

TEMPORARY CHANGE NOTICE REQUEST FORM

TCN NO. 93-0955

1. PROCEDURE NUMBER DTO-RK-00001 REVISION NO. 2

PROCEDURE TITLE Loss of Control Room Alarms

1.1 One Time TCN: YES NO Effective from na to na

2. CHANGE SUMMARY Page 4 of 5 For Atts 2 thru 16

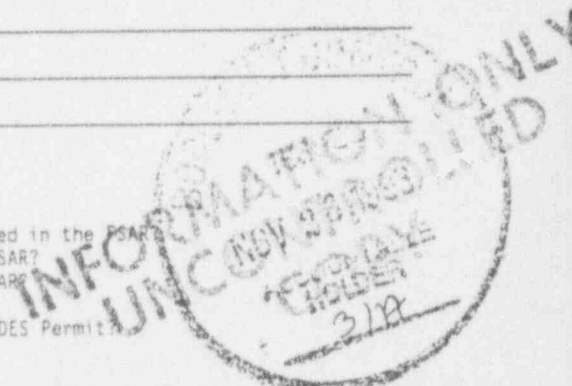
2.1 PAGE NUMBERS AFFECTED BY CHANGE Page 5 of 5 For Att 17

2.2 DESCRIPTION OF CHANGE Added "TURB ELEC MALFN" For Window 122F

2.3 REASON FOR CHANGE New alarm installed for Window 122F Per RMP 93-2015

3. 10CFR 50.59/50.54(P)(Q) APPLICABILITY - THIS TCN REPRESENTS:

- 3.1 *YES NO A proposed change to the facility as described in the FSAR?
 - 3.2 *YES NO A change to procedures as described in the FSAR?
 - 3.3 *YES NO A test or experiment not described in the FSAR?
 - 3.4 *YES NO A change to the Technical Specifications?
 - 3.5 *YES NO A change affecting the environment or the NPDES Permit?
 - 3.6 **YES NO A change which affects the RERP?
 - 3.7 **YES NO A change which affects the Security Plan?
 - 3.8 YES NO A change for which a Licensing Document Change has been initiated?
Change # na
 - 3.9 ##YES NO A change requiring a new/revision to a Surveillance Task Sheet Approval form?
 - 3.10 *YES NO A change affecting the Offsite Dose Calculation Manual (ODCM), the Process Control Program (PCP), or Core Operating Limits Report (COLR).
- *Yes requires a procedure revision, TCN is not allowed.
**Yes requires Emergency Preparedness or Security Department evaluation.
##Yes Refer to APA-ZZ-00340 for instructions.



4. PREPARED BY Ronald A. Hux DSA 11-23-93
SIGNATURE TITLE DATE

5. QUALIFIED REVIEWER Steve Neal SS 11/24/93
SIGNATURE TITLE DATE

6. PRELIMINARY APPROVAL (Prior to Implementation)
6.1 SENIOR REACTOR OPERATOR [Signature] OS 11-24-93
SIGNATURE TITLE DATE

7. FINAL APPROVAL (Within 14 Days of Implementation)
7.1 APPROVAL AUTHORITY _____
SIGNATURE TITLE DATE



CA-#1685
04-12-93
APA-ZZ-00114

9404270193 940421
PDR ADOCK 05000483
F PDR

TEMPORARY CHANGE NOTICE REQUEST FORM

TCN NO. 93-0329

1. PROCEDURE NUMBER OTO-RK-0001 REVISION NO. 2
PROCEDURE TITLE LOSS OF CONTROL ROOM ALARMS

1.1 One Time TCN: YES NO Effective from 7/92 to 7/92

2. CHANGE SUMMARY Page 4 of 5 For Atts 2 thru 16
2.1 PAGE NUMBERS AFFECTED BY CHANGE Page 5 of 5 For Att 17

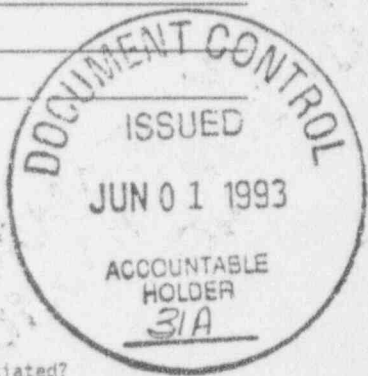
2.2 DESCRIPTION OF CHANGE Added "SG PORV OPEN" For Window 109F
Added "TURB BRG/L-D HI TEMP" For Window 120F

2.3 REASON FOR CHANGE Window 109F changed Per CMP 92-1012
Window 120F changed Per CMP 92-3002

3. 10CFR 50.59/50.54(P)(Q) APPLICABILITY - THIS TCN REPRESENTS:

- 3.1 *YES NO A proposed change to the facility as described in the FSAR?
- 3.2 *YES NO A change to procedures as described in the FSAR?
- 3.3 *YES NO A test or experiment not described in the FSAR?
- 3.4 *YES NO A change to the Technical Specifications?
- 3.5 *YES NO A change affecting the environment or the NPDES Permit?
- 3.6 **YES NO A change which affects the RERP?
- 3.7 **YES NO A change which affects the Security Plan?
- 3.8 YES NO A change for which a Licensing Document Change has been initiated?
Change # 711
- 3.9 ##YES NO A change requiring a new/revision to a Surveillance Task Sheet Approval form?
- 3.10 *YES NO A change affecting the Offsite Dose Calculation Manual (ODCM), the Process Control Program (PCP), or Core Operating Limits Report (COLR).

*Yes requires a procedure revision, TCN is not allowed.
**Yes requires Emergency Preparedness or Security Department evaluation.
##Yes Refer to APA-ZZ-00340 for instructions.



4. PREPARED BY Ronald R. Hill OSA 5-25-93
SIGNATURE TITLE DATE

5. QUALIFIED REVIEWER Charles E. Harris OS 5/27/93
SIGNATURE TITLE DATE

6. PRELIMINARY APPROVAL (Prior to Implementation)
6.1 SENIOR REACTOR OPERATOR S. S. Sobush OS 5/28/93
SIGNATURE TITLE DATE

7. FINAL APPROVAL (Within 14 Days of Implementation)
7.1 APPROVAL AUTHORITY _____
SIGNATURE TITLE DATE



TEMPORARY CHANGE NOTICE REQUEST FORM

TCN NO. 93-0220

1. PROCEDURE NUMBER OTO-RK-00002 REVISION NO. 2
 PROCEDURE TITLE Loss of Control Room Alarms
 1.1 One Time TCN: YES NO Effective from N/A to N/A

2. CHANGE SUMMARY

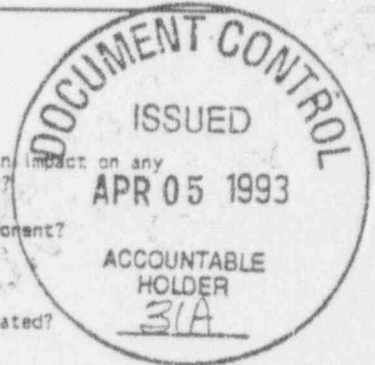
2.1 PAGE NUMBERS AFFECTED BY CHANGE pg 4
 2.2 DESCRIPTION OF CHANGE correct Typo

2.3 REASON FOR CHANGE Typo error

3. 10CFR 50.59/50.54(P)(Q) APPLICABILITY - THIS TCN REPRESENTS:

- 3.1 *YES NO A change to the facility as described in FSAR?
- 3.2 *YES NO A change to procedures as described in FSAR?
- 3.3 *YES NO A test or experiment not described in FSAR which could have an impact on any structure, system, equipment or component important to safety?
- 3.4 *YES NO A change to the Technical Specifications?
- 3.5 *YES NO A proposed change to any structure, system, equipment or component?
- 3.6 *YES NO A change affecting the environment?
- 3.7 **YES NO A change which affects the RERP?
- 3.8 **YES NO A change which affects the Security Plan?
- 3.9 YES NO A change for which a Licensing Document Change has been initiated?
Change # na
- 3.10##YES NO A change requiring a Surveillance Task Sheet Approval form?
- 3.11 *YES NO A change affecting the Offsite Dose Calculation Manual (ODCH), the Process Control Program (PCP), or Core Operating Limits Report (COLR).

*Yes answer requires a procedure revision, TCN is not allowed.
 **Yes answer requires Emergency Preparedness or Security Department evaluation.
 ##Yes answer - Refer to APA-ZZ-0034G for instructions.



4. PREPARED BY Rich O'Connell Reactor Operator 4/2/93
 SIGNATURE TITLE DATE

5. QUALIFIED REVIEWER M. J. ... OS 4-2-93
 SIGNATURE TITLE DATE

6. PRELIMINARY APPROVAL (Prior to Implementation)
 6.1 SENIOR REACTOR OPERATOR Tom Henning SS 4-2-93
 SIGNATURE TITLE DATE

7. FINAL APPROVAL (Within 14 Days of Implementation)
 7.1 APPROVAL AUTHORITY Jack E. Young SO 4/3/93
 SIGNATURE TITLE DATE



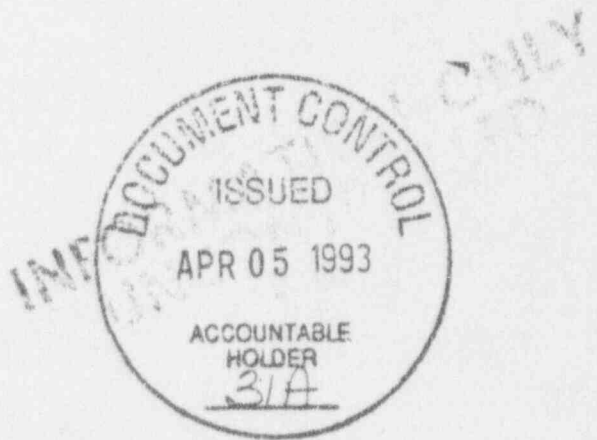
CALLAWAY PLANT
OFF-NORMAL OPERATING PROCEDURE
OTO-RK-00001
LOSS OF CONTROL ROOM ALARMS

RESPONSIBLE DEPARTMENT Operations

PREPARED BY Rich Denny DATE 4/2/93

APPROVED BY Alan E Young DATE 4/24/93
4/1/93

DATE ISSUED 4-2-93



This procedure contains the following:

| | | | |
|----------------|----------|---------|-----------|
| Pages | <u>1</u> | through | <u>11</u> |
| Attachments | <u>1</u> | through | <u>17</u> |
| Tables | _____ | through | _____ |
| Figures | _____ | through | _____ |
| Appendices | _____ | through | _____ |
| Checkoff Lists | _____ | through | _____ |

LOSS OF CONTROL ROOM ALARMS

- 1.0 PURPOSE AND SCOPE
- 1.1 This procedure provides guidance in the event of Control Room annunciator alarms failure.
- 2.0 SYMPTOMS
- 2.1 Spurious actuation of Alarms unrelated to plant status.
- 2.2 Lack of actuation of expected alarms.
- 2.3 Plant computer indicating false information of plant status.
- 2.4 Failure of annunciator to test.
- 2.5 Actuation of SA066X, Engineered Safety Features (ESF) Status Panel, Alarm Window 21Q.
- 3.0 PROBABLE CAUSES
- 3.1 Failed Field Power Supply in RK cabinets RK045D1, RK045A or RK045B.
- 3.2 Failed Logic Power Supply (70B-PCD-100) in RK045E1, E2 or E3
- 3.3 Blown Fuses
- 3.4 Loss of Supply Power to the RK System.
- 4.0 AUTOMATIC ACTIONS
- 4.1 None

5.0 IMMEDIATE ACTIONS

- 5.1 VERIFY plant is in a stable condition. If not, REFER to the appropriate OFF-NORMAL (OTO) or Emergency (E) procedure.

NOTE Annunciator Status and Tracking Procedure ODP-ZZ-00017, Attachment 5 contains a list of the annunciators which are addressed in the OFF-NORMAL and Emergency procedures with redundant Control Room indications that are available, if the annunciator has failed.

6.0 SUBSEQUENT ACTIONS

- 6.1 Plant personnel should INCREASE the frequency of equipment monitoring and HEIGHTEN awareness of plant status using the following alternate means:
- a. Control Board Analog Meters
 - b. Plant Computer
 - c. ESF Status Panels SA066X, Y & Z
 - d. Reactor Partial Trip/Block/Permissive Status Panel SB069
 - e. Miscellaneous Bistable Panel SC066W
 - f. Equipment Hand Indicating Switches
 - g. Local monitoring of equipment and local annunciator panels.

- 6.2 CHECK the four Field Power Supplies in RK045D1 for voltage and amp indication. Normal Output Voltage and Amps are 125 to 135 VDC and .7 to 1.2 Amps.

NOTE Two of the Four Field Power Supplies in RK045D1 are required to power the annunciator system.

- 6.2.1 CHECK the Logic Power Supply's Power Monitor Boards LED indicators for normal LIT indication, located in RK045E1, RK045E2 and RK045E3.

NOTE There are seven Power Monitor Boards, each with eight LED indicators. Each LED is labeled with the Logic Power Supply and Voltage that it is monitoring. Each LED should be LIT when supply voltage is available. The four output voltages of each Logic Power Supply perform the following and can cause the annunciators to fail according:

- 12 VDC Supply to the Logic Driver Card; all Annunciators powered by that Logic Power Supply are inoperable.
- 6.3 VDC Supply to the Annunciator Window Light Bulbs; all Annunciators powered by that Logic Power Supply are inoperable.
- 125 VDC Supply to the Reflash Cards; only those Annunciators with reflash capability powered by that Logic Power Supply are inoperable.
- 11 VDC Supply to the Light Flasher, Horn and Acknowledge pushbutton relays; the Annunciators will still actuate normally but without flashing and sounding the Horn.

Logic Power Supply (70B-PCD-100 #6 in RK045E1 is the one exception to the above information. Only 2 of the 4 output voltages are used. The -12 VDC supplies the seven Power Monitor Boards and if it fails, all LED indicators will be DARK and SA066X alarm 21 Q will actuate. The -11 VDC supplies the Horn Relays.

