G	PB2	033627	121780	GS	PS	SH	A14	T		T		DPIS-2-23-77 OOC HIGH	SETPOINT DRIFT
G	PB2	033626*	121880	GS	XG	NN	B00	N		U	2	"B" SBGTS FILTR TRAIN HEATR MAN & AUTO RESET SW //	INOP. CAUSE NOT GIVEN
G	PB2	036005	010581	IM	FS	SQ	B00	N		U		FAILED SQUARE ROOT EXTRACTOR FOUND IN FLOW CONTRO-	LLER. NO CAUSE GIVEN
G	PB2	036165A	011781	MO	RT	PX	B00	N		U		"D" MSL RAD MONITOR FAILED IN TRIPPED CONDITION	NO CAUSE GIVEN
G	PB2	036348	013181	RC	TG	NN	B13	N		U		MULTI-POINT TEMPERATURE RECORDER FOUND INOPERABLE	BOUND DRIVE MOTOR
G	PB2	165185	020281	MO	RT	PX	B14	N		T		D MSL RADITION MONITOR FOUND OOC LOW 50%	INSTRUMENT DRIFT
G	PB2	036349	020381	MO	RT	PX	A14	N		T		MSL RAD MONITOR "A" FOUND READING 15% LOW	INSTRUMENT DRIFT
G	PB2	036913	032981	TX	PT	PX	B13	N		U		"D" DRYWELL PRESSURE TRANSMITTER FOUND FAILED	CIRCUIT BOARDS REPLACED
G	PB2	036972	040781	ZZ	FG	NN	A00	N		U		RECIRC PUMP DRIVE FLOW INCREASED 10%	NO CAUSE FOUND
G	PB2	038511	082781	SE	NT	PX	B00	N		U		ONE LPRM FAILED UPSCALE AT "C" LEVEL	NO CAUSE GIVEN,CAUSED HALF SCRAM
G	PB3	013987	010676	MO	RT	PX	A14	T		T		MN STM LN RAD MON RIS-251A DID NOT TRIP WHEN DESIR	SMALL STPT DRFT ON LOG SCL-194X629G007
G	PB3	014212	011776	GS	DC	SN	B02	T		D		ROD WITHDWL PERM INTLKS DID NOT PREV WTHDL OF SEC	ROD-WIRING ERROR-FLD IC CHIPS&GRNDED WIRE
G	PB3	014743	050576	GS	LG	SH	B08	N		U		VALVE SV 3-23-54 DID NOT AUTO OPEN-HPCI TURB EX DR	FLD MICRO SW-MOD 83844-81 LEVEL SWITCH
G	PB3	014683	050776	ZZ	NI	PX	A09	T		U		CH "E" ARPM TRPD AT FLUX LVLS HIER THAN LICENSE TS	SETPT SHIFT - DEF IN4734A ZENER DIODE
G	PB3	014986	060276	PS	TS	SQ	B08	T		U		CH "D" RCIC TEMP IND FOR STM LK DET WAS INOPERABLE	LOOSELY SECURED MOD G52 PWR SUPPLY BOARD
G	PB3	015C84	061276	RE	NI	PX	B13	T		U		"F" APRM ROD BLOCK NOT OBTND FRM SIM HI FLUX CONDT	FAILURE OF MOD 35AT600 4R1 RELAY
G	PB3	015880	092776	GS	PT	PX	A14	T		T		COND LO VAC SW PS-3-5-11A TRPD 0.26 IN BELOW TS	SETPOINT DRIFT-BARKSDALE MOD DIT-H18SS PS
G	PB3	016174	101176	AM	NI	PX	A09	N		U		CORE FLO BIAS INPUT TO THE A LOGIC APRM STRNG - HI	ABSENCE OF OFFSET SIGNAL IN FLO BIAS AMP
G	PB3	017548	041677	CM	NI	PX	A14	T		U		DWNSCLE TRIP FOR APRM E FOUND AT 2.3, TS IS 2.5PCT	SETPOINT SHIFT ON A MOD GEM-32537A APRM
G	PB3	017718	062377	TX	LS	SF	A14	N		T		CONTMT SPRAY PERMSV LT-3-2-3-73A FOUND OUT OF CAL	SETPOINT DRIFT-TRIP WAS 302 VS 312 INCHES