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6.2.2 If the checks performed in Step 6.2 and 6.2.1 are normal, then the Optical Isolator Power Supply in RK045A and/or RK045B has failed or the supply to the Power Monitor Boards has failed. PERFORM Attachments 15 and 16 for conservatism which may be relaxed after I & C has determined the specific annunciators affected.

6.2.3 NOTIFY I & C and other appropriate personnel of the abnormal conditions found and to initiate corrective maintenance on the failed component.

CAUTION Annunciators DO NOT necessarily fail to the LIT condition. The failed condition (lit or dark) is dependent upon the failed component. Do not assume the only affected annunciators are the ones that are lit.

NOTE Compensatory measures on Page 5 of the Attachments (2 thru 16) must be initiated within one hour.

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6.3 If more than 2 Field Power Supplies have failed, REFER to Attachment 1 and perform the compensatory actions.

6.3.1 If a Logic Supply Power failure is suspected, REFER to Attachments 2 through 16 as required and PERFORM the compensatory actions contained on page 5 of each attachment.

- 6.3.1.1 The Logic Power Supply's -125 VDC output to the Reflash Cards may fail resulting in "partial failure" and fewer inoperable annunciators than indicated on the appropriate attachment (2 through 14). If this occurs, the compensatory actions on **page 5 SHOULD BE** performed only for the annunciators with reflash capability as delineated on Attachment 17 for that failed Logic Power Supply.
- 6.3.1.2 The loss of -11 VDC supply from the Logic Power Supplies results in Loss of the Horn and Flashing capability for the affected annunciators. Each Logic Power Supply's - 11 VDC in that cabinet must be lost for this to occur. **Only** heightened awareness of Annunciator Status is required for this failure.
- 6.3.1.3 The loss of -6.3 VDC or -12 VDC results in all the annunciators on the appropriate attachment for that Power Supply, to be inoperable.

NOTE The attachments contain all of the Control Room annunciators affected by the failure of each major component of the RK System, and the minimum compensatory actions required to ensure the plant is in a safe condition. The **Inoperable** annunciators are highlighted by bold outline and cross hatched windows.

NOTE Failure of three of the four Field Power Supplies or the failure of the Optical Isolator Power Supplies will also cause the computer data from those affected field points to be inoperable. Failure of Logic Power Supplies does not affect the computer data from the field points.

| FAILED COMPONENT | LOCATION | ATTACHMENT |
|--|-------------|------------|
| 3 of 4 Field Power Supplies | RK045D1 | 1 |
| Logic Power Supply 70B-PCD-100 #1 | RK045E1 | 2 |
| Logic Power Supply 70B-PCD-100 #2 | RK045E1 | 3 |
| Logic Power Supply 70B-PCD-100 #3 | RK045E1 | 4 |
| Logic Power Supply 70B-PCD-100 #4 | RK045E1 | 5 |
| Logic Power Supply 70B-PCD-100 #5 | RK045E1 | 6 |
| Logic Power Supply 70B-PCD-100 #1 | RK045E2 | 7 |
| Logic Power Supply 70B-PCD-100 #2 | RK045E2 | 8 |
| Logic Power Supply 70B-PCD-100 #3 | RK045E2 | 9 |
| Logic Power Supply 70B-PCD-100 #4 | RK045E2 | 10 |
| Logic Power Supply 70B-PCD-100 #1 | RK045E3 | 11 |
| Logic Power Supply 70B-PCD-100 #2 | RK045E3 | 12 |
| Logic Power Supply 70B-PCD-100 #3 | RK045E3 | 13 |
| Logic Power Supply 70B-PCD-100 #4 | RK045E3 | 14 |
| Optical Isolator Power Supply 70-IDC-1 | RK045A | 15 |
| Optical Isolator Power Supply 70-IDC-1 | RK045B | 16 |
| Loss of -125 VDC in any Logic Power Supply (use in conjunction with the appropriate Logic Power Supply attachment) | RK045E1,2,3 | 17 |

CAUTION A "partially failed"
Logic Power Supply
should not be
considered failed. (See
Step 6.3.1.1 and
6.3.1.2)

6.4 REFER to EIP-ZZ-00101, CLASSIFICATION OF
EMERGENCIES, Group 3 Safety System
Functions.

6.4.1 On failure of three or more Field Power
Supplies, (loss of all annunciators) an
Alert MUST be declared.

OR

6.4.2 If all thirteen Logic Power Supplies
have failed (loss of all annunciators)
an **Alert MUST** be declared.

OR

6.4.3 If any other combination of power
supplies (including Optical Isolators)
have failed, **and** the minimum
compensatory actions of the appropriate
attachment(s) cannot be maintained,
DECLARATION of an **Alert SHOULD** be
considered due to reduced safety
assessment capability.

NOTE Plant transient is defined
as: (for use in
identifying emergency
classification)

- a. Change in Reactor power greater than $\pm 5\%/HR$
- b. RCS temperature deviation of greater
than $\pm 3^\circ F$ from Tref.
- c. PZR pressure deviation of greater than
 ± 15 PSIG from 2235 PSIG.

6.5 ENSURE Tech Spec required plant monitoring is initiated for the failure of any of the following alarms.

| ALARM NUMBER | ALARM NAME | REQUIRED SURVEILLANCE |
|--------------|-------------------------|-------------------------------------|
| 65D | T Ref/T Auct HI | OSP-ZZ-00001 Att. 5 |
| 78B | PR Upper Flux Deviation | OSP-SE-00003 |
| 78C | PR Lower Flux Deviation | OSP-SE-00003 |
| 79C | RPI Dev or PR Tilt | OSP-SE-00003 OSP-ZZ-00001 Att. 4 |
| 79D | ΔQ Out of Band | OSP-SE-00002 |
| 80C | RPI Rod Dev | OSP-ZZ-00001 Att. 4 |
| 81C | Rod Bank LoLo Limit | OSP-ZZ-00001 Att. 3 |

6.5.1 If any SI Accumulator annunciator window for pressure or level is inoperable (43 through 46 B or C) RECORD the pressure and level for the affected SI Accumulator at least once per hour in the URO narrative log. USE computer points or MCB analog meters.

6.6 DETERMINE from the attachments, what additional monitoring of plant equipment is desired. CONTACT appropriate personnel as needed to monitor equipment locally.

6.7 If Plant Startup or Plant Load Changes are in progress consideration should be given to the extent of annunciator failure and ability to ensure plant is in a safe condition. Limit load changes to less than 5%/HR and STOP plant startup operations until the annunciators have been repaired.

6.8 The power supplies for the (RK) Annunciator System are as follows, and the attachments to refer to upon loss of power are listed:

| PWR SUPPLY | COMPONENT LOCATION | COMPONENTS | REFER TO ATTACHMENTS |
|------------|---------------------------|---|--|
| PK5216 | RK045D1 | Field Power Supplies #1 and 2 | 1 If 3 of 4 Field PWR Supplies have failed |
| PK5119 | RK045D1 | Field Power Supplies #3 and 4 | 1 If 3 of 4 Field PWR Supplies have failed |
| PK5202 | RK045E1 See Note Below | 5X Logic Power Supplies 1X Horn Relay Power Supply 70B-PCD-100 #1,2,3,4,5 & 6 | 2-6 |
| PK5216 | RK045E2 | 4X Logic Power Supplies 70B-PCD-100 #1,2,3 & 4 | 7-10 |
| PK5116 | RK045E3 | 4X Logic Power Supplies 70B-PCD-100 #1,2,3,4 | 11-14 |
| PK5118 | RK045A | Optical Isolator Power Supply 70-IDC-1 Seperation Group I | 15 |
| PK5222 | RK045B | Optical Isolator Power Supply 70-IDC-1 (Seperation Group II) | 16 |

NOTE Logic Power Supply (70B-PCD-100 #6) in RK045E1 is for Horn Relay Power and the Power Monitor Boards. If it should malfunction, no operability concern exists, however increased awareness of annunciator status would be appropriate.

NOTE The 120 VAC Power is supplied to the RK Cabinets only for cabinet receptacles and cooling fans. The power source is from the 42 circuit distribution panels on PG19G and PG20G. 120VAC Power for the computer multiplexer in RK045D2 is PQ05 breaker 10.

6.9 MARK the MCB analog meters using a grease pencil to help identify any adverse trends.

6.10 BUILD computer group displays or call up existing group displays to aid in monitoring affect plant equipment.

NOTE Pages 1 through 4 of Attachments 2 through 16 are developed by the Drafting Department using the CAD System. Any changes (ie. TCNs, CMPs, Revs etc.) should be completed by the Drafting Department.

7.0 REFERENCES

7.1 J-108-00349

7.2 J-108-00102

7.3 J-108-00106

7.4 J-108-00107

7.5 J-108-00108

7.6 J-108-00109

7.7 OP-J-26005

7.8 E-23RK001

| | |
|------|--------------|
| 7.9 | EIP-ZZ-00101 |
| 7.10 | OSP-SE-00003 |
| 7.11 | OSP-SE-00002 |
| 7.12 | OSP-ZZ-00001 |
| 7.13 | ODP-ZZ-00017 |
| 7.14 | E-23RJ07 |

Compensatory Actions for Loss of
Field Power Supplies

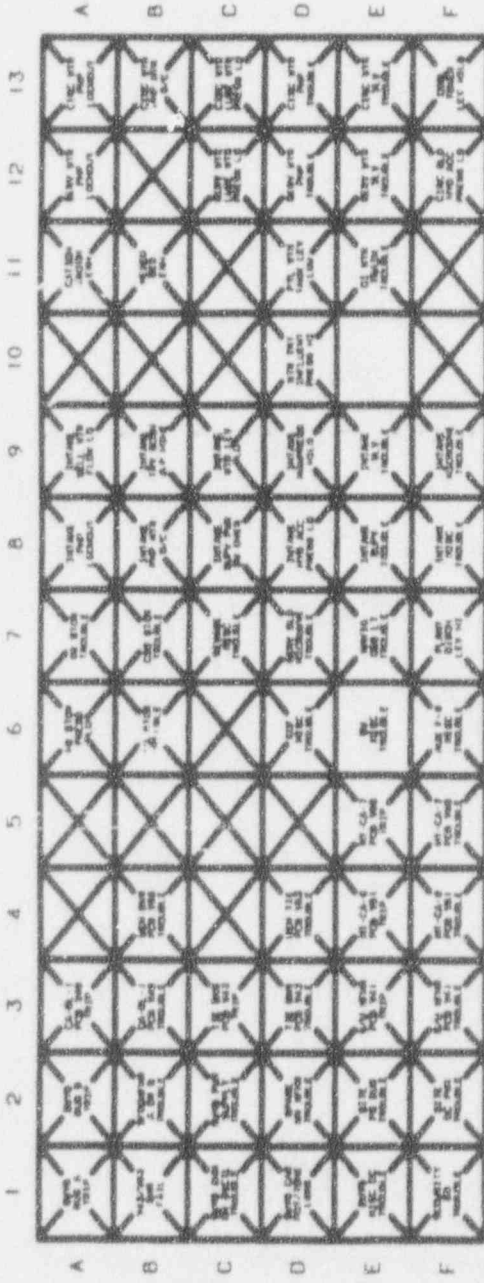
- 1.) The table below contains the minimum required equipment/parameters that should be monitored during this power supply loss. More actions can be taken if a review of this attachment, along with current plant status, warrants such actions.
- 2.) Equipment Operators should monitor equipment/parameters as often as possible but in all cases at a minimum of once per hour.
- 3.) Reactor Operators should monitor equipment/parameters continuously.
- 4.) Per Step 6.4.1 of this procedure, an ALERT must be declared due to reduced safety assessment capability.
- 5.) Computer data from the affect field points is not valid.

| Work Area | Equipment/Parameter |
|--|---|
| Control Room 1) 2) 3) 4) 5) | Boric Acid Tank Levels, VCT Press/Level, RMCS, Ltdn & Chrg Flows & Temp, Pzr Level/Pressure/Heaters, RCS Temperature, RCP Parameters, SI Accumulators, RWST Level, SB069 Bistable Panel, SFP Level, Cond. Vacuum, Steam Seals, Cond. Pmp. Disch. Press, CST Level. CMPTR Mux Group Display, SI Accumulators, SB069 Bistable Panel, CCW System, CTMT Sumps, Emerg D/G Day & Storage Tank LVLS, CVCS LTDN Pressure CT B/D & Bypass Flow, SB069 Bistable Panel, Nuclear Inst, Pzr heaters, RCP Parameters, RM-11, Area Rad Monitors, Turbine Load for Circ Pmp Setback, CCW System, DRPI Intake Flow, Cooling Tower Level and B/D Flow, Turbine Load, CMPTR Group Display N2 Accum Pressure Reactor Coolant Pump Temperatures |
| Secondary | LP and HP FW HTR Levels, MSDT/1st & 2nd STG RHDT valve positions, Main Turbine L.O. and EHC, Main Generator Stator Cooling/H2 Local Panels, CLCW Pumps and System Flow. ESF SWGR Rooms Temperature, NK Batteries, NN Inverters, Instrument Air Compressors, Central Chillers, Main Feed Pumps, Main Generator EHC Room, Computer Room Temp. PK, NK and Emerg Diesel Local Panels, NN Inverters. PK Buses, Instrument Air Dryers, HP and LP FW Heaters LVL/Valve pos, Isophase Bus Cooling, Main Generator Stator Cooling / H2 Local Panel, CLCW pumps and System Flow. |

| Work Area | Equipment/Parameter |
|-----------|---|
| Inside | Unit Aux and Main Transformers Start Up, Main, Unit Aux and ESF Transformers ESF, Unit Aux, and Station Service Transformers NG05E and NG06E MCC's, NG07 and NG08 Load Centers UHS Level, UHS Freeze Protection |
| Primary | SFP Cooling and Cleanup CVCS Heat Trace CVCS HT Trace, Rod Control (if rod motion required), MG Sets, Rad Mon HT Trace Panel |
| Outside | Circ & Service, Water Treatment and Sludge Disposal Switchyard |

- 1) Monitor BOP ESFAS & LSELS ATI once every 30 minutes.
- 2) Inform Hot Lab that CO/CO2 Monitor will not alarm in the Control Room.
- 3) Notify Chemistry that Sewage Misc. Trouble and Process Sample Trouble will not alarm in the Control Room.
- 4) Monitor LSELS ATI and SSPS General Warning once every 30 minutes.
- 5) Monitor RCP Vibrations, Loose Parts Monitor, ATWS & Seismic once every 30 minutes.