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	PB3	017770	050377	CA	LG	SL	B13	T		D		"A" LPCI STAY-FULL LVL SW LS-5221 FAILED TO OPERAT	BROKEN CABLE BTWN FLOAT & SW-A153FEPVPTOM
G	PB3	017778	050977	CM	NT	PX	A14	T		T		DWNSCLE TRIP FOR APRM D FND AT 1.5 VS 2.5 PERCENT	SETPOINT SHIFT - MOD GEK-32537A
G	PB3	018474	071977	MO	RR	NN	B02	N		D		RX BLDG VENT EXH RAD ELE RE-3-17-4300 DISLODGED	APRNTLY DISLGD BY SOMEONE WORKING IN AREA
G	PB3	018702	080877	MO	RT	PX	A00	N		U		IND ON MN STM LN RAD MON RIS-3-17-2510 ERRATIC	CAUSE COULD NOT BE DETRMND-RETURNED TO SV
G	PB3	021120	082377	ZZ	DC	SN	B02	T		D		ROD BLK MON "B" HI TRIP FUNCTION INOPERABLE	CAL JMPR SHORTED ADJ TRMNLS-QUAD TRP CARD
G	PB3	020089	112877	GS	PG	SN	A14	T		T		SW NO 2 OF PS-3-2-3-52B 34 PSI ABOVE TS OF 250 PSI	SETPOINT DRIFT - MODEL 288
G	PB3	019958	121577	RE	LG	SN	B05	T		D		TESTING REVEALED FAILURE OF RELAY 5A-K26C(LO-LO LV	MISADJ OF CONT PAIR BY MFR - GPBC757
G	PB3	020166	010378	GS	PS	SN	A14	T		T		MN STM LN LO PRES ISO SW PS-2-134A 11 PSI LT TS	SETPOINT DRIFT - BARKSDALE B2T-A1255
G	PB3	022079	072778	RC	FG	NN	B08	N		D		"B" ROOF VENT FLO RCRDR READING DOWNSCALE	LIGHTNING STRIKE DISENGD IND DRIVE MECH
G	PB3	025324	011779	GS	PS	SA	A14	T		T		PS-3-14-44D,INTERLOCK BETWEEN CORE SPRAY PUMP RUN/	/NING AND ADS. INSTRUMENT DRIFT
G	PB3	025311	022579	ZZ	XG	NN	B09	N		D		FUSES BLEW FOR CONTROL CIRCUTRY FOR MS RELIEF	SHORT OCCURRED IN ACTUATING SOLENOID
G	PB3	026409	062879	GS	PS	SN	A14	T		T		SETPOINT FOR PS3-2 3-52B FOUND OOC 20LBS. LOW	INSTRUMENT DRIFT. CLOSES RCP DISCH VLVS
G	PB3	026937	082979	RE	LS	SA	B13	T		D		RX VESSEL INS LSLL3-2-3-72B RELAY(2EK18)FAILED	WORN CONTACT ON GE HFA RELAY
G	PB3	027788	111379	IM	XC	SN	B13	T		T		RSCS SEQUENCE MODE FOUND INOPERABLE	FAILURE OF INTEGRATED CIRC CHIP LOGIC BRD
G	PB3	027836	120679	GS	PS	SA	A14	T		T		"C" CORE SPRAY PUMP DISCH PS FOUND OOC. PROVIDES/	/PMP RUNNING SIGNAL TO ADS LOGIC. DRIFT
G	PB3	030274	011880	LS	XG	SN	A08	N		T		TIP PROBE COULD BE INSERTD BUT NOT WITHDRAWN	TIP "IN-SHIELD" LMT SW OOC HOUSG ADJUSTED
G	PB3	032051	051680	GS	PS	SN	A14	T		T		PS-3-2-128B DRIFTED ABOVE TECH SPEC LIMIT	INSTRUMENT SETPOINT DRIFT
G	PB3	033873	060580	GS	PT	PX	A14	T		T		PS-3-5-12C OOC HIGH	SETPOINT DRIFT
G	PB3	031879	070780	MO	RR	NN	B14	N		U		3A REFUEL FLOOR EXHAUST RAD MON DRIFTING DWNSCL	INSTRUMENT DRIFT
G	PB3	033597	120980	MO	RT	PX	A14	N		T		"C" MSL RAD MON OOT (LOW)	INSTRUMENT ZERO DRIFT
G	PB3	036350	012681	GS	PG	NN	A14	T		T		RX PRESS SW PS-3-2-3-102C FOUND OOC HI 5.4%	INSTRUMENT DRIFT. TRIPS RCP
G	PB3	036166	012781	GS	TS	SH	A14	T		T		HPCI STEAM LINE AREA HI TEMP SW TS 5943 B OOC HI -	-BY 6 DEG. F. INSTRUMENT DRIFT
G	PB3	036534	022781	IM	XS	SD	B09	N		T		"B" CORE SPRAY LOGIC SYSTEM FAILED DUE TO BLOWN F-	-USE. GROUNDED LUG ON "D" CS PUMP BRKR
G	PB3	172150	120781	GS	DS	SQ	B00	T		U		RCIC TORUS SUCTION VLV MO-3-13-41 FAILS TO STROKE	BROKEN POSITION INDICATING ROD
G	PB3	172124*	122181	GS	LS	SN	A14	T		T	2	TORUS HI LVL SW 3-23-91-A,B OOC BY 1/2 INCH	INSTRUMENT SETPOINT DRIFT