LOGIC POWER SUPPLY-708-PCD-100 #1 RK045E1



RK014 SITE-RELATED

| | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| A | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) |
| B | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) |
| C | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) |
| D | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) |
| E | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) |
| F | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) | POWER SUPPLY (LOCKED) |

RK016 STATION ELECTRIC

LOGIC POWER SUPPLY 70B-PCD-100 #1 RK045E1

| | | | | | | | | | | | | | | | | | | | | |
|---|---------------------------------|---------------------------------|-------------------------|------------------------------|-------------------------|-------------------------|------------------------------|------------------------------|-----------------------------|-------------------------------|---------------------------|---------------------------------|---------------------------------|---------------------------------|------------------------------------|-----------------------------|-----------------------------|----------------------------------|-----------------------|---|
| | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | |
| A | REN LEV HI | REN LIGHTS TEMP HI | REN VAPOR TEMP HI | REN WFTT VLV OPEN | SA TR A EMPTY | SA TR B EMPTY | LTON RECH HI TEMP HI | LTON HI TEMP HI DIRCH | STRS TEMP HI DIRCH | REAL THU TO RCP FLOW LO | CHG LIME FLOW HILO | ACC TR A 180 VLV NOT OPEN | ACC TR B 180 VLV NOT OPEN | ACC TR C 180 VLV NOT OPEN | ACC TR D 180 VLV NOT OPEN | EMPTY TEMP LOAD | EMPTY TEMP TROUBLE | HI TEMP TROUBLE | HI TEMP TROUBLE | A |
| B | REN 178 HTMS 180 LTON 180 | REN HI PRESS HI | REN PRESS HI | REN OPEN | SA TRS LEV LOAD | SA TRS LEV LOAD | EXCESS LTON HI TEMP HI | LTON HI DIRCH TEMP HI | STRS TEMP HI | REAL THU AC FLTR & P HI | VCT LEV HILO | ACC TR A PRESS HILO | ACC TR B PRESS HILO | ACC TR C PRESS HILO | ACC TR D PRESS HILO | EMPTY | EMPTY ACC TR LEV HILO | HI-LO RECH 180 VLV OPEN | REN LOOP LEV LO | B |
| C | REN LO LEV DEV | REN PRESS LO HTMS ON | REN PRESS BLOCK | REN WFTT DIRCH TEMP HI | SA TR A LEV HI | SA TR B LEV HI | LF LTON RECH TEMP HI | STRS RECH TEMP HI | REAL STRS THU TEMP HI | VCT PRESS HILO | ACC TR A LEV HILO | ACC TR B LEV HILO | ACC TR C LEV HILO | ACC TR D LEV HILO | EMPTY LEV LOAD B | EMPTY ACC TR LEV LO | REN LOOP 1 FLOW LO | REN LOOP 2 FLOW LO | C | |
| D | REN HI LEV DEV HTMS ON | REN HTS DIRCH AT BULK S/D | REN TEMP HI | REN PWRV DIRCH TEMP HI | SA TR A TEMP HILO | SA TR B TEMP HILO | EMPTY LEV HILO | LTON HI DIRCH PRESS HI | STRS DIRCH TROUBLE | SA FLOW DEV | VCT DIRCH TO SH | ACC TR NO VLV PRESS LO | | | EMPTY LEV LOAD 1 AUTO W/B | EMPTY ACC TR PRESS HI | REN A DIRCH PRESS HI | REN B DIRCH PRESS HI | D | |
| E | REN HTS CTRL TROUBLE | REN HTS GROUP LOCKOUT | REN PRESS HI | | | | CHG HI TRACE | RE W/D DIRCH PRESS LO | LTON HI DIRCH FLOW HI | STRS CHL RECH LEV HILO | TOTAL RECH FLOW DEV | CHARGING PWP TROUBLE | | | SET PRESS HI | EMPTY LEV HILO | SET TRIM A IN TEST | SET TRIM B IN TEST | REN LOOP LEV HI | E |
| F | REN EMPTY TEMP LO | REN BULK TEMP LO | REN LEV HILO | | | | | EMPTY TEMP HILO | STRS DIRCH LOL CTRL | POP ON LEV LO | HI-LO PRESS LO | | | | EMPTY NOT NORMAL | EMPTY TRIM A S/D S/P | EMPTY TRIM B S/D S/P | EMPTY AT AN S/D S/P | F | |

RK018 ESFAS

| | | | | | | | | | | | | | | | | | | | | |
|---|--------------------------------|--------------------------|------------------------------|------------------------------|------------------------------|-----------------|------------------------|------------------------------|--------------------------|---------------------------|----------------------------------|------------------------------|------------------------------|--------------------------------|--------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | |
| A | REN HI A DIRCH FLOW HI | REN TO RCP FLOW LO | REN HI B DIRCH FLOW HI | REN A PRESS LO FLOW LO | REN B PRESS LO FLOW LO | REN SATURATE | REN FLTR DIRCH/LO | | DIRCH | CTRL HI HI | PROCESS AND HIHI | AREA AND HIHI | DIRCH | DIRCH BLOCK VLV NOT OPEN | REN HI FLTR S/D S/P | LOOP 1 A 1 HI DEV | LOOP 2 A 1 HI DEV | LOOP 3 A 1 HI DEV | LOOP 4 A 1 HI DEV | A |
| B | REN PRESS TROUBLE | REN PRESS LO | REN PRESS TROUBLE | REN PRESS LO | REN TROUBLE | REN SUBCOOL | REN FLTR DIRCH/LO | | DIRCH | HI DIRCH TROUBLE | PROCESS AND HI | AREA AND HI | CTRL AND DIRCH | REN OR TEMP LO | REN HI FLTR AT S/D BLOCK | LOOP 1 A 1 LO DEV | LOOP 2 A 1 LO DEV | LOOP 3 A 1 LO DEV | LOOP 4 A 1 LO DEV | B |
| C | REN FLOW LO | REN FLOW LO | REN FLOW LO | REN FLOW LO | REN DIRCH S/P HI | | REN A HILO FAIL | DIRCH FLOW LO | CTRL AND HI | DIRCH TEMP LEV HI | PROCESS AND HILO FAIL | AREA AND HILO FAIL | | REN OR PRESS HI | ACT T AMP HI DEV | LOOP 1 T AMP HI DEV | LOOP 2 T AMP HI DEV | LOOP 3 T AMP HI DEV | LOOP 4 T AMP HI DEV | C |
| D | REN ACC TR A LEV HILO | REN HI A TEMP HI | REN HI B LEV HILO | REN HI B TEMP HI | REN HILO HILO | | REN B HILO FAIL | REN FLTR DIRCH TEMP HI | DIRCH | CTRL DIRCH DIRCH HI | OR DIRCH/LO | DIRCH | CTRL DIRCH DIRCH HI | | T AMP / T ACT HI | LOOP 1 T AMP LO DEV | LOOP 2 T AMP LO DEV | LOOP 3 T AMP LO DEV | LOOP 4 T AMP LO DEV | D |
| E | | | | REN DIRCH TROUBLE | REN DIRCH | | REN A FAIL | | CTRL DIRCH LEV HI | DIRCH/LO TEMP HI | DIRCH/LO TEMP HI | DIRCH/LO TEMP HI | | | T AMP / T ACT LO | | | | | E |
| F | REN DIRCH AT AN RECH 180 | REN TO RCP FLOW HI | REN HI DIRCH FLOW LO | REN FLOW HILO | REN TROUBLE | | REN A DIRCH OPEN | | CTRL DIRCH IN TEST | CTRL DIRCH LEV HI | REN HILO HI THANCE TEMP LO | DIRCH/LO DIRCH TEMP HI | DIRCH/LO DIRCH TEMP HI | DIRCH DIRCH DIRCH | OPTIONAL PRESSURE DIRCH | | DIRCH TEMP HI | DIRCH FAIL | DIRCH DIRCH FAIL | F |

RK020 ESFAS

LOGIC POWER SUPPLY 70B-PCD-100 #1 RK045E1

| | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|------------------------|---------------------|----------------------------|-----------------------|-----------------------|-------------------------|--------------------------|----------------------|---|
| A | RCP VIB DANGER | RCP #1 SEAL ΔP LO | RCP #1 SEAL FLOW HI | RCP #2 SEAL FLOW HI | RCP HTR CCM FLOW HI/LO | SWPS A GENERAL WARNING | SWPS B GENERAL WARNING | | PH CHANNEL DEV | ROD CTRL LMS FAIL | RPI LMS ALARM | TWO/MORE RODS AT BOTTOM | PH OVER PWR ROD STOP | ATMS BC LEV PNE TRIP | A |
| B | RCP VIB/PIE ALERT | | RCP #1 SEAL FLOW LO | RCP OIL LEAK | | RX BYP SWR A CLOSED | RX BYP SWR B CLOSED | IR HI VOLT FAIL | PH UPPER DETECTOR FLUX DEV | ROD CTRL NON LMS FAIL | RPI NON LMS ALARM | ROD AT BOTTOM | OF ΔT ROD STOP | | B |
| C | RCP A THRM BAR CCM FLOW | RCP B THRM BAR CCM FLOW | RCP C THRM BAR CCM FLOW | RCP D THRM BAR CCM FLOW | RCP THRM BAR CCM FLOW | RX BYP SWR A OPERABLE | RX BYP SWR B OPERABLE | HTR CH IN TEST | PH LOWER DETECTOR FLUX DEV | RPI DEV OR PH TILT | RPI ROD DEV | ROD BANK LOG LIMIT | OF ΔT ROD STOP | RX PARTIAL TRIP | C |
| D | RCP A OVERLOAD TRIP | RCP B OVERLOAD TRIP | RCP C OVERLOAD TRIP | RCP D OVERLOAD TRIP | RCP OIL RSVR LEV HI/LO | RFP TEMP HI | RFP LEV HI/LO | SW/IR TRIP SWP | IR CMP VOLT FAIL | ΔG OUT OF BAND | | ROD BANK TO LIMIT | IR HI FLUX ROD STOP | | D |
| E | RCP A SINEPIPE LEV LO | RCP B SINEPIPE LEV LO | RCP C SINEPIPE LEV LO | RCP D SINEPIPE LEV LO | RCP A/D OIL TH A LEV HI | RFP COOL PMP A TRIP | RFP COOL PMP B TRIP | IR HI VOLT FAIL | PH FLUX LO SETPT 1/4 | | | | | | E |
| F | RCP A SINEPIPE LEV HI | RCP B SINEPIPE LEV HI | RCP C SINEPIPE LEV HI | RCP D SINEPIPE LEV HI | RCP B/C OIL TH B LEV HI | RFP COOL PMP A FLOW LO | RFP COOL PMP B FLOW LO | RFP CLEANUP FLOW LO | | LOWE PARTS MON | ROD OR PG SET TROUBLE | | BANK D FULL OUT ROD STOP | ATMS PANEL TROUBLE | F |

RK022 REACTOR AUXILIARIES

| | 84 | 85 | 86 | 87 | 88 | |
|---|--------------------------|--------------------------|----------------------|------------------------|--------------------------|---|
| A | PH FLUX HI SETPT RX TRIP | RS LEV LO RX TRIP | LO FLOW & PH RX TRIP | PZR PWR RS LO RX TRIP | PZR PWR RS HI RX TRIP | A |
| B | OF ΔT RX TRIP | PH FLUX HI RATE RX TRIP | LO FLOW & P7 RX TRIP | PZR PWR RS HI RX TRIP | STM ONE PRESS S1 RX TRIP | B |
| C | OF ΔT RX TRIP | PH FLUX LO SETPT RX TRIP | RCP LP RX TRIP | PZR LEV HI RX TRIP | HI CMT PRESS S1 RX TRIP | C |
| D | | IR HI FLUX RX TRIP | RCP LP RX TRIP | | MANUAL S1 RX TRIP | D |
| E | | RS HI FLUX RX TRIP | | | | E |
| F | | | | TURS TRIP & PY RX TRIP | MANUAL S2 RX TRIP | F |

FIRSTOUT REACTOR TRIP

LOGIC POWER SUPPLY 70B-PCD-100 #1 RK045E1

| | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| B | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| C | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| D | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| E | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| F | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

RK024 TURBO-GENERATOR & BOP

TCN# 93-0329

SG
PORV
OPEN

| | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| B | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| C | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| D | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| E | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| F | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

RK026 TURBO-GENERATOR & BOP

TCN# 93-0329

TURB
ELEC
MALFN

TCN# 93-0955

TURB BRG /
L-D HI
TEMP

Compensatory Actions for Loss of
Logic Power Supply 70B-PCD-100 #1 RK045E1

- 1.) The table below contains the minimum required equipment/parameters that should be monitored during this power supply loss. More actions can be taken if a review of this attachment, along with current plant status, warrants such actions.
- 2.) Equipment Operators should monitor equipment/parameters as often as possible but in all cases at a minimum of once per hour.
- 3.) Reactor Operators should monitor equipment/parameters continuously.
- 4.) If monitoring cannot be maintained with personal available, or due to computer unavailability, declaration of an ALERT should be considered due to reduced safety assessment capability.

| Work Area | Equipment/Parameter |
|-------------------|--|
| Control Room * | Intake parameters, Cooling Tower Level & Disch/Blowdown Flow, Turbine load for Circ Pmp setback, Service Wtr Pump Status |
| Outside | Switchyard, Circ and Service |

* Notify Chemistry that the Sewage Misc Trouble will not alarm in Control Room.