G	PI1	015520*	081976	GS	PS	SN	A14	T		T	3	PRESS SWCHS PS-263-51A,B&D WERE TRIPNG HIER THN TS	MINOR SETPOINT DRIFT
G	PI1	015964	091276	GS	PG	SD	A14	T		V		CS SPGR-TO-RX PSR VSL DIFF PSR SW DPIS-14598 LT TS	MINOR SETPOINT DRIFT
G	PI1	015997	092876	MO	RR	NN	B02	N		D		PRI SYS CLT BNDRY LKG AIR SMPL I IND RDNG DOWNSCAL	SENSG LEADS BRKN BY MNINC PERS AT TERMINL
G	PI1	017285	022277	CL	PG	NN	B13	N		U		NO DIFF PRESS IND ON "A" TRAIN OF STBY GAS TRMT SY	REPLACED THE BRIDGE BAL RELAY CONT PANEL
G	PI1	017331*	030277	GS	PT	PX	A14	T		T	3	HI DRYWELL PRES PS-512A,B&D FOUND TO HAVE MINOR	SETPOINT DRIFT ON LOW PRESSURE INSTRUMENT
G	PI1	019278	092477	TX	FG	NN	B00	N		U		FLO XMTR IN RADWASTE OVBD DISCH LINE CEASED FUNCTN	DISASMBLD & INSP-NO CAUSE FOUND-#8/F5E4
G	PI1	019335	100377	GS	PG	SL	A14	T		T		RHR SYSTEM PRES SW PS-263-53A ACTUATES 2 PSI GT TS	OCCURRENCE CAUSED BY LIMITED SETPOINT DFT
G	PI1	020336*	010978	GS	PS	SN	A14	T		T	3	MN STM LN LO PRES SWS PS-261-30A,C&D 35 PSIG LT TS	LIMITED SETPOINT DRIFT
G	PI1	021257*	051278	GS	PG	NN	A14	T		T	2	TUR GEN LO VAC SWS PS-503A&B OUTSIDE ALLOWABLE TOL	SETPOINT DRIFT - MOD D[illegible]I-H18SS
G	PI1	021932	070478	MO	RR	NN	B13	N		T		MAIN STACK RAD MON (MS-PRM) SAMPLE PUMP STOPPED	RUBBER SPIDER COUPLING FAILED
G	PI1	022194	080878	TI	XG	NN	A14	T		T		TIME DELAY RELAY TDU 2E-K5B SETTING GT TS LIMITS	MINOR SETPOINT DRIFT
G	PI1	022250*	081878	GS	PT	PX	A14	T		T	2	RX HI PRESS SWS PS-263-5[illegible]C AT 1108 VS 1085 PSIG	SETPOINT DRIFT-0-1500 PSIG-MOD B2T-A12SS
G	PI1	022251	082278	MO	RR	NN	A00	T		U		REFLNG AREA FLR EXH RAD MON PRM 1705-8D SETG GT TS	CAUSE NOT DETRMND - 300 MR/HR VS 90 MR/HR
G	PI1	022596	102478	IN	TG	IC	B02	M		D		IND NEEDLE FOR TORUS WTR TEMP(TI-5047) SNAPPED OFF	PERSONNEL DUSTING ASSOCIATED PANEL
G	PI1	019969A	103078	SE	NT	PX	B00	N		U		"D" SOURCE RANGE DETECTOR FAILED	NO CAUSE GIVEN
G	PI1	019969B	103078	IM	NI	PX	B02	N		U		"A" LOGIC BYPASSED	PERSONNEL JUMPERED OUT ENTIRE LOGIC
G	PI1	019969C	103078	CM	NG	PX	B00	N		U		"A" DOWNSCALE TRIP FAILED	CAUSE UNKNOWN
G	PI1	022982*	111578	GS	LT	PX	A14	T		T	2	RX WTR LVL SWS LIS-263-57A&B TRIPPED GT TS LIMITS	MINOR SET POINT DRIFT
G	PI1	025000*	010479	MO	RR	NN	B09	N		U	3	RB VENT MONITOR SAMPLE PUMP TRIPPED THREE TIMES	FUSES BLEW WITH NO APPARENT REASON
G	PI1	025001	010779	MO	RR	NN	B12	N		T		RB VENT MONITOR REMOVED FROM SERVICE DUE TO LOW //	FLOW. DIRTY CONTROLLER
G	PI1	025168*	013179	RE	XS	SA	A14	T		T	2	ADS TIME DELAY RELAYS FOUND OOC HIGH	INSTRUMENT DRIFT OF 2E-K5A AND 2E-K5B
G	PI1	025275	021879	MO	RR	NN	B08	N		T		RB VENT PROCESS RAD MONITOR HAD NO FLOW	SAMPLE PUMP BOUND
G	PI1	025813	033179	IN	PG	IC	A14	N		T		DRYWELL TO SUPPRESSION CHAMBER DP IND PI-5067A //	FOUND OOC. INSTRUMENT DRIFT
G	PI1	026711*	082179	GS	PS	SN	A14	T		T	2	RX PRESSURE SWITCHES 263-51B AN 263-51D FOUND OOC	INSTRUMENT DRIFT
G	PI1	026866	082679	MO	RR	NN	B13	N		D		REACTOR COOLANT LEAK DETECTION AIR SAMPLING SYS //	BECAME INOPERABLE. BROKEN DRIVE BELT