LOGIC POWER SUPPLY 70B PCD-100 #2 RK045E1

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---------------------------------|---|---|-----------------------------|---------------------------|---|---------------------------|----------------------------|----------------------------|----------------------------|-------------------------|-------------------------|------------------------|------------------------|
| A | SWT9 PWR 9 TRN 9 TRN 9 | | | CA BL 1 PWR 1 TRN 1 | | | HE 8/10 PWR 8 TRN 8 | HE 8/11 PWR 8 TRN 8 | INT 8 PWR 8 TRN 8 | INT 8 PWR 8 TRN 8 | INT 8 PWR 8 TRN 8 | COL 8 PWR 8 TRN 8 | SW 8 PWR 8 TRN 8 | CL 8 PWR 8 TRN 8 |
| B | SWT10 PWR 10 TRN 10 | | | CA BL 2 PWR 10 TRN 10 | SW 10 PWR 10 TRN 10 | | | CON 10 PWR 10 TRN 10 | INT 10 PWR 10 TRN 10 | INT 10 PWR 10 TRN 10 | | | | |
| C | SWT11 PWR 11 TRN 11 | | | CA BL 3 PWR 11 TRN 11 | SW 11 PWR 11 TRN 11 | | | | INT 11 PWR 11 TRN 11 | INT 11 PWR 11 TRN 11 | | | | |
| D | SWT12 PWR 12 TRN 12 | | | CA BL 4 PWR 12 TRN 12 | SW 12 PWR 12 TRN 12 | | | | INT 12 PWR 12 TRN 12 | INT 12 PWR 12 TRN 12 | | | | |
| E | SWT13 PWR 13 TRN 13 | | | CA BL 5 PWR 13 TRN 13 | SW 13 PWR 13 TRN 13 | | | | INT 13 PWR 13 TRN 13 | INT 13 PWR 13 TRN 13 | | | | |
| F | SWT14 PWR 14 TRN 14 | | | CA BL 6 PWR 14 TRN 14 | SW 14 PWR 14 TRN 14 | | | | INT 14 PWR 14 TRN 14 | INT 14 PWR 14 TRN 14 | | | | |

RK014 SITE-RELATED

| | | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|---|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| A | SWT15 PWR 15 TRN 15 | SWT15 PWR 15 TRN 15 | SWT16 PWR 16 TRN 16 | SWT17 PWR 17 TRN 17 | SWT18 PWR 18 TRN 18 | SWT19 PWR 19 TRN 19 | SWT20 PWR 20 TRN 20 | SWT21 PWR 21 TRN 21 | SWT22 PWR 22 TRN 22 | SWT23 PWR 23 TRN 23 | SWT24 PWR 24 TRN 24 | SWT25 PWR 25 TRN 25 | SWT26 PWR 26 TRN 26 | SWT27 PWR 27 TRN 27 | SWT28 PWR 28 TRN 28 | SWT29 PWR 29 TRN 29 | SWT30 PWR 30 TRN 30 | SWT31 PWR 31 TRN 31 | SWT32 PWR 32 TRN 32 |
| B | SWT33 PWR 33 TRN 33 | SWT34 PWR 34 TRN 34 | SWT35 PWR 35 TRN 35 | SWT36 PWR 36 TRN 36 | SWT37 PWR 37 TRN 37 | SWT38 PWR 38 TRN 38 | SWT39 PWR 39 TRN 39 | SWT40 PWR 40 TRN 40 | SWT41 PWR 41 TRN 41 | SWT42 PWR 42 TRN 42 | SWT43 PWR 43 TRN 43 | SWT44 PWR 44 TRN 44 | SWT45 PWR 45 TRN 45 | SWT46 PWR 46 TRN 46 | SWT47 PWR 47 TRN 47 | SWT48 PWR 48 TRN 48 | SWT49 PWR 49 TRN 49 | SWT50 PWR 50 TRN 50 | SWT51 PWR 51 TRN 51 |
| C | SWT52 PWR 52 TRN 52 | SWT53 PWR 53 TRN 53 | SWT54 PWR 54 TRN 54 | SWT55 PWR 55 TRN 55 | SWT56 PWR 56 TRN 56 | SWT57 PWR 57 TRN 57 | SWT58 PWR 58 TRN 58 | SWT59 PWR 59 TRN 59 | SWT60 PWR 60 TRN 60 | SWT61 PWR 61 TRN 61 | SWT62 PWR 62 TRN 62 | SWT63 PWR 63 TRN 63 | SWT64 PWR 64 TRN 64 | SWT65 PWR 65 TRN 65 | SWT66 PWR 66 TRN 66 | SWT67 PWR 67 TRN 67 | SWT68 PWR 68 TRN 68 | SWT69 PWR 69 TRN 69 | SWT70 PWR 70 TRN 70 |
| D | SWT71 PWR 71 TRN 71 | SWT72 PWR 72 TRN 72 | SWT73 PWR 73 TRN 73 | SWT74 PWR 74 TRN 74 | SWT75 PWR 75 TRN 75 | SWT76 PWR 76 TRN 76 | SWT77 PWR 77 TRN 77 | SWT78 PWR 78 TRN 78 | SWT79 PWR 79 TRN 79 | SWT80 PWR 80 TRN 80 | SWT81 PWR 81 TRN 81 | SWT82 PWR 82 TRN 82 | SWT83 PWR 83 TRN 83 | SWT84 PWR 84 TRN 84 | SWT85 PWR 85 TRN 85 | SWT86 PWR 86 TRN 86 | SWT87 PWR 87 TRN 87 | SWT88 PWR 88 TRN 88 | SWT89 PWR 89 TRN 89 |
| E | SWT90 PWR 90 TRN 90 | SWT91 PWR 91 TRN 91 | SWT92 PWR 92 TRN 92 | SWT93 PWR 93 TRN 93 | SWT94 PWR 94 TRN 94 | SWT95 PWR 95 TRN 95 | SWT96 PWR 96 TRN 96 | SWT97 PWR 97 TRN 97 | SWT98 PWR 98 TRN 98 | SWT99 PWR 99 TRN 99 | SWT100 PWR 100 TRN 100 | SWT101 PWR 101 TRN 101 | SWT102 PWR 102 TRN 102 | SWT103 PWR 103 TRN 103 | SWT104 PWR 104 TRN 104 | SWT105 PWR 105 TRN 105 | SWT106 PWR 106 TRN 106 | SWT107 PWR 107 TRN 107 | SWT108 PWR 108 TRN 108 |
| F | SWT109 PWR 109 TRN 109 | SWT110 PWR 110 TRN 110 | SWT111 PWR 111 TRN 111 | SWT112 PWR 112 TRN 112 | SWT113 PWR 113 TRN 113 | SWT114 PWR 114 TRN 114 | SWT115 PWR 115 TRN 115 | SWT116 PWR 116 TRN 116 | SWT117 PWR 117 TRN 117 | SWT118 PWR 118 TRN 118 | SWT119 PWR 119 TRN 119 | SWT120 PWR 120 TRN 120 | SWT121 PWR 121 TRN 121 | SWT122 PWR 122 TRN 122 | SWT123 PWR 123 TRN 123 | SWT124 PWR 124 TRN 124 | SWT125 PWR 125 TRN 125 | SWT126 PWR 126 TRN 126 | SWT127 PWR 127 TRN 127 |

RK016 STATION ELECTRIC

LOGIC POWER SUPPLY 70B-PCD-100 #2 RK045E1

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|---|---------------------------|-------------------------|-------------------|-------------------------|-----------------|---------------|------------------------|-------------------------|----------------------|-------------------------|---------------------------|----------------------------|----------------------------|----------------------------|----------------------------|--------------------------|--------------------------|----------------------|----------------------|--|
| | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | |
| A | PER LEV HI | PER LTOX22 TEMP HI | PER T2000 TEMP HI | PER SP17 HLT OPCH | SA TR A EMPTY | SA TR B EMPTY | LTON W2000 LK TEMP HI | LTON H8 TEMP HI DIVERF | STR9 TEMP HI DIVERF | REAL TNU TO WCP FLOW LO | OWR L1NE TO WCP FLOW HILO | ACC TR A T20 TR V NOT OPEN | ACC TR B T20 TR V NOT OPEN | ACC TR C T20 TR V NOT OPEN | ACC TR D T20 TR V NOT OPEN | SWET TEMP L0LD | SPW41 TRAP TROUBLE | H1 PMS TROUBLE | SWR PMS TROUBLE | |
| B | PER LTR HT20 DPT LTON T20 | PER H0 PRESS DEV | PER PMS0 HI | SWET OPEN | SA TR8 LEV L0LD | SA TR6 LEV L0 | EXC020 LTON HI TEMP HI | LTON H8 D1000+ TEMP HI | STR9 TEMP HI | REAL TNU NO FLWS S P HI | WCT LEV HILO | ACC TR A PMS0 HILO | ACC TR B PMS0 HILO | ACC TR C PMS0 HILO | ACC TR D PMS0 HILO | SWET EMPTY | SPW41 ACC TR LEVEL L0LD | SWR H02 I00 VLY OPEN | WES L00P LEV L0 | |
| C | PER L4 LEV DEV | PER PMS0 L0 HT20 D0 | PER PMS0 BLOCX | PER SP17 D1000+ TEMP HI | SA TR 8 HI | SA TR 8 HI | | L P LTON WELLET TEMP HI | STR9 WELLET TEMP HI | REAL WTR [EMP HI | WCT HILO | ACC TR A LEV HILO | ACC TR B LEV HILO | ACC TR C LEV HILO | ACC TR D LEV HILO | SWET LEV L0LD | SPW41 ACC TR LEV L0 | SWR L00P 1 FLOW L0 | SWR L00P 2 FLOW L0 | |
| D | PER H0 LEV DEV W2000 D0 | SUV HT20 CTR AT AUC S/D | PER T2000 TEMP HI | PER PMS0 D1000+ TEMP HI | SA TR A HILO | SA TR B HILO | SWWET LEV HILO | LTON H8 D1000+ PMS0 HI | STR9 D1000+ TROUBLE | SA FLOW DEV | WCT DIVERF TO SW | ACC TR A NO H0R PMS0 L0 | | | | SWET LEV L0LD I AUTO WTR | SPW41 ACC TR PMS0 HI | SWR A PMS0 HI | SWR B D1000+ PMS0 HI | |
| E | PER H02 TROUBLE | PER HT20 LOCKOUT | PER PMS0 HI | | | CYCS HI TRACE | SW W/C WTR PMS0 L0 | LTON H8 D1000+ FLOW HI | STR9 D1000+ LEV HILO | LTON H8 WELLET FLOW DEV | CHW0200 TROUBLE | | | | | SWET LEV HILO | ESP TRW 0 IN TEST | SWW TRW 2 IN TEST | WES L00P LEV HI | |
| F | PER SP17 TEMP L0 | PER PMS0 TEMP L0 | PER T2000 HILO | | | | SWWET TEMP HILO | STR9 D1000+ L0 CTR | POP CO LEV L0 | WTR PMS0 L0 | | | | | | SWWET HILO | ESP HI T2000 S/D S/P D0P | SWW HI T2000 S/D S/P | WES HI S/P S/P | |

RK018 ESFAS

| | | | | | | | | | | | | | | | | | | | | |
|---|----------------------------|-------------------------|------------------------|-------------------------|-----------------------|------------------|--------------------------|------------------------|-------------------|-----------------------|--------------------------|-------------------------|-------------------------|----------------------------|------------------------|---------------------|---------------------|---------------------|---------------------|--|
| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | |
| A | SWR H0 2 COX FLOW HILO | COX TO WCP FLOW L0 | SWR H0 2 COX FLOW HILO | COX A PMS0 L0 FLOW L0 | COX B PMS0 L0 FLOW L0 | RES ANTIBATE | SW FLOW S00B L0 | | OWR | CTW HI HI | PROCES0 S00 HILO | AREA S00 HILO | OWR | WLD O/P BLOCX VLY NOT OPEN | NO H0 FLOW AT S/D L0LD | LOOP 1 S 1 HI DEV | LOOP 2 S 1 HI DEV | LOOP 3 S 1 HI DEV | LOOP 4 S 1 HI DEV | |
| B | COX W/C TROUBLE | COX PMS0 A/C PMS0 L0 | COX PMS0 S/D TROUBLE | COX PMS0 B/C PMS0 L0 | COX PMS0 TROUBLE | NOX C 20 S00B L0 | SW FLOW S00B L0 S/P/S 0C | | CT00 | NO WTR T2000 TROUBLE | PROCES0 HI | AREA S00 HI | CTR 00 S00 HI | NO WTR T2000 L0 | NO H0 FLOW AT S/D L0LD | LOOP 1 S 1 L0 DEV | LOOP 2 S 1 L0 DEV | LOOP 3 S 1 L0 DEV | LOOP 4 S 1 L0 DEV | |
| C | COX PMS0 A FLOW L0 | COX PMS0 C FLOW L0 | COX PMS0 D FLOW L0 | COX PMS0 E FLOW L0 | COX PMS0 S/P HI | | OWR 10 A H0D FAIL | OWR PMS0 FLOW L0 | CTW S00 HI | SWET TR S00 LEV HI | PROCES0 S00 HILO | AREA S00 HILO | WTR WTR PMS0 HI | | AUCT T 000 HI | LOOP 1 T 000 HI DEV | LOOP 2 T 000 HI DEV | LOOP 3 T 000 HI DEV | LOOP 4 T 000 HI DEV | |
| D | COX WTR A LEV HILO | COX H0 A D1000+ TEMP HI | COX WTR B LEV HILO | COX H0 B D1000+ TEMP HI | WTR PMS0 HILO | | WTR 10 B H0D FAIL | WTR FLS L0000+ TEMP HI | OWR | CTW WTR T2000 TEMP HI | NO S000000 S00 HILO | WTR | CTR WLD T0000+ S00 HI | | T 000 / T 000 HI | LOOP 1 T 000 L0 DEV | LOOP 2 T 000 L0 DEV | LOOP 3 T 000 L0 DEV | LOOP 4 T 000 L0 DEV | |
| E | | | WTR D000+ TROUBLE | WTR F00 HILO | | | OWR 10 PMS0 FAIL | | | CTW WTR A/B LEV HI | F000000 WTR FLS TEMP HI | F000000 WTR FLS TEMP HI | F000000 WTR FLS TEMP HI | | T 000 / T 000 L0 | | | | | |
| F | COX WTR 1 WTR H0 WTR T2000 | COX TO WCP FLOW HI | COX TO WCP FLOW L0 | COX WTR HI FLOW HILO | PER T2000 TROUBLE | | OWR 10 COX DPH | | CTW WTR 2 IN TEST | CTW WTR L0 LEV HI | WTR WTR HI T2000 TEMP L0 | F000000 WTR FLS TEMP HI | F000000 WTR FLS TEMP HI | OWR | OPT T2000 PMS0 HILO | OWR WTR TEMP HI | OWR WTR FAIL | OWR WTR FAIL | OWR WTR FAIL | |

RK020 ESFAS

LOGIC POWER SUPPLY 70B-PCD-100 #2 RK045E1

| | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------|------------------------|------------------------|------------------|----------------------------|-----------------------|-----------------------|-------------------------|--------------------------|----------------------|---|
| A | RCP VIS DANGER | RCP #1 SEAL D/P LO | RCP #1 SEAL FLOW HI | RCP #2 SEAL FLOW HI | RCP HTR CCM FLOW HI/LO | RCP# A GENERAL WARNING | RCP# B GENERAL WARNING | | PH CHANNEL DEV | ROD CTRL URG FAIL | RPI URG ALARM | TWO/MORE RODS AT BOTTOM | PH OVER PHB ROD STOP | ATMS BC LEV PRE TRIP | A |
| B | RCP VIS/TVS ALERT | | RCP #1 SEAL FLOW LO | RCP OIL LEAK | | RK BYP SWR A CLOSED | RK BYP SWR B CLOSED | IR HI VOLT FAIL | PH LAMP DETECTOR FLUR DEV | ROD CTRL NON URG FAIL | RPI NON URG ALARM | ROD AT BOTTOM | OP & T ROD STOP | | B |
| C | RCP A 1400 BAR CCM FLOW | RCP B 1400 BAR CCM FLOW | RCP C 1400 BAR CCM FLOW | RCP D 1400 BAR CCM FLOW | RCP 1400 BAR CCM FLOW | RK BYP SWR A OPERABLE | RK BYP SWR B OPERABLE | NIS CH IN TEST | PH LOWER DETECTOR FLUR LEV | RPI DEV OR PH TSLT | RPI ROD DEV | ROD BANK 1,2,3 LIMIT | OP & T ROD STOP | RK PARTIAL TRIP | C |
| D | RCP A OVERLOAD TRIP | RCP B OVERLOAD TRIP | RCP C OVERLOAD TRIP | RCP D OVERLOAD TRIP | RCP OIL PRESS LEV HI/LO | RFP TEMP HI | RFP LEV HI/LO | RO/IS TRIP BYP | IR CMP VOLT FAIL | ΔS OUT OF SYNC | | ROD BANK TO LIMIT | IR HI FLUR ROD STOP | | D |
| E | RCP A STEADY PIPE LEV LO | RCP B STEADY PIPE LEV LO | RCP C STEADY PIPE LEV LO | RCP D STEADY PIPE LEV LO | RCP A/D OIL TK A LEV HI | RFP COOL PWP A TRIP | RFP COOL PWP B TRIP | IR HI VOLT FAIL | PH FLUR LO DETPT 1/2 | | | | | | E |
| F | RCP A STEADY PIPE LEV HI | RCP B STEADY PIPE LEV HI | RCP C STEADY PIPE LEV HI | RCP D STEADY PIPE LEV HI | RCP B/C OIL TK B LEV HI | RFP COOL PWP A FLOW LO | RFP COOL PWP B FLOW LO | PH CLAMP FLOW LO | | LOOKS PARTS NON | ROD DR HD SET TROUBLE | | BANK D FULL OUT ROD STOP | ATMS PANEL TROUBLE | F |

RK022 REACTOR AUXILIARIES

| | 84 | 85 | 86 | 87 | 88 | |
|----------------------|--------------------------|-------------------------|----------------------|------------------------|------------------------------|---|
| A | PH FLUR HI DETPT RX TRIP | RO LEV LO/D RX TRIP | LO FLOW & PH RX TRIP | PZR PRESS LO RX TRIP | PZR PRESS HI RX TRIP | A |
| B | OP & T RX TRIP | PH FLUR HI INTX RX TRIP | LO FLOW & PT RX TRIP | PZR PRESS HI RX TRIP | STEADY PIPE PRESS HI RX TRIP | B |
| C | OP & T RX TRIP | PH FLUR LO INTX RX TRIP | RCP LV OIL TRIP | PZR LEV HI RX TRIP | HI CTRM PRESS HI RX TRIP | C |
| D | | IR HI FLUR RX TRIP | RCP LP OIL TRIP | | HANJAL SI RX TRIP | D |
| E | | IR HI FLUR RX TRIP | | | | E |
| F | | | | TURB TRIP & PH RX TRIP | HANJAL RX TRIP | F |
| FBI/OUT REACTOR TRIP | | | | | | |

LOGIC POWER SUPPLY TOR-PCD-100 #2 RK045E1

| | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 |
|---|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| B | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| C | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| D | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| E | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| F | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |

RK024 TURBO-GENERATOR & BOP

TUN#93-0329

SG
PDRV
OPEN

| | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| B | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| C | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| D | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| E | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| F | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |

RK026 TURBO-GENERATOR & BOP

TUN#93-0329

TURB BOP
L-O HI
TEMP

TURB
ELEC
MALFN

TUN#93-0955

Compensatory Actions for Loss of
Logic Power Supply 70B-PCD-100 #2 RK045E1

- 1.) The table below contains the minimum required equipment/parameters that should be monitored during this power supply loss. More actions can be taken if a review of this attachment, along with current plant status, warrants such actions.
- 2.) Equipment Operators should monitor equipment/parameters as often as possible but in all cases at a minimum of once per hour.
- 3.) Reactor Operators should monitor equipment/parameters continuously.
- 4.) If monitoring cannot be maintained with personal available, or due to computer unavailability, declaration of an ALERT should be considered due to reduced safety assessment capability.

| Work Area | Equipment/Parameter |
|-------------------|--|
| Control Room * | PA & NB Bus Voltage |
| Secondary | NK Batteries, NN Inverters A Emerg D/G A & B ESF Swgr Rooms - Temp & Voltage on NG01,2,3,4 |
| Inside | Startup Xfmer ESF Xfmers |

* Monitor LSELS ATI once every 30 minutes.

LOGIC POWER SUPPLY 70B-PCD-100 #3 RK045E1

| | | | | | | | | | | | | | | | | | | | | |
|---|-------------------|-------------------------|-------------------|-----------------------|----------------|----------------|------------------------|-----------------------|------------------------|---------------------------|-----------------------|---------------------------|---------------------------|---------------------------|---------------------------|-----------------------|-----------------------|----------------------|-----------------|---|
| | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | |
| A | PWR LVY HI | PWR TQUD TEMP HI | PWR VAPOR TEMP HI | PWR WFTY WLY OPEN | SA TX A EMPTY | SA TX B EMPTY | LTON RECH HI TEMP HI | LTON HE DTRCH TEMP HI | STRE TEMP HI | NEAL INJ TO REP FLOW LO | CHD LIME FLOW HI | ACC TX A 100 WLY NOT OPEN | ACC TX B 100 WLY NOT OPEN | ACC TX C 100 WLY NOT OPEN | ACC TX D 100 WLY NOT OPEN | EMPT TEMP LO | EMPT PMP TROUBLE | SI PMP TROUBLE | SW PMP TROUBLE | A |
| B | PWR LTR HTS ON | PWR HI PRESS DEV | PWR PWR HI | PWR OPEN | SA TXS L.O. | SA TXS L.O. | EXCESS LTON HE TEMP HI | LTON HE DTRCH TEMP HI | STRE TEMP HI | T. AL INJ SC FLOW D.P. HI | WY HI | ACC TX A PRESS HI | ACC TX B PRESS HI | ACC TX C PRESS HI | ACC TX D PRESS HI | EMPT EMPTY | EMPT ADD TN LEVEL LO | SWA REC 100 WLY OPEN | WCH LOOP LEV LO | B |
| C | PWR LO LEV DEV | PWR PWR LO HTS ON | PWR PWR BLOCK | PWR PWR DTRCH TEMP HI | SA TX A LEV HI | SA TX B LEV HI | LP LTON RELET TEMP HI | STRE RELET TEMP HI | NEAL HTS TAIL TEMP HI | WY PRESS HI | ACC TX A LEV HI | ACC TX B LEV HI | ACC TX C LEV HI | ACC TX D LEV HI | EMPT ADD TN LOID B | EMPT ADD TN LEV LO | SW LOOP 1 FLOW LO | SW LOOP 2 FLOW LO | C | |
| D | PWR HI LEV HTS ON | S-V HTS CTRL AT AUX S/S | PWR TEMP HI | PWR PWR TEMP HI | SA TX A HI | SA TX B HI | EMPT LEV DTRCH PWR HI | LTON HE DTRCH PWR HI | STRE DTRCH PWR HI | SA FLOW DEV | ACC TX A HI | ACC TX B HI | ACC TX C HI | ACC TX D HI | EMPT LEV LOID 1 AUTO S/S | EMPT ADD TN PRESS HI | SW A DTRCH PWR HI | SW B DTRCH PWR HI | D | |
| E | PWR HTS TRUBLE | PWR HTS LOCKUP | PWR PWR HI | | | | CYCL HI TRACE | SA TX A FLOW HI | STRE DTRCH LEV HI | TOTAL FLOW DEV | CH-ADLINE PMP TROUBLE | | | | BIT PRESS HI | EMPT LEV HI | SW TAILIN A IN TEST | SW TAILIN B IN TEST | WCH LOOP LEV HI | E |
| F | PWR EMPT TEMP LO | PWR PWR TEMP LO | PWR LEV HI | | | | | EMPT HI | STRE CHILLER L.O. CTRL | PMP LEV LO | HE HOP PRESS LO | | | | EMPT NOT NORMAL | EMPT TAILIN A S/S S/P | EMPT TAILIN B S/S S/P | EMPT S/S S/P | F | |

RK018 ESFAS

| | | | | | | | | | | | | | | | | | | | | |
|---|-----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------|--------------------------|-----------|--------------------|-------------------------|-------------------------|-------------------------|------------------------------|-------------------------|------------------------|----------------------|----------------------|----------------------|----------------------|---|
| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | |
| A | SW HT A COX FLOW HI | COX TO REP FLOW LO | SW HT B COX FLOW HI | SW A PRESS LO FLOW LO | SW B PRESS LO FLOW LO | REP SATURATE | SW FLOW TROUBLE | SWHT | CHT HI HI | PROCESS SW HI | AREA SW HI | CHD | COLD S/P TO DEV WLY NOT OPEN | SW HI FLOW AT S/S | LOOP 1 A 1 HI DEV | LOOP 2 A 1 HI DEV | LOOP 3 A 1 HI DEV | LOOP 4 A 1 HI DEV | A | |
| B | COX PMP A/C TROUBLE | COX PMP A/C PRESS LO | COX PMP S/S TROUBLE 2 | COX PMP S/S PRESS LO | SW PMP TROUBLE | REP C 30 W/NOOD | SW FLOW TROUBLE S/P-NOOD | CHD | HE PMP TROUBLE | PROCESS SW HI | AREA SW HI | CTR SW HI | REP W TEMP LO | SW HI FLOW AT S/S BLOCK | LOOP 1 A 1 LO DEV | LOOP 2 A 1 LO DEV | LOOP 3 A 1 LO DEV | LOOP 4 A 1 LO DEV | B | |
| C | COX PMP A FLOW LO | COX PMP C FLOW LO | COX PMP B FLOW LO | COX PMP D FLOW LO | SW HT S/P HI | SW HT A SPD FAIL | SW HTS FLOW LO | CHT SW HI | SWHT TAILIN LEV HI | PROCESS SW HI | AREA SW HI | REP W PRESS HI | SW HT PRESS HI | SW HT PRESS HI | LOOP 1 T 1 HI HI DEV | LOOP 2 T 1 HI HI DEV | LOOP 3 T 1 HI HI DEV | LOOP 4 T 1 HI HI DEV | C | |
| D | COX SW HT A LEV HI | COX HT A DTRCH TEMP HI | COX HT B LEV HI | COX HT B DTRCH TEMP HI | SW POND LEV HI | SW HT B SPD FAIL | SW FLS LEAKOFF TEMP HI | CHT SW HI | CHT RECIRC SW HI | SW SWHTSW SW HI | AREA SW HI | CTR SW HI | CTR SW HI | CTR SW HI | T 1 SW/ T 1 SW/ LO DEV | LOOP 1 T 1 SW LO DEV | LOOP 2 T 1 SW LO DEV | LOOP 3 T 1 SW LO DEV | LOOP 4 T 1 SW LO DEV | D |
| E | | | | SW COX TOWER TROUBLE | SW FLOW HI | SW HT A SPD FAIL | SW HTS FLOW HI | CHT SW HI | CHT SW HI | PROCESS SW HI | AREA SW HI | CTR SW HI | CTR SW HI | CTR SW HI | T 1 SW/ T 1 SW/ LO | | | | | E |
| F | COX S/P TAILIN NORMAL | COX TO SW COX FLOW HI | COX SW SW COX FLOW LO | COX SW HT FLOW HI | PMP TROUBLE | | SW HT COX OPEN | CHT SW HI | CHT SW HI | SW HTS HI TRACE TEMP LO | SW HTS HI TRACE TEMP LO | SW HTS HI TRACE TEMP LO | SW HTS HI TRACE TEMP LO | SW HTS HI TRACE TEMP LO | CHD SW HI | CHD SW HI | CHD SW HI | CHD SW HI | F | |