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE & CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	PI1	027534	102679	MD	RR	NN	B09	N		D		REACTOR COOLANT LEAK DETECTION AIR SAMPLER SYS FO/	/UND INOPERABLE. SAMPLE PUMP MOTOR OH
G	PI1	031335	051980	CL	FG	SQ	A09	N		D		HPCI FLO CONTROLLER ERRATIC HPCI & RCIC INOP	WIRING ATTENDANT TO HPCI PANEL INTERFERNG
G	PI1	031452	052780	GS	TS	SQ	A14	T		T		TEMPERATURE SW 1360-17A OOC (HIGH)	SETPOINT DRIFT
G	PI1	031557	053080	CL	FG	SQ	B00	N		U		RCIC SYSTEM INOPERABLE	NO CAUSE GIVEN FOR FAULTY AUTO FLO CNTRL
G	PI1	031453A	060580	MD	RR	NN	B12	N		T		STACK GAS GRAB SAMPLE PUMP P143 TRIPPED	BINDING DUE TO ACCUMULATION OF DIRT
G	PI1	031453B	060880	RC	RG	NN	B13	N		U		STACK GAS RECORDER 1705-18A FAILED	PREAMP FAILED
G	PI1	031839	062180	MD	RR	HN	A00	N		U		OFF GAS RAD MON 1705-3A/B RDG LO DUE TO LO SAMP //	FLO. OFFGAS CNDNSR PROB AFFECTD FLO
G	PI1	032231	080280	GS	LS	IC	A14	N		T		HI WTR LVL MSL DRAIN VLV MO-220-1 DID NOT ISOLATE	INCORRECT SETPOINT ON LEVEL SWITCH
G	PI1	032391*	081380	GS	LS	SH	A14	T		T	2	RX WTR LVL INSTR LIS-263-72B3/4 OOC (HIGH)	SETPOINT DRIFT
G	PI1	032758	092380	IM	FG	NN	B00	N		U		FLO INTEGRATOR FQ-7032 MALFUNCTIONING	UNDETERMINED CAUSE
G	PI1	033445	111780	TX	LG	[illegible]	B13	N		U		TORUS WTR LVL IND LR5038 INOP	FORCD BAL MTR OF BOYANCY LVL XMITR FAILED
G	PI1	037214	050381	MU	RR	RR	B13	N		U		REFUEL FLOOR EXHUST RAD MON 1705-8A FAILED	CAPACITOR IN POWER SUPPLY FAILED
G	PI1	037404A	051481	RC	LG	IC	A14	N		T		TORUS WATER LEVEL RECORDER 5049 FOUND OUT OF CAL	INSTRUMENT DRIFT
G	PI1	037857	061981	MD	RR	NN	B11	N		T		RX COOLANT LEAK DETECTION AIR SAMPLING SYS C-19 D-	-ECLARED INOP. SYS CHECK VLVS STUCK
G	PI1	038052	071781	MD	RR	NN	B09	T		U		IODINE RAD MON CHANNEL OF C-19 FOUND INOPERABLE	VOLTAGE TRANSIENT OPENED TRANSISTOR
G	PI1	038570	082481	ZZ	FC	SN	B13	T		U		ONE CHANNEL OF THE RBM FOUND INOPERABLE	FAILED ZENER DIODE(VR1)
G	PI1	172316	122181	CL	FG	SL	B12	N		T		C RHR PUMP RUNNING W/O SUCTION FLOW PATH	CORRODED ELECTRICAL CONTACTS
G	QC1	015315	080376	PS	DC	SN	B13	N		U		ROD WRTH MINIMZR MULTPL OUTPUT DIST ERROR-ROD BLKS	NOT RECVD-DRIFTING PWR SUP CAUSD BRND WIRE
G	QC1	017362	020677	TX	PG	SL	B08	T		U		"B" RHRS LOOP HX SW DISCH PRESS WOULD NOT INDICATE	LOOSE WIRE CONNECTION IN PRESSURE XMITTER
G	QC1	017471	021977	GS	FS	SN	A14	T		T		"B" MN STM LN HI FLO DELTA-F SW ACTIVATES GT TS	INSTRUMENT SETPOINT DRIFT
G	QC1	018105	032877	GS	TG	SH	A14	T		T		HPCI TURB AREA HI TEMP SW TS-1-2370A TRPD GT TS	INSTRUMENT SETPOINT DRIFT
G	QC1	018110*	042277	GS	PT	PX	A14	T		T	2	MAIN TURB FRST STG PRESS SWS PS-1-504A&B SET GT TS	INSTRUMENT SETPOINT DRIFT
G	QC1	018579	071377	GS	PG	SL	A14	T		T		HI DRYWELL PRESS SW TRIPPED AT 2.09 VS 2.0 PSI	INSTRUMENT SETPOINT DRIFT
G	QC1	018580	072277	GS	PT	PX	A14	T		T		TURB FRST STG PRESS SW OUT OF CAL-401 VS 400 PSIG	INST STPOINT DRFT-TOLERANCES TOO CLS LCO
G	QC1	020405	011278	GS	LS	SN	B11	N		T		PRESS SUPRESSION CHMBR DETRMND TO BE LT MIN -2 IN	INSTRUMENT SENSING LINE WAS PLUGGED
G	QC1	020543	011778	GS	LT	PX	A14	T		T		RX LO WTR LVL SW LIS 1-263-58B SET AT 7.3 VS 8 IN	INSTRUMENT SETPOINT DRIFT
G	QC1	020939	030578	LS	DT	PX	B13	T		U		MSIV 1-203-1A FAILED TO INITIATE A HALF SCRM-RPS B	LIMIT SWITCH FAILURE ON MSIV 1A
G	QC1	021410	042578	GS	PT	PX	A14	T		T		TURB FST STG LO PRES SW PS-1-504A TRPD 401 VS 400	INSTRUMENT SETPOINT DRIFT
G	QC1	021787	060778	GS	PS	SN	B05	R		D		DRYWL/SUP CHMBR DIGTL DELTA-P INST INOPER	INCOMP INI INSTLATN -Q/C DOCUMTN PROBLEMS
G	QC1	023534	121878	GS	PS	SN	A14	T		T		HI DRYWELL PRESS SW PS-1-1001-89D TRPD GT TS LIMIT	INSTRUMENT DRIFT
G	QC1	025290*	020179	GS	TS	SN	A14	T		T	3	MSL LEAK DETECTION SWITCHES 1-261-16A,18A & 15C //	FOUND OOC. INSTRUMENT DRIFT
G	QC1	027586	103079	TX	LS	IC	A00	N		U		SUPPRESSION POOL LEVEL TRANSMITTER FOUND INDICAT//	ING WRONG. NO CAUSE GIVEN SLOW RESPONSE
G	QC1	028069	121379	TX	LS	IC	A11	N		T		SUPPRESSION POOL LEVEL INDICATION FOUND WRONG	PARTIAL BLOCKAGE OF INSTRUMENT LINES
G	QC1	030401	021580	GS	LS	SN	B00	T		U		LIS-1-263-72A OPERATED IMPROPERLY	MISALGND MERCURY WETTD MAGNETIC SW
G	QC1	030660	030880	MO	RR	SN	A14	N		T		B MSL RAD MON RDG LOW	ELEC DRIFTD B LOGARITHMIC RAD MON CHASSIS
G	QC1	031152	041580	GS	PT	PX	A14	T		T		PRESS SW PS-1-1001-88A TRPD ABOVE TECH SPEC LIMITS	INSTRUMENT SETPOINT DRIFT
G	QC1	033829	112480	GS	PG	NN	A14	T		T		PRESS SW PS-1-261-30D TRPD BELOW TECH SPEC LIMITS	INSTRUMENT SETPOINT DRIFT
G	QC1	036132	011481	GS	PS	SN	A14	T		T		HIGH DRYWELL PRESS ECCS INITIATION PRESS SWITCH -	-PS-1-1001-90D FOUND OOC 0.03PSI HI.DRIFT
G	QC1	036498*	022081	GS	PT	PX	A14	T		T	3	LOW CONDENSER VACUUM SWITCHES(THREE) FOUND OOC HI	INSTRUMENT DRIFT
G	QC1	036798	031381	CA	DG	NN	B09	N		U		POSITION INDICATION WAS LOST FOR RECIRC PMP DISCH-	-R VLV MO-1-202-5A. OPEN CIRCUIT
G	QC1	167912	071781	GS	PT	PX	A14	T		T		HI DRYWELL PRESSURE SW PS-1-1001-88C FOUND OOC HI-	-.03 PSIG. INSTRUMENT DRIFT
G	QC1	038084	072481	GS	PT	PX	A14	T		T		TURBINE FIRST STAGE PS,PS-1-504B FOUND OOC HIGH B-	-Y 1PSI. INSTRUMENT DRIFT
G	QC1	039054	100981	MO	RR	NN	A14	T		T		"A" REACTOR FUEL POOL MONITOR FOUND TO BE OOC	INSTRUMENT DRIFT
G	QC2	014310	012976	GS	PG	SD	A14	T		T		CORE SPRAY FILL SYS FAILURE ALA PS-2-1469 GT TS	INSTRUMENT DRIFT - MOD 6N-L3
G	QC2	014422	033076	TX	LS	IC	A14	T		T		SUPPRESSION CHAMBER WATER LEVEL WAS BELOW TECH SPE	LVL XMTR LT-2-1626 DRIFTED OUT OF CALIBRA
G	QC2	015196	052776	GS	PS	SN	A14	T		T		MAIN STM LINE HI FLO DELTA-P DPIS-2-261-25 GT TS	INSTRUMENT DRIFT
G	QC2	016458*	101276	GS	TS	SQ	A14	T		T	5	5 OF 16 RCIC AREA HI TEMP SWCHS TRIPD GT 200 DEG F	SETPOINT DRIFT
G	QC2	020299	051777	GS	LS	SD	B13	T		U		RX LO-LO LVL SW LIS-2-263-72A FAILED TO OPERATE	MERCURY-FILLED MAGNETIC SWITCH FAILED
G	QC2	018239	062077	AM	FG	SH	B13	T		U		HPCI FLO ERRATIC, MOTOR GEAR UNIT WOULD NOT RESPND	MOTOR GEAR UNIT OPERATIONAL AMPLIFIER DEF
G	QC2	018656	072577	GS	PT	PX	A14	T		T		ELETROHYD LO PRES SCRAM SW TRPD 15 PSI BELOW TS	INSTRUMENT SETPOINT DRIFT

RANDOM FAILURE

NSSS	PLANT	CONTROL NUMBER	EVENT DATE	COMP	PROCESS	SYSTEM	MODE &CAUSE	ACTIVITY	TYPE	CLASS	FAIL #	FAULT MODE DESCRIPTION	FAULT CAUSE DESCRIPTION
G	QC2	019683	103177	TX	LG	IC	A07	N		T		TORUS LEVEL XMTR OUTPUT WAS 0.0 IN,ACTUAL LVL -4IK	SLUDGE ACCUM ON BELLOWS SURFACE OF XMITTR
G	QC2	020584	021178	GS	TG	SH	A14	T		T		HPCI TURB AREA HI TEMP SW TS 2-2370D FLD TO TRIP	INSTRUMENT SETPOINT DRIFT
G	QC2	020719	022778	GS	PG	SL	A14	T		T		RHR PUMP DISCH PRES SW PS-2-1053D TRPD 104 VS 100	INSTRUMENT SETPOINT DRIFT
G	QC2	020720*	030278	GS	PG	NN	B05	N		D	2	JET PUMP RISER DP SWS DPIS 2-261-34A&C SENSING LIN	ES INCRCTLY INSTLD-OCCRD DURNG STA CONSTR
G	QC2	021789	052478	GS	PG	SL	B13	T		T		RHR PUMP DISCH PRESS SW PS-2-1053D FAILED TO OPER	EQUIPMT FAILURE-INTERNAL DIRTY-RSTRCTD OP
G	QC2	022667	083178	MD	RT	PX	A14	N		T		MN STM LN RAD MON 2-1705-2D FLD IN DWNSCL CONDITN	INST DRIFT ENHANCED BY HI TEMPERATURES
G	QC2	023384	122178	GS	PS	SN	A14	T		T		MN STM LN LO PRES ISO SW PS-2-261-30C TRPD LT TS	INSTRUMENT DRIFT - MOD B21-A1255 PRESS SW
G	QC2	025308	021079	GS	TS	SH	A14	T		T		HPCI TURBINE AREA HI TEMP SWITCH 2-2373A OOC HIGH	INSTRUMENT DRIFT
G	QC2	026052	040979	IN	LG	IC	A14	T		T		SUPPRESSION CHAMBER LEVEL INDICATOR FOUND OOC	INSTRUMENT DRIFT
G	QC2	027102	081579	GS	TS	SH	A14	T		T		HPCI TURBINE AREA HI TEMP SWITCH 2-2372A FOUND OOC	INSTRUMENT DRIFT HIGH
G	QC2	027101	082279	LS	DG	IC	B00	T		U		VACUUM BKR AO-2-1601-32A FAILED TO ALARM WHEN OPEN	FAILED LIMIT SWITCH,CAUSE NOT GIVEN
G	QC2	027554	100579	GS	DS	IC	B00	T		U		VACUUM BREAKER AO-2-1601-32B FAILED TO IND OPEN	POSITION SWITCH PROBLEM
G	QC2	027553	101679	GS	LS	SN	630	T		U		REACTOR LOW-LOW WTR LEVEL SW LIS 2-263-72A FAILED,	NO CAUSE GIVEN
G	QC2	027550	102279	GS	PT	PX	A14	T		T		PRESSURE SWITCH PS-2-504C,TURBINE FIRST STAGE LP//	TRIP FOUND OOC HI BY 1#. SETPOINT DRIFT
G	QC2	030541	030380	RE	XS	SL	613	T		T		TIMER 10A-M2A DIDN'T ACTUATE RELAY K21A	TIMER MICRO-SW DRIFTED FROM INITIAL ADJST
G	QC2	033852	082980	CL	FG	SH	B13	T		U		HPCI MTR GEAR UNIT WOULDN'T COME OFF HI SPEED STOP	FAILD COMPONENT IN FLO CNTRLLR 2-2340-1
G	QC2	036133	011681	GS	PT	PX	A14	T		T		DRYWELL PRESSURE SWITCH PS-1-1001-88D FOUND OOC H-	-I BY .13PSI. INSTRUMENT DRIFT
G	QC2	036611	022481	GS	FS	SQ	B00	T		U		RCIC SL HIGH FLOW ISOLATION SW DPIS-2-1360-1A FAI	-LED. NO CAUSE GIVEN
G	QC2	039112	110381	GS	TS	SN	A14	T		T		HPCI AREA HIGH TEMP SWITCH 2-2373C FOUND OOC HIGH-	-BY 9 DEGREES F. INSTRUMENT DRIFT
G	QC2	039282	110681	RE	XG	NN	A14	T		T		VLVS FOR OFF GAS SYS CLOSED 15 SECONDS LATE	TIMER HAD SETPOINT DRIFT
G	VY1	015741	083076	GS	PT	PX	A14	T		T		DRYWELL HI PRESS SCRAM/ISOLATION SWTCHS (1 OF 4SWI	SETPT DRIFT MODEL # 12N-AA4
G	VY1	016484	112176	LS	XT	PX	B04	T		D		RPS RELAY 5A-K3F DEENERGZD NORMLY BUT THEN RESET	MSIV-2-80C LIMIT SW.;INSTLLD WEAKR SPRING
G	VY1	016610	113076	GS	PG	SN	B08	T		D		SW #1 OF PS2-3-52D DIDNT ACTUAT AT SETPT	ROLLR OF SW.ASSMBLY BECAME DISLODED
G	VY1	016602	120776	TX	PS	IC	B13	N		U		TORUS PRESS IND. ON RECORDR PR-16-19-44 INOPERABLE	FUSE BLEW TO TORUS PRESS XMTR
G	VY1	017138	020177	GS	PT	PX	A14	T		T		DRYWELL HI PRESS SCRAM/ISOLATN SW 2.03#VS.2.0#	DRIFTD .1 PSI OVER ONE MONTH
G	VY1	018026	052077	MD	RR	NN	B09	N		T		STACK GAS II FAILD WHILE GAS I WAS BEING CALIBRATD	LOOSE CONNECTION; I RETURND TO SERVICE
G	VY1	018061	052577	ZZ	NT	PX	A14	N		T		4PRM FLOW BIAS HI FLUX TRIP OUT OF SPEC & ALARMED	FLOW CONVRTR REPLACED, NO REASON FOR DRIF
G	VY1	017955	061377	IM	RR	NN	B13	T		D		HIHI TRIP ON "A" SJAE OFF-GAS FAILD TO ENERGZ TMR	DEGRADED INTEGRATED CIRCUIT
G	VY1	020486	112377	MD	RR	NN	B13	N		U		CONT AIR MONITR RECORDR PR-108-4 INDICATN DECREASD	TEMP LOSS OF LO VOLT POWR TO LOG RATE MTR
G	VY1	020809	030578	RE	XT	PX	A08	T		D		RPS RELAY 5A-K3A FAILD TO DEENERGZ DURIN MSIV-80A	LOOS ACTUATING ARM ON VALV STEM
G	VY1	023142	120578	MD	RR	NN	A00	N		U		AEOG MONITR "A" ERRATIC;REPLACD WITH SPARE UNIT	CAUSE COULD NOT BE DETERMINED
G	VY1	025002	011179	MD	RR	NN	B11	N		T		RAD MONITORS 17-150A&B FOUND INOPERABLE	FLOW METER HAD FLOW BLOCKAGE
G	VY1	025307	021479	TX	LS	IC	B12	T		T		TORUS LEVEL TRANSMITTER LT 16-19-30A WOULD NOT CAL	ACCUMULATION OF RUST AND CRUD
G	VY1	025517	030779	GS	DS	IC	B12	T		U		VACUUM BKR ALARM FOR VU6-19-5J FOUND INOPERABLE	MICRO SWITCH ACTUATOR PLUNGER BOUND
G	VY1	025814*	032879	GS	DC	NN	B08	N		U	2	ROD WITHDRAW PERMISSIVE LIGHT FOUND ERRATIC	MISALIGNMENT OF REFUEL PLATFORM TRACK SW.
G	VY1	026426	071079	CA	XS	SL	B00	T		T		"A" RHR SUBSYS LOGIC FAILED TO ENERGIZE RELAY 10A/	/-KV6. LEAD CAME OFF CONTACT IN CON CIR
G	VY1	030021	010280	GS	PS	SL	A14	N		T		LPCI SYSTEM PRESSURE SW ACTUATED OOT LOW	SETPOINT DRIFT
G	VY1	030086	010980	PS	DG	NN	B13	N		U		LOST ALL ROD POSITION INDICATION	COOLING FAN IN PWR SUPPLY FAILED
G	VY1	030089*	012280	MD	RR	NN	B00	N		U	2	SAMPLING SYS FLO DISTURBANCE CAUSE BOTH RAD MON //	INOP. FLOW BLOCKAGE
G	VY1	030734	032680	CL	FG	SN	B00	T		U		TURBINE SPEED WOULD NOT INCRS ABOVE APPROX 800 RPM	FLOW CONTROLLER FAILED
G	VY1	031153*	051680	MD	RR	NN	A01	T		D	2	AEOG RAD MON 17-150A/B INOP IN CNTRLD CONDITIONS	PERS VIOLATED T.S. WHILE EVALUATG PROBLEM
G	VY1	031760	063080	MD	RR	NN	B08	N		U		INCOMPLETE SAMPLES COLLECTED	DAMAGED BRG IN PUMPS CAUSD PUMP FAILURE
G	VY1	033196	102780	GS	LS	SN	A01	N		D		LIS-2-3-72A ISOLATED W/O FIRST FAILG TRIP SYS	LICENSED/SENIOR OPERATOR ERROR
G	VY1	033611	121180	LS	DG	NN	B08	N		T		CNTRL ROD BLOCK NOT REC'D AS REQUIRED	LMT SW ARM LOOSEN & BENT BY PLATFORM
G	VY1	036361*	012781	GS	PS	SN	A14	T		T	3	ATWS/RPT HIGH PRESSURE TRIP FOUND OOC HI	INSTRUMENT DRIFT OF PT-2-3-56BM,CM, & DM
G	VY1	036362	020581	GS	PS	IC	A14	T		T		TORUS-RB VCUUM BREAKER DELTA P SWITCH FOUND OOC HI	SETPOINT DRIFT