RK020 ESFAS

LOGIC POWER SUPPLY 70B-PCD-100 #3 RK045E1

| | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|------------------------|------------------------|---------------------|----------------------------|-----------------------|-----------------------|------------------------|--------------------------|----------------------|---|
| A | RCP VIS DANGER | RCP #1 SEAL ΔP L.O. | RCP #1 SEAL FLOW HI | RCP #2 SEAL FLOW HI | RCP HTR CCM FLOW HILO | SWPS A GENERAL WARNING | SWPS B GENERAL WARNING | | PH CHANNEL DEV | ROD CTRL LRG FAIL | SP1 LRG ALARM | TRG-TRG RECD AT BOTTOM | PH OVER PWR ROD STOP | ATWS RC LEV PNE TRIP | A |
| B | RCP YES/NO ALERT | | RCP #1 SEAL FLOW LO | RCP OIL LEAK | | RX BYP SWR A CLOSED | RX BYP SWR B CLOSED | IR HI VOLT FAIL | PH UPPER DETECTOR FLUX DEV | ROD CTRL NON LRG FAIL | SP1 NON LRG ALARM | ROD AT BOTTOM | DT & T ROD STOP | | B |
| C | RCP A T1494 BAR CCM FLOW | RCP B T1494 BAR CCM FLOW | RCP C T1494 BAR CCM FLOW | RCP D T1494 BAR CCM FLOW | RCP T1494 BAR CCM FLOW | RX BYP SWR A OPERABLE | RX BYP SWR B OPERABLE | KIS CH IN TEST | PH LOWER DETECTOR FLUX DEV | SP1 DEV OR PH TILT | SP1 ROD DEV | ROD BANK LOLO LIMIT | OP & T ROD STOP | RX PARTIAL TRIP | C |
| D | RCP A OVERLOAD TRIP | RCP B OVERLOAD TRIP | RCP C OVERLOAD TRIP | RCP D OVERLOAD TRIP | RCP OIL SWRN LEV HILO | SWP TRIP HI | SWP LEV HILO | SC/IR TRIP BYP | IR CMP VOLT FAIL | A B OUT OF BAND | | ROD BANK TO LIMIT | IR HI FLUX ROD STOP | | D |
| E | RCP A STROKING LEV LO | RCP B STROKING LEV LO | RCP C STROKING LEV LO | RCP D STROKING LEV LO | RCP Δ/D OIL TR. A LEV HI | SWP COOL SWP A TRIP | SWP COOL SWP B TRIP | SW HI VOLT FAIL | PH FLUX LO REPT 1/4 | | | | | | E |
| F | RCP A STROKING LEV HI | RCP B STROKING LEV HI | RCP C STROKING LEV HI | RCP D STROKING LEV HI | RCP Δ/C OIL TR. B LEV HI | SWP COOL SWP A FLOW LO | SWP CTRL SWP B FLOW LO | SWP CLEARUP FLOW LO | | LOOSE PARTS MON | ROD DR HD SET TROUBLE | | SWRN D FULL OUT ROD STOP | ATWS PANEL TROUBLE | F |

RK022 REACTOR AUXILIARIES

| | 84 | 85 | 86 | 87 | 88 | |
|----------------------|-------------------------|-------------------------|----------------------|------------------------|-------------------------|---|
| A | PH FLUX HI REPT RX TRIP | RO LEV LOLO RX TRIP | LO FLOW Δ PH RX TRIP | PZR PWR RB LO RX TRIP | PZR PWR SB RX TRIP | A |
| B | DT & T RX TRIP | PH FLUX HI RATE RX TRIP | LO FLOW Δ P2 RX TRIP | PZR PWR SB HI RX TRIP | RTN LME PWR SB RX TRIP | B |
| C | DT & T RX TRIP | PH FLUX LO REPT RX TRIP | RCP UP RX TRIP | PZR LEV HI RX TRIP | HI COUNT PWR SB RX TRIP | C |
| D | | IR HI FLUX RX TRIP | RCP UP RX TRIP | | MANUAL SB RX TRIP | D |
| E | | SW HI FLUX RX TRIP | | | | E |
| F | | | | TURN TRIP Δ P2 RX TRIP | MANUAL SB RX TRIP | F |
| FINDOUT REACTOR TRIP | | | | | | |

LOGIC POWER SUPPLY 708-PCD-100 #3 RK045E1

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 |
| A | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| B | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| C | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| D | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| E | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| F | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

RK024 TURBO-GENERATOR & BOP

56
PDRV
OPEN

TCN# 93-0329

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 |
| A | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| B | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| C | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| D | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| E | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| F | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

RK026 TURBO-GENERATOR & BOP

TURB
ELEC
MALFN

TURB BRG /
L-O HI
TEMP

TCN# 93-0329

TCN# 93-0455

Compensatory Actions for Loss of
Logic Power Supply 70B-PCD-100 #3 RK045E1

- 1.) The table below contains the minimum required equipment/parameters that should be monitored during this power supply loss. More actions can be taken if a review of this attachment, along with current plant status, warrants such actions.
- 2.) Equipment Operators should monitor equipment/parameters as often as possible but in all cases at a minimum of once per hour.
- 3.) Reactor Operators should monitor equipment/parameters continuously.
- 4.) If monitoring cannot be maintained with personnel available, or due to computer unavailability, declaration of an ALERT should be considered due to reduced safety assessment capability.

| Work Area | Equipment/Parameter |
|-------------------|---|
| Control Room * | Pzr Heaters Computer Mux Status Group Display |
| Secondary | B Emergency D/G |
| Inside | Startup, Station Service and ESF XFMRs NG05E and NG06E MCC's, NG07 and NG08 Load Centers |

* Monitor LSELS ATI once every 30 minutes.

LOGIC POWER SUPPLY 70B-PCD-100 #4 RK045E1

| | | | | | | | | | | | | | | | | | | | | |
|---|----------------------------|-------------------------|-------------------|-------------------------|-------------------|-------------------|------------------------|------------------------|------------------------|--------------------------|-------------------|---------------------------|---------------------------|---------------------------|---------------------------|----------------------------|--------------------------|--------------------------|--------------------------|---|
| | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | |
| A | FOR LEV HI | FOR LEVSD TEMP HI | FOR VAPOR TEMP HI | FOR WFTY W.V OPEN | SA TR A EMPTY | SA TR B EMPTY | LTON WEN HI TEMP HI | LTON HI TEMP HI DISEAT | STWS TEMP HI DISEAT | SEAL INJ TO MCP FLOW LO | DB LINE FLOW HI | ACC TR 1 150 W.V NOT OPEN | ACC TR 2 150 W.V NOT OPEN | ACC TR 3 150 W.V NOT OPEN | ACC TR 4 150 W.V NOT OPEN | EMPTY TEMP L.O.D | EMPTY TEMP TROUBLE | EMPTY TEMP TROUBLE | EMPTY TEMP TROUBLE | A |
| B | FOR LTR HI/NO BPT LTON ISO | FOR HI PRESS DEVY | FOR PRESS HI | FOR OPEN | SA TR A LEV L.O.D | SA TR B LEV L.O.D | CHECKS LTON HI TEMP HI | LTON HI DISCH TEMP HI | STWS TEMP HI | SEAL INJ HI FLOW S.P. HI | ACT LEV HI | ACC TR A PRESS HI | ACC TR B PRESS HI | ACC TR C PRESS HI | ACC TR D PRESS HI | EMPTY | EMPTY ADD TR LEVEL L.O.D | EMPTY ADD TR LEVEL L.O.D | EMPTY ADD TR LEVEL L.O.D | B |
| C | FOR L.O. LEV DEV | FOR PRESS LO HI/NO SA | FOR PRESS BLOCK | FOR BPT DISCH TEMP HI | SA TR A LEV HI | SA TR B LEV HI | LTON HI RELIEF TEMP HI | LP LTON HI TEMP HI | STWS HI TEMP HI | SEAL INJ HI TEMP HI | ACT PRESS HI | ACC TR A LEV HI | ACC TR B LEV HI | ACC TR C LEV HI | ACC TR D LEV HI | EMPTY L.O.D B | EMPTY ADD TR LEV LO | EMPTY ADD TR LEV LO | EMPTY ADD TR LEV LO | C |
| D | FOR HI LEV DEV SA | FOR HI TEMP AT HI/NO SA | FOR TEMP HI | FOR PRESS DISCH TEMP HI | SA TR A TEMP HI | SA TR B TEMP HI | EMPTY LTR HI | LTON HI DISCH PRESS HI | STWS CHILLED TROUBLE | SA FLOW DEV | ACT DISEAT TO SHI | ACC TR HI PRESS HI | | | | EMPTY LEV L.O.D 1 AUTO SPD | EMPTY ADD TR PRESS HI | EMPTY ADD TR PRESS HI | EMPTY ADD TR PRESS HI | D |
| E | FOR HI TEMP TROUBLE | FOR HI TEMP LOCKOUT | FOR PRESS HI | | | | CHECK HI TRACE | SEAL INJ HI PRESS LO | LTON HI DISCH HI | STWS CHILLED LEV HI | TOTAL HI FLOW DEV | CHAMBER HI | | | | EMPTY PRESS HI | EMPTY TRASH 2 IN TEST | EMPTY TRASH 2 IN TEST | EMPTY TRASH 2 IN TEST | E |
| F | FOR EMPTY TEMP LO | FOR PRESS LO | FOR LEV HI | | | | | EMPTY HI | STWS CHILLED L.O. CLOS | FOR ON LEV LO | HI PRESS LO | | | | | EMPTY HI | EMPTY TRASH 2 S/W DEV | EMPTY TRASH 2 S/W DEV | EMPTY TRASH 2 S/W DEV | F |

RK018 ESFAS

| | | | | | | | | | | | | | | | | | | | | |
|---|-----------------------|------------------------|-----------------------|------------------------|------------------------|------------|--------------------------|------------------------|---------|---------------------|------------------------|-------------------|-------------------|-----------------------------|----------------------------|---------------------|---------------------|---------------------|---------------------|---|
| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | |
| A | FOR HI A CLOS FLOW HI | FOR TO MCP FLOW LO | FOR HI B CLOS FLOW HI | FOR A PRESS LO FLOW LO | FOR B PRESS LO FLOW LO | NO DATA | NO FLUR DOUBLED | | ORIG | CTHT HI | PROCESS HI | AREA HI | ORIG | DELD S/W SELECT HI NOT OPEN | NO HI FLOW AT S/D | LOOP 1 A.1 HI DEV | LOOP 2 A.1 HI DEV | LOOP 3 A.1 HI DEV | LOOP 4 A.1 HI DEV | A |
| B | FOR HI A/C TROUBLE | FOR HI A/C PRESS LO | FOR HI B/C TROUBLE | FOR HI B/D PRESS LO | FOR HI TROUBLE | NO SUCCESS | NO FLUR DOUBLED S/W BLOC | | ORIG | NO ANALYSIS TROUBLE | PROCESS HI | AREA HI | CTHT HI | NO HI TEMP LO | DE HI FLOW AT S/D B/D BLOC | LOOP 1 A.1 LO DEV | LOOP 2 A.1 LO DEV | LOOP 3 A.1 LO DEV | LOOP 4 A.1 LO DEV | B |
| C | FOR HI A FLOW LO | FOR HI B FLOW LO | FOR HI C FLOW LO | FOR HI D FLOW LO | FOR HI A.P. HI | | NO HI A AND B FAIL | ORIG PRESS FLOW LO | CTHT HI | INLET HI LEV HI | PROCESS HI | AREA HI | NO HI PRESS HI | | ACT HI HI | LOOP 1 HI HI DEV | LOOP 2 HI HI DEV | LOOP 3 HI HI DEV | LOOP 4 HI HI DEV | C |
| D | FOR HI A LEV HI | FOR HI A DISCH TEMP HI | FOR HI B LEV HI | FOR HI B DISCH TEMP HI | FOR HI A AND B HI | | NO HI S AND D FAIL | BY FLS LEAKOFF TEMP HI | ORIG | CTHT HI | NO HI BLOWDOWN S/W 3RD | FOR HI | CTHT HI | | 1 HI HI | LOOP 1 HI HI LO DEV | LOOP 2 HI HI LO DEV | LOOP 3 HI HI LO DEV | LOOP 4 HI HI LO DEV | D |
| E | | | | FOR HI CLOS TROUBLE | FOR HI A AND B HI | | NO HI S AND D FAIL | | | CTHT HI | FOR HI A AND B HI | FOR HI A AND B HI | FOR HI A AND B HI | | 1 HI HI | | | | | E |
| F | FOR HI A AND B HI | FOR HI A AND B HI | FOR HI A AND B HI | FOR HI A AND B HI | FOR HI A AND B HI | | NO HI S AND D OPEN | | CTHT HI | CTHT HI | NO HI A AND B HI | FOR HI A AND B HI | FOR HI A AND B HI | FOR HI A AND B HI | FOR HI A AND B HI | FOR HI A AND B HI | FOR HI A AND B HI | FOR HI A AND B HI | FOR HI A AND B HI | F |