APPENDIX H

RESULTS OF COMPONENT LER RATE ESTIMATIONS

CONTENTS

APPENDIX H

RESULTS OF COMPONENT LER RATE ESTIMATIONS

Using the factors of the LER rate point estimate given in the Final Statistics section, the upper and lower bounds can be determined as follows:

multiply X.X times Y.YE-YY to obtain upper 95% confidence limit

and

divide Z.Z into Y.YE-YY for lower 5% confidence limit

where

X.X = upper 95% confidence multiplier

Y.YE-YY = LER rate point estimate and

Z.Z = lower 5% confidence divisor.

NOTE: Table 18 provides this information.

BABCOCK&WILCOX

CORE FLUX SENSORS-REDUCED CAPABILITY-COMMAND FAULTS INCLUDED

PLANT	COMPONENT POPULATION	COMPONENT HOURS	POPULATION FAULTS	POPULATION HOURS	OPERATING FAULT RATE (FAULTS/HOUR)
AR1	8	52608	0	420864	5.4E-07
CR3	8	43512	1	348096	2.9E-06
DB1	8	38472	0	307776	7.4E-07
OE1	8	52608	0	420864	5.4E-07
OE2	8	52608	0	420864	5.4E-07
OE3	8	52608	0	420864	5.4E-07
RS1	8	52608	0	420864	5.4E-07
TI1	8	28368	0	226944	1.0E-06
TI2	8	8760	0	70080	3.2E-06
		TOTALS	1	3057216	AVG. 3.3E-07

H-001

COMBUSTION ENGINEERING   CORE FLUX SENSORS-REDUCED CAPABILITY-COMMAND FAULTS INCLUDED

	COMPONENT		POPULATION		OPERATING FAULT RATE
PLANT	POPULATION	HOURS	FAULTS	HOURS	(FAULTS/HOUR)
AR2	12	26952	0	323424	7.0E-07
CC1	20	52608	0	1052160	2.2E-07
CC2	20	44592	2	891840	2.2E-06
FC1	20	52608	0	1052160	2.2E-07
MI2	20	52608	2	1052160	1.9E-06
MY1	16	52608	0	841728	2.7E-07
PA1	10	52608	0	526080	4.3E-07
SL1	20	49920	0	998400	2.3E-07
		TOTALS	4	6737952	AVG. 5.9E-07

H-002

WESTINGHOUSE

CORE FLUX SENSORS-REDUCED CAPABILITY-COMMAND FAULTS INCLUDED

	COMPONENT		POPULATION		OPERATING FAULT RATE
PLANT	POPULATION	HOURS	FAULTS	HOURS	(FAULTS/HOUR)
BV1	12	49488	1	593656	1.7E-06
DC1	12	52608	0	631296	3.6E-07
DC2	12	33432	0	401184	5.7E-07
HN1	8	52608	0	420864	5.4E-07
IP2	12	52608	0	631296	3.6E-07
IP3	12	50304	0	603648	3.8E-07
JF1	12	38544	1	462528	2.2E-06
JF2	12	5784	0	69408	3.3E-06
KE1	12	52608	0	631296	3.6E-07
MG1	12	3504	0	42048	5.4E-06
NA1	12	32808	2	393696	5.1E-06
NA2	12	13632	1	163584	6.1E-06
PR1	12	52608	4	631296	6.3E-06
PR2	12	52608	0	631296	3.6E-07
PT1	12	52608	0	631296	3.6E-07
PT2	12	52608	0	631296	3.6E-07
RG1	12	52608	0	631296	3.6E-07
RO2	12	52608	1	631296	1.6E-06
SA1	12	44328	0	531936	4.3E-07
SA2	12	12264	0	147168	1.5E-06
SE1	12	13080	0	156960	1.4E-06
SE2	12	1368	0	16416	1.4E-05
SO1	8	52608	0	420864	5.4E-07
SU1	12	52608	0	631296	3.6E-07
SU2	12	52608	0	631296	3.6E-07
TR1	12	52608	0	631296	3.6E-07
TU3	12	52608	0	631296	3.6E-07
TU4	12	52608	0	631296	3.6E-07
YR1	12	52608	0	631296	3.6E-07
ZI1	12	52608	0	631296	3.6E-07
ZI2	12	52608	0	631296	3.6E-07
		TOTALS	10	15156192	AVG. 6.6E-07

H-003

GENERAL ELECTRIC

CORE FLUX SENSORS-REDUCED CAPABILITY-COMMAND FAULTS INCLUDED

	COMPONENT		POPULATION		OPERATING FAULT RATE (FAULTS/HOUR)
PLANT	POPULATION	HOURS	FAULTS	HOURS	
BF1	188	52608	0	9890304	2.3E-08
BF2	188	52608	0	9890304	2.3E-08
BF3	188	47328	0	8897664	2.6E-08
BP1	8	52608	0	420864	5.4E-07
BR1	140	45864	1	6420960	1.6E-07
BR2	140	52608	1	7365120	1.4E-07
CO1	140	52608	1	7365120	1.4E-07
DA1	98	52608	1	5155584	1.9E-07
DR1	9	24840	1	223560	4.5E-06
DR2	180	52608	1	9469440	1.1E-07
DR3	180	52608	0	9469440	2.4E-08
EN1	140	52608	0	7365120	3.1E-08
EN2	140	30648	0	4290720	5.3E-08
FP1	140	52608	3	7365120	4.1E-07
MI1	136	52608	2	7154688	2.8E-07
MO1	112	52608	0	5892096	3.9E-08
NM1	128	52608	0	6733824	3.4E-08
OC1	128	52608	6	6733824	8.9E-07
PB2	188	52608	0	9890304	2.3E-08
PB3	188	52608	0	9890304	2.3E-08
PI1	136	52608	0	7154688	3.2E-08
QC1	180	52608	0	9469440	2.4E-08
QC2	180	52608	0	9469440	2.4E-08
VY1	94	52608	0	4945152	4.6E-08
		TOTALS	17	170923080	AVG. 9.9E-08

H-004

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FINAL STATISTICS          CORE FLUX SENSORS-REDUCED CAPABILITY-COMMAND FAULTS INCLUDED
----------------
                                                          OPERATING
                                                          FAULT RATE
                                                        (FAULTS/HOUR)

                                                             4.7
                                     BAB.&WIL.            3.3E-07
                                                            19.5


                                                             2.3
                                     COMB.ENG.            5.9E-07
                                                             2.9


                                                             1.7
                                     WESTINGH.            6.6E-07
                                                             1.8


                                                             1.5
                                     PWR'S                6.0E-07
                                                             1.6


                                                             1.5
                                     GE (BWR'S)           9.9E-08
                                                             1.6


                                                             1.3
                                     OVERALL              1.6E-07
                                                             1.4

                                X.X      - UPPER 95% CONFIDENCE MULTIPLIER
                                Y.YE-YY - LER RATE ESTIMATE
                                Z.Z      - LOWER 5% CONFIDENCE DIVISOR
                                           H-005
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The remainder of Appendix H is provided on microfiche.

APPENDIX I

RESULTS OF CHANNEL LER RATE ESTIMATIONS

CONTENTS

APPENDIX I

RESULTS OF CHANNEL LER RATE ESTIMATIONS

Using the factors of the LER rate point estimate given in the Final Statistics section, the upper and lower bounds can be determined as follows:

multiply X.X times Y.YE-YY to obtain upper 95% confidence limit

and

divide Z.Z into Y.YE-YY for lower 5% confidence limit

where

X.X = upper 95% confidence multiplier

Y.YE-YY = LER rate point estimate and

Z.Z = lower 5% confidence divisor.

NOTE: Table 19 provides this information.

BABCOCK&WILCOX

CORE FLUX CHANNELS(ANALOG)-RED. CAP.-COMMAND FAULTS INCLUDED

PLANT	COMPONENT POPULATION	COMPONENT HOURS	POPULATION FAULTS	POPULATION HOURS	OPERATING FAULT RATE (FAULTS/HOUR)
AR1	4	52608	1	210432	4.8E-06
CR3	4	43512	8	174048	4.6E-05
DB1	4	38472	0	153888	1.5E-06
OE1	4	52608	17	210432	8.1E-05
OE2	4	52606	0	210432	1.1E-06
OE3	4	52608	4	210432	1.9E-05
RS1	4	52608	1	210432	4.8E-06
TI1	4	28368	0	113472	2.0E-06
TI2	4	8760	0	35040	6.5E-06
		TOTALS	31	1528608	AVG. 2.0E-05