RK020 ESFAS

LOGIC POWER SUPPLY 70B-PCD-100 #4 RK045E1

| | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|------------------------|---------------------|----------------------------|-----------------------|-----------------------|-------------------------|--------------------------|---------------------|---|
| A | RCP VIS DANGER | RCP #1 SEAL & P LO | RCP #1 SEAL FLOW HI | RCP #2 SEAL FLOW HI | RCP WTR CCM FLOW HI/LO | NSPS A GENERAL WARNING | NSPS B GENERAL WARNING | | PH CHANNEL DEV | RCD CTRL LRG FAIL | RPI LRG ALARM | TUG-ROBE REAR AT BOTTOM | PH OVER PWR RCD STOP | ATM NO LEV PRE TRIP | A |
| B | RCP VIS/WRN ALERT | | RCP #1 SEAL FLOW LO | RCP OIL LEAK | | RX BYP SWR A CLOSED | RX BYP SWR B CLOSED | TR HI VOLT FAIL | PH UPPER DETECTOR FLUR DEV | RCD CTRL NON LRG FAIL | RPI NON LRG ALARM | RCD AT BOTTOM | DT & T RCD STOP | | B |
| C | RCP A THRM BAR CCM FLOW | RCP B THRM BAR CCM FLOW | RCP C THRM BAR CCM FLOW | RCP D THRM BAR CCM FLOW | RCP THRM BAR CCM FLOW | RX BYP SWR A OPERABLE | RX BYP SWR B OPERABLE | HSR C4 IN TEST | PH LOWER DETECTOR FLUR DEV | RPI DEV OR PRE TILT | RPI RCD DEV | RCD BANK LOLO LIMIT | DP & T RCD STOP | RX PARTIAL TRIP | C |
| D | RCP A OVERLOAD TRIP | RCP B OVERLOAD TRIP | RCP C OVERLOAD TRIP | RCP D OVERLOAD TRIP | RCP OIL PRESS LEV HI/LO | RFP TEMP HI | RFP LEV HI/LO | WR/IR TRIP SWP | TR CMP VOLT FAIL | ΔG OUT OF BAND | | RCD BANK TO LIMIT | TR HI FLUR RCD STOP | | D |
| E | RCP A STNCRPIPE LEV LO | RCP B STNCRPIPE LEV LO | RCP C STNCRPIPE LEV LO | RCP D STNCRPIPE LEV LO | RCP A/D OIL IN A LEV HI | RFP COOL PWP A TRIP | RFP COOL PWP B TRIP | WR HI VOLT FAIL | PH FLUR LO TRIP 17A | | | | | | E |
| F | RCP A STNCRPIPE LEV HI | RCP B STNCRPIPE LEV HI | RCP C STNCRPIPE LEV HI | RCP D STNCRPIPE LEV HI | RCP B/C OIL IN B LEV HI | RFP COOL PWP A FLOW LO | RFP COOL PWP B FLOW LO | RFP CLEANUP FLOW LO | | LOOSE PARTS NON | RCD DR NO SET TROUBLE | | RANK D FULL OUT RCD STOP | ATM PANEL TROUBLE | F |

RK022 REACTOR AUXILIARIES

| | 84 | 85 | 86 | 87 | 88 | |
|---|---------------------------|-------------------------|----------------------|------------------------|---------------------------|---|
| A | PH FLUR HI TRIP & RX TRIP | NO LEV LOLO RX TRIP | LO FLOW & P6 RX TRIP | PZR PRES LO RX TRIP | PZR PRES HI RX TRIP | A |
| B | DT & T RX TRIP | PH FLUR HI RATE RX TRIP | LO FLOW & P7 RX TRIP | PZR PRES HI RX TRIP | STR LNC PWR NO ST RX TRIP | B |
| C | DT & T RX TRIP | PH FLUR LO RATE RX TRIP | RCP LOW RX TRIP | PZR LEV HI RX TRIP | HI CTRT PRES HI RX TRIP | C |
| D | | TR HI FLUR RX TRIP | RCP UP RX TRIP | | MANUAL ST RX TRIP | D |
| E | | WR HI FLUR RX TRIP | | | | E |
| F | | | | TURB TRIP & PH RX TRIP | MANUAL RX TRIP | F |
| | | | | | | |

LOGIC POWER SUPPLY 708-PCD-100 #4 EN045E1

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 |
| A | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| B | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| C | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| D | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| E | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| F | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |

EN024 TURBO-GENERATOR & BOP

TCN#93-0329

SL
PORV
OPEN

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 |
| A | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| B | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| C | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| D | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| E | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| F | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |

EN026 TURBO-GENERATOR & BOP

TCN#93-0329

TURB
ELEC
MALFN

TURB BFG/
L-O HI
TEMP

TCN#93-0755

Compensatory Actions for Loss of
Logic Power Supply 70B-PCP-100 #4 RK045E1

- 1.) The table below contains the minimum required equipment/parameters that should be monitored during this power supply loss. More actions can be taken if a review of this attachment, along with current plant status, warrants such actions.
- 2.) Equipment Operators should monitor equipment/parameters as often as possible but in all cases at a minimum of once per hour.
- 3.) Reactor Operators should monitor equipment/parameters continuously.
- 4.) If monitoring cannot be maintained with personal available, or due to computer unavailability, declaration of an ALERT should be considered due to reduced safety assessment capability.

| Work Area | Equipment/Parameter |
|--------------------|--|
| Control Room ** | PZR LVL and Press, CVCS parameters, VCT level/press, Chg and Ltn Flow/Temp, SI Accumulators, RWST Level, RCP Seal Parameters |
| Secondary | PK and NK Batteries |
| Inside | Startup and ESF XFMRs. |

** Monitor BOP ESFAS ATI once every 30 minutes.

LOGIC POWER SUPPLY 708-PCD-100 #5 RK045E1

| | | | | | | | | | | | | | |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| A | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP |
| B | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP |
| C | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP |
| D | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP |
| E | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP |
| F | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP |

RK014 SITE-RELATED

| | | | | | | | | | | | | | | | | | | |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| A | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP |
| B | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP |
| C | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP |
| D | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP |
| E | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP |
| F | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP | SWITCH TRIP |

RK016 STATION ELECTRIC

LOGIC POWER SUPPLY 708-PCD-100 #5 RK045E1

| | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | |
|---|----------------------------|---------------------------|--------------------|--------------------------|--------------------|-----------------------------|---------------------------|-------------------------|-----------------------|-------------------------|---------------------|---------------------------|---------------------------|---------------------------|---------------------------|-----------------------|--------------------------|----------------------|----------------|---|
| A | POP LEV HI | POP LIB/SD TEMP HI | POP THRESH TEMP HI | POP WFTY HLY OPEN | BA TR A SUPPLY | BA TR B SUPPLY | LTON WASH HI TEMP HI | LTON HI TEMP HI DIRECT | BTMS TEMP HI DIRECT | REAL INJ TO MCP FLOW LO | ONE LINE FLOW HI/LO | ACC TR A 1SD HLY NOT OPEN | ACC TR B 1SD HLY NOT OPEN | ACC TR C 1SD HLY NOT OPEN | ACC TR D 1SD HLY NOT OPEN | RESET TEMP LO/LO | SPRAT ADD TR TROUBLE | SI POP TROUBLE | SW POP TROUBLE | A |
| B | POP 1TR HTRB (PT) 1TRB 1TR | POP HO PRESS DEV | POP PRESS HI | POP OPEN | BA TRB LEV LO | BA TRB LEV LO | EXCESS LTON HI TEMP HI | LTON HI DIRECT TEMP HI | BTMS TEMP HI | REAL INJ W/ FLOW & P HI | WCT LEV HI/LO | ACC TR A PRESS HI/LO | ACC TR B PRESS HI/LO | ACC TR C PRESS HI/LO | ACC TR D PRESS HI/LO | RESET EMPTY | SPRAT ADD TR LEVEL LO/LO | SW-HCS 1SD HLY OPEN | SW LOOP FLOW | B |
| C | POP LE LEV DEV | POP PRESS LO HTRB ON | POP PRESS BLOCK | POP WFTY DIRECT TEMP HI | BA TR A HI | BA TR B HI | L.P. LTON HELD/LO TEMP HI | BTMS RETURN TEMP HI | REAL STR (SU) TEMP HI | WCT PRESS HI/LO | ACC TR A LEV HI/LO | ACC TR B LEV HI/LO | ACC TR C LEV HI/LO | ACC TR D LEV HI/LO | RESET LEV LO/LO | SPRAT ADD TR LEV LO | SW LOOP 1 FLOW LO | SW LOOP 2 FLOW LO | C | |
| D | POP HO LEV DEV HTRB ON | S/LV HTRB CTRL AT RUC S/D | POP TEMP HI | POP PRESS DIRECT TEMP HI | BA TR A TEMP HI/LO | BA TR B TEMP HI/LO | RESET LEV HI/LO | LTON HI DIRECT PRESS HI | CHILLER FLOW HI/LO | REAL FLOW HI/LO | WCT DIRECT TO SHY | ACC TR PRESS HI/LO | | | RESET LEV AUTO SW | SPRAT ADD TR PRESS HI | SW A DIRECT PRESS HI | SW B DIRECT PRESS HI | D | |
| E | POP HTRB CTR TROUBLE | LTR HTRB WHELP LOCKOUT | POP PRESS HI | | CYCS HI TRACE | W/ H/C/ W/S PMP PRESS HI/LO | LTON HI DIRECT FLOW HI | BTMS CHL DIR LEV HI/LO | TOTAL W/L FLOW DEV | CHASING PMP TROUBLE | | | | | RESET LEV HI/LO | SPRAT ADD TR IN TEST | SW TRAIN B IN TEST | SW LOOP 3 IN TEST | E | |
| F | POP SPRTA TEMP LO | POP SPRTB TEMP LO | POP LEV HI/LO | | | | RESET TEMP HI/LO | BTMS CHILLER LCL CTR | POP LEV LO | HE POP HI/LO | | | | | RESET LEV HI/LO | SPRAT ADD TR S/D SW | SW AN TRAIN B S/D SW | SW AN S/D SW | F | |

RK016 ESFAS

| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | |
|---|------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------|----------------------------|-------------------------|-----------------------|---------------------------|---------------------------|---------------------------|-----------------------------|-------------------------|----------------------|----------------------|----------------------|----------------------|----|--|
| A | SW HI A OR FLOW HI/LO | POP TO MCP FLOW LO | SW HI B OR FLOW HI/LO | SW A TEMP LO/ FLOW LO | SW B TEMP LO/ FLOW LO | NON SATURATE | SW FLOW SOLENOID | ORAB | CTHT HI HI | PROCESS W/O HI/LO | AREA HI/LO | ORVIB | COLO G/P BLOCK W/P NOT OPEN | SW HO FLOW AT S/D | LOOP 1 S-1 HI DEV | LOOP 2 S-1 HI DEV | LOOP 3 S-1 HI DEV | LOOP 4 S-1 HI DEV | A | |
| B | SW PMP S/C TROUBLE | SW PMP S/C PRESS LO | SW PMP S/D TROUBLE | SW PMP S/D PRESS LO | SW PMP S/D TROUBLE | NON SUCCESS | SW FLOW SOLENOID OFF/LO/LO | CTHB | HO ANALYZER TROUBLE | PROCESS S/D HI/LO | AREA HI/LO | CTR SW HI/LO | SW HI TEMP LO | SW HI FLOW AT S/D BLOCK | LOOP 1 S-1 LO DEV | LOOP 2 S-1 LO DEV | LOOP 3 S-1 LO DEV | LOOP 4 S-1 LO DEV | B | |
| C | SW PMP A FLOW LO | SW PMP C FLOW LO | SW PMP B FLOW LO | SW PMP D FLOW LO | SW S/D S/P HI | | SW 1SD A HI/LO FAIL | CHL PMP FLOW LO | CTHT SW HI | SW HI TEMP LEV HI | PROCESS W/O HI/LO FAIL | AREA HI/LO FAIL | SW HI PRESS HI | SW HI PRESS HI | SW HI PRESS HI | SW HI PRESS HI | SW HI PRESS HI | SW HI PRESS HI | C | |
| D | SW TR A LEV HI/LO | SW TR A DIRECT TEMP HI | SW TR B DIRECT TEMP HI | SW TR B DIRECT TEMP HI | SW TR B DIRECT TEMP HI | | SW 1SD B HI/LO FAIL | SW FLOW LEAKOFF TEMP HI | OP18 | CTHT NEUTRAL SW HI/LO | SW S/D SW HI/LO | FW18 | CTR BLD TROUBLE HI | 1 SW/1 HI | LOOP 1 1 SW/1 LO DEV | LOOP 2 1 SW/1 LO DEV | LOOP 3 1 SW/1 LO DEV | LOOP 4 1 SW/1 LO DEV | D | |
| E | | | | SW TRB TROUBLE | SW TRC TROUBLE | | SW TRS TROUBLE | | CTHT SW HI/LO | PROCESS W/O HI/LO TEMP HI | PROCESS W/O HI/LO TEMP HI | PROCESS W/O HI/LO TEMP HI | | 1 SW/1 LO | | | | | E | |
| F | SW WFTY 1TR HTRB HI/LO | SW TRB SUP COMP FLOW HI | SW TRC SUP COMP FLOW LO | SW TRD SUP COMP FLOW HI | SW TRD SUP COMP FLOW HI | | SW TRS TROUBLE | SW TRS TROUBLE | CTHT PRESS CH IN TEST | CTHT SUP C/S LEV HI | SW TRS HI TRACE TEMP LO | FW18A HI/LO FLOW HI | FW18B HI/LO FLOW HI | FW18C HI/LO FLOW HI | FW18D HI/LO FLOW HI | FW18E HI/LO FLOW HI | FW18F HI/LO FLOW HI | FW18G HI/LO FLOW HI | F | |

RK020 ESFAS

LOGIC POWER SUPPLY 70B-PCD-100 #5 RK045E1

| | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------|------------------------|------------------------|---------------------|----------------------------|-------------------------|-----------------------|-------------------------|--------------------------|----------------------|---|
| A | RCP VIS DANGER | RCP #1 SEAL ΔP LO | RCP #1 SEAL FLOW HI | RCP #2 SEAL FLOW HI | RCP HTA CCM FLOW HILO | SWPS A GENERAL WARNING | SWPS B GENERAL WARNING | | PS CHANNEL DEV | ROD CTRL LOW FAIL | RPI LOW ALARM | TWO MORE RODS AT BOTTOM | PS OVER PWR ROD STOP | ATWS BG LVL PWR TRIP | A |
| B | RCP VIS/STYS ALERT | | RCP #1 SEAL FLOW LO | RCP OIL LEAK | | RK SWP SWD A CLOSED | RK SWP SWD B CLOSED | IR HI VOLT FAIL | PS UPPER DETECTOR FLUX DEV | ROD CTRL HIGH LANG FAIL | RPI HIGH LANG ALARM | ROD AT BOTTOM | OP ΔT ROD STOP | | B |
| C | RCP A T-HSH BAR CCM FLOW | RCP B T-HSH BAR CCM FLOW | RCP C T-HSH BAR CCM FLOW | RCP D T-HSH BAR CCM FLOW | RCP T-HSH BAR CCM FLOW | UN SWP SWP A OPERABLE | RK SWP SWD B OPERABLE | MS CH IN TEST | PS LOWER DETECTOR FLUX DEV | RPI DEV OR PWR FAIL | RPI ROD DEV | ROD BANK LQLO LIMIT | OP ΔT ROD STOP | RK PARTIAL TRIP | C |
| D | RCP A OVERLOAD TRIP | RCP B OVERLOAD TRIP | RCP C OVERLOAD TRIP | RCP D OVERLOAD TRIP | RCP OIL RESV LEV HILO | SWP TEMP HI | SWP LEV HILO | SW/IR TRIP SWP | IR CMP VOLT FAIL | ΔS OUT OF BAND | | ROD BANK TO LIMIT | IR HI FLUX ROD STOP | | D |
| E | RCP A STHORPME LEV LO | RCP B STHORPME LEV LO | RCP C STHORPME LEV LO | RCP D STHORPME LEV LO | RCP A/D OIL TK A LEV HI | SWP COOL PMP A TRIP | SWP COOL PMP B TRIP | IR HI VOLT FAIL | PS FLUX LO SETPT /A | | | | | | E |
| F | RCP A STHORPME LEV HI | RCP B STHORPME LEV HI | RCP C STHORPME LEV HI | RCP D STHORPME LEV HI | RCP B/C OIL TK B LEV HI | SWP COOL PMP A FLOW LO | SWP COOL PMP B FLOW LO | SWP CLEANUP FLOW LO | | LOOSE PARTS MON | ROD DR HI SET TROUBLE | | BANK D FULL OUT ROD STOP | ATWS PANEL TROUBLE | F |

RK022 REACTOR AUXILIARIES

| | 84 | 85 | 86 | 87 | 88 | |
|---|--------------------------|--------------------------|----------------------|------------------------|---------------------------|---|
| A | PS FLUX HI SETPT RX TRIP | SS LEV LQLO RX TRIP | LO FLOW & PS RX TRIP | PZR PRESS LO RX TRIP | PZR PRESS HI RX TRIP | A |
| B | OP ΔT RX TRIP | PS FLUX HI BATT RX TRIP | LO FLOW & PT RX TRIP | PZR PRESS HI RX TRIP | STHORPME PRESS HI RX TRIP | B |
| C | OP ΔT RX TRIP | PS FLUX LO SETPT RX TRIP | RCP UV RX TRIP | PZR LEV HI RX TRIP | HI COUNT PRESS HI RX TRIP | C |
| D | | OP HI 1 OR 1 | RCP UF RX TRIP | | MANUAL HI RX TRIP | D |
| E | | SS HI FLUX RX TRIP | | | | E |
| F | | | | TURB TRIP & PS RX TRIP | MANUAL HI RX TRIP | F |

FIRSTOUT REACTOR TRIP

LOGIC POWER SUPPLY 708-PCD-10" #5 RK045E1

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | |
| A | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| B | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| C | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| D | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| E | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| F | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

RK024 TURBO-GENERATOR & BOP

56
PDRV
DPEN

TCN#93-0329

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | |
| A | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| B | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| C | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| D | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| E | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| F | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

RK026 TURBO-GENERATOR & BOP

TURB
ELEC
MALFN

TURB BRG /
L-O HI
TEMP

TCN# 93-0329

TCN#93-0485

Compensatory Actions for Loss of
Logic Power Supply 70B-PCD-100 #5 RK045E1

- 1.) The table below contains the minimum required equipment/parameters that should be monitored during this power supply loss. More actions can be taken if a review of this attachment, along with current plant status, warrants such actions.
- 2.) Equipment Operators should monitor equipment/parameters as often as possible but in all cases at a minimum of once per hour.
- 3.) Reactor Operators should monitor equipment/parameters continuously.
- 4.) If monitoring cannot be maintained with personnel available, or due to computer unavailability, declaration of an ALERT should be considered due to reduced safety assessment capability.

| Work Area | Equipment/Parameter |
|--------------|--|
| Control Room | PZR Level/Pressure and Heaters CVCS Parameters; VCT Level/press, RMCS, Ltdn and Chg Flow/Temp, SI Accumulaator 'D' |
| Primary | CVCS Heat Trace |

LOGIC POWER SUPPLY 70B-PCD-100 #1 RK045E2

| | | | | | | | | | | | | | | | | | | | | |
|---|---------------------------------|-----------------------------|-------------------------|--------------------------------|-------------------------|-------------------------|----------------------------|------------------------------|-----------------------------|----------------------------------|--------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|
| | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | |
| A | POP LEV HI | POP LEAKS TEMP HI | POP WATER TEMP HI | POP WTY WLV OPEN | SA TR A EMPTY | SA TR B EMPTY | LTON WREN HI TEMP HI | LTON HI DIRCH TEMP HI | STRS WLN HI DIRCH | BEAL VAL TO WCP FLOW LO | ONE LINE FLOW HOLD | ACC TR A TRD WLV NOT OPEN | ACC TR B TRD WLV NOT OPEN | ACC TR C TRD WLV NOT OPEN | ACC TR D TRD WLV NOT OPEN | WNET TEMP LOLD | WNET TEMP TROUBLE | SI POP TROUBLE | SI POP TROUBLE | |
| B | POP WTS HYDR OFF LTON TRD | POP NO PRESS DEV | POP PRESS HI | POP WREN OPEN | SA TR A LEV LOLD | SA TR B LEV LO | STRS LTON HI TEMP HI | LTON HI DIRCH TEMP HI | STRS TEMP HI | BEAL VAL NO FLOW & P HI | WLT LEV HOLD | ACC TR A PRESS HOLD | ACC TR B PRESS HOLD | ACC TR C PRESS HOLD | ACC TR D PRESS HOLD | WNET EMPTY | WNET ADD TR LEVL LOLD | WNET ADD TR WLV OPEN | WNET ADD TR WLV OPEN | WNET ADD TR WLV OPEN |
| C | POP LO LEV DEV | POP PRESS LO HYDR ON | POP WREN BLOCK | POP WTY DIRCH TEMP HI | SA TR A LEV HI | SA TR B LEV HI | LTON WREN TEMP HI | LTON HI DIRCH TEMP HI | STRS WREN TEMP HI | BEAL VAL TEMP HI | WLT PRESS HOLD | ACC TR A LEV HOLD | ACC TR B LEV HOLD | ACC TR C LEV HOLD | ACC TR D LEV HOLD | WNET LEV LOLD | WNET ADD TR LEV LO | WNET ADD TR LEV LO | WNET ADD TR LEV LO | WNET ADD TR LEV LO |
| D | POP WTS LEV DEV HYDR ON | POP WTS CYS A AUX S/D | POP TEMP HI | POP WTY DIRCH TEMP HI | SA TR A TEMP HOLD | SA TR B TEMP HOLD | WNET LEV HOLD | LTON HI DIRCH PRESS HI | STRS DIRCH TROUBLE | BEAL VAL DEV | WLT DIRCH TO WWT | ACC TR NO ADD PRESS LO | | | | | WNET LEV LOLD | WNET ADD TR PRESS HI | WNET ADD TR PRESS HI | WNET ADD TR PRESS HI |
| E | POP WTS CYS TROUBLE | POP WTS CYS TROUBLE | POP PRESS HI | | | | CYS NO TRACE | BEAL VAL PRESS LO | LTON HI DIRCH FLOW HI | STRS DIRCH LEV HOLD | TOTAL WLV FLOW DEV | DIRCH POP TROUBLE | | | | | WNET LEV HOLD | WNET ADD TR IN TEST | WNET ADD TR IN TEST | WNET ADD TR IN TEST |
| F | POP DIRCH TEMP LO | POP DIRCH TEMP LO | POP LEV HOLD | | | | WNET TEMP HOLD | STRS DIRCH LEV CTR | POP DIRCH LEV LO | BEAL VAL PRESS LO | | | | | | | WNET LEV HOLD | WNET ADD TR S/D S/D | WNET ADD TR S/D S/D | WNET ADD TR S/D S/D |

RK018 ESFAS

| | | | | | | | | | | | | | | | | | | | | |
|---|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | |
| A | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI |
| B | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI |
| C | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI |
| D | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI |
| E | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI |
| F | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI | POP WTS DIRCH FLOW HI |

RK020 ESFAS

LOGIC POWER SUPPLY 70B-PCD-100 #1 RK045E2

| | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | |
|---|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|------------------------------|------------------------------|---------------------------|----------------------------------|-----------------------------|-----------------------------|-------------------------------|--------------------------------|----------------------------|---|
| A | RCP VIB DANGER | RCP #1 SEAL LP LO | RCP #1 SEAL FLOW HI | RCP #2 SEAL FLOW HI | RCP HTR CCW FLOW HILO | SAPS A GENERAL WARNING | SAPS B GENERAL WARNING | | PR CHANNEL DEV | NOO CTRL LMB FAIL | SP1 LMB ALARM | TRG/MORE REEM AT BOTTOM | PR OVER PWR NOO STOP | ATMS SC LEV PWR TRIP | A |
| B | RCP VIB/STP ALERT | | RCP #1 SEAL FLOW LO | RCP OIL LEAK | | RX BVP SWR A CLOSED | RX BVP SWR B CLOSED | IR HI VOLT FAIL | PR LOWER DETECTOR FLUX DEV | NOO CTRL NON LMB FAIL | SP1 NON LMB ALARM | NOO AT BOTTOM | OT & T NOO STOP | | B |
| C | RCP A THRM BAR CCW FLOW | RCP B THRM BAR CCW FLOW | RCP C THRM BAR CCW FLOW | RCP D THRM BAR CCW FLOW | RCP THRM BAR CCW FLOW | RX BVP SWR A OPERABLE | SC TYP SWR B OPERABLE | NOE CH IN TEST | PR LOWER DETECTOR FLUX DEV | SP1 DEV OR PR TILT | SP1 NOO DEV | NOO BANK LOGIC LIMIT | OT & T NOO STOP | RY PARTIAL TRIP | C |
| D | RCP A OVERLOAD TRIP | RCP B OVERLOAD TRIP | RCP C OVERLOAD TRIP | RCP D OVERLOAD TRIP | RCP OIL SWAR L&V HILO | SWP TEMP HI | SWP LEV HILO | BR/IR TRIP BVP | IP COP VOLT FAIL | ΔO OUT OF BAND | | NOO BANK TO LIMIT | IR HI FLUX NOO STOP | | D |
| E | RCP A BTHNPIPE LEV LO | RCP B BTHNPIPE LEV LO | RCP C BTHNPIPE LEV LO | RCP D BTHNPIPE LEV LO | RCP A/VG OIL TK A LEV HI | SWP COOL PMP A TRIP | SWP COOL PMP B TRIP | SW HI VOLT FAIL | PR FLUX LO BEFT 1/2 | | | | | | E |
| F | RCP A BTHNPIPE LEV HI | RCP B BTHNPIPE LEV HI | RCP C BTHNPIPE LEV HI | RCP D BTHNPIPE LEV HI | RCP B/C OIL TK B LEV HI | SWP COOL PMP A FLOW LO | SWP COOL PMP B FLOW LO | SWP CLEANUP FLOW LO | | LOOSE PARTS NON | NOO OR NO SET TROUBLE | | BANK D FULL OUT NOO STOP | ATMS PANEL TROUBLE | F |

RK022 REACTOR AUXILIARIES

| | 84 | 85 | 86 | 87 | 88 | |
|---|-------------------------------|-------------------------------|----------------------------|------------------------------|-------------------------------|---|
| A | PR FLUX HI BEFT RX TRIP | NO LEV LOLO RX TRIP | LO FLOW & F9 RX TRIP | P2R PWRSS LO RX TRIP | P2R PWRSS SI RX TRIP | A |
| B | OT & T RX TRIP | PR FLUX NO RATE RX TRIP | LO FLOW & P7 RX TRIP | P2R PWRSS HI RX TRIP | BTHNHC PWRSS SI RX TRIP | B |
| C | OT & T RX TRIP | PR FLUX LO BEFT RX TRIP | RCP UP RX TRIP | P2R LEV HI RX TRIP | HI CTM PWRSS SI RX TRIP | C |
| D | | IR HI FLUX RX TRIP | RCP IP RX TRIP | | MANUAL SI RX TRIP | D |
| E | | IR HI FLUX RX TRIP | | | | E |
| F | | | | TUBE TRIP & P9 RX TRIP | MANUAL RX TRIP | F |

FIBROUS REACTOR TRIP

LOGIC POWER SUPPLY 70B-PCD-100 #1 RK045E2

| | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A | 001 | 001 | 001 | 001 | 001 | | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 |
| B | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 |
| C | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 |
| D | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 |
| E | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 |
| F | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 |

RK024 TURBO-GENERATOR & BOP

0329
TCN#93-0329
RPN 5-3P-93
SG
TURV
OPEN

| | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 |
| B | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 |
| C | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 |
| D | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 |
| E | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 |
| F | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 | 001 |

RK026 TURBO-GENERATOR & BOP

TCN#93-0329

TURB BRO/
L-D HI
TEMP

TURB
ELEC
MALFN

TCN#93-0955

Compensatory Actions for Loss