I-001

COMBUSTION ENGINEERING

CORE FLUX CHANNELS(ANALOG)-RED. CAP.-COMMAND FAULTS INCLUDED

	COMPONENT		POPULATION		OPERATING FAULT RATE
PLANT	POPULATION	HOURS	FAULTS	HOURS	(FAULTS/HOUR)
AR2	4	26952	0	107808	2.1E-06
CC1	8	52608	4	420864	9.5E-06
CC2	8	44592	4	356736	1.1E-05
FC1	8	52608	1	420864	2.4E-06
MI2	8	52608	5	420864	1.2E-05
MY1	8	52608	0	420864	5.4E-07
PA1	6	52608	2	315648	6.3E-06
SL1	8	49920	0	399360	5.7E-07
		TOTALS	16	2863008	AVG. 5.6E-06

I-002

WESTINGHOUSE

CORE FLUX CHANNELS(ANALOG)-RED. CAP.-COMMAND FAULTS INCLUDED

PLANT	COMPONENT POPULATION	COMPONENT HOURS	POPULATION FAULTS	POPULATION HOURS	OPERATING FAULT RATE (FAULTS/HOUR)
BV1	8	49488	2	395904	5.1E-06
DC1	8	52608	0	420864	5.4E-07
DC2	8	33432	1	267456	3.7E-06
HN1	6	52608	2	315648	6.3E-06
IP2	8	52608	2	420864	4.8E-06
IP3	8	50304	1	402432	2.5E-06
JF1	8	38544	4	308352	1.3E-05
JF2	8	5784	0	46272	4.9E-06
KE1	8	52608	0	420864	5.4E-07
MG1	8	3504	0	28032	8.1E-06
NA1	8	32808	3	262464	1.1E-05
NA2	8	13632	6	109056	5.5E-05
PR1	8	52608	4	420864	9.5E-06
PR2	8	52608	0	420864	5.4E-07
PT1	8	52608	0	420864	5.4E-07
PT2	8	52608	1	20864	2.4E-06
RG1	8	52608	0	420864	5.4E-07
RO2	8	52608	1	420864	2.4E-06
SA1	8	44328	1	354624	2.8E-06
SA2	8	12264	0	98112	2.3E-06
SE1	8	13080	1	104640	9.6E-06
SE2	8	1368	0	10944	2.1E-05
SO1	6	52608	0	315648	7.2E-07
SU1	8	52608	0	420864	5.4E-07
SU2	8	52608	2	420864	4.8E-06
TR1	8	52608	0	420864	5.4E-07
TU3	8	52608	0	420864	5.4E-07
TU4	8	52608	0	420864	5.4E-07
YR1	3	52608	0	157824	1.4E-06
ZI1	8	52608	4	420864	9.5E-06
ZI2	8	52608	0	420864	5.4E-07
		TOTALS	35	9911232	AVG. 3.5E-06

GENERAL ELECTRIC

CORE FLUX CHANNELS(ANALOG)-RED. CAP.-COMMAND FAULTS INCLUDED

PLANT	COMPONENT POPULATION	HOURS	POPULATION FAULTS	HOURS	OPERATING FAULT RATE (FAULTS/HOUR)
BF1	18	52608	0	946944	2.4E-07
BF2	18	52608	0	946944	2.4E-07
BF3	18	47328	1	851904	1.2E-06
BP1	8	52608	0	420864	5.4E-07
BR1	18	45864	13	825552	1.6E-05
BR2	18	52608	2	946944	2.1E-06
CO1	18	52608	4	946944	4.2E-06
DA1	16	52608	7	841728	8.3E-06
DR1	9	24840	16	223560	7.2E-05
DR2	18	52608	6	946944	6.3E-06
DR3	18	52608	20	945944	2.1E-05
EN1	18	52608	1	946944	1.1E-06
EN2	18	30648	7	551664	1.3E-05
FP1	18	52608	16	946944	1.7E-05
MI1	18	52608	4	946944	4.2E-06
MO1	18	52608	4	946944	4.2E-06
NM1	16	52608	6	841728	7.1E-06
OC1	16	52608	6	841728	7.1E-06
PB2	18	52608	4	946944	4.2E-06
PB3	18	52608	3	946944	3.2E-06
PI1	18	52608	0	946944	2.4E-07
QC1	18	52608	0	946944	2.4E-07
QC2	18	52608	0	946944	2.4E-07
VY1	16	52608	0	841728	2.7E-07
		TOTALS	120	20444616	AVG. 5.9E-06

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FINAL STATISTICS              CORE FLUX CHANNELS(ANALOG)-RED. CAP.-COMMAND FAULTS INCLUDED
----------------
                                                                   OPERATING
                                                                  FAULT RATE
                                                                (FAULTS/HOUR)

                                                                     1.3
                                             BAB.&WIL.            2.0E-05
                                                                     1.4


                                                                     1.5
                                             COMB.ENG.            5.6E-06
                                                                     1.6


                                                                     1.3
                                             WESTINGH.            3.5E-06
                                                                     1.4


                                                                     1.2
                                             PWR'S                5.7E-06
                                                                     1.2


                                                                     1.2
                                             GE (BWR'S)           5.9E-06
                                                                     1.2


                                                                     1.1
                                             OVERALL              5.8E-06
                                                                     1.1

                                          X.X      - UPPER 95% CONFIDENCE MULTIPLIER
                                          Y.YE-YY  - LER RATE ESTIMATE
                                          Z.Z      - LOWER 5% CONFIDENCE DIVISOR
                                                     I-005
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The remainder of Appendix I is provided on microfiche.

NRC FORM 335
(2-84)
NRCM 1102,
3201, 3202

U.S. NUCLEAR REGULATORY COMMISSION

BIBLIOGRAPHIC DATA SHEET

SEE INSTRUCTIONS ON THE REVERSE

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EGG-2307

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12. SUPPLEMENTARY NOTES

13. ABSTRACT (200 words or less)

This report describes a computer-based data file developed from Licensee Event Reports (LERs) of instrumentation and control (I&C) components in United States commercial nuclear power plants for the period January 1, 1976, to December 31, 1981. In addition to the creation of the file, summaries of data contained in the file were made to obtain data for risk assessment and statistical purposes. Gross constant fault (failure and command fault) rates were estimated for major components and channels that provide a direct reactor trip. Explanations, figures, and summary tables of the results are provided. This report updates and supersedes the original May 1981 edition of NUREG/CR-1740.

14. DOCUMENT ANALYSIS – a. KEYWORDS/DESCRIPTORS
Licensee Event Report (LER)
Instrumentation and Control (I&C) Components
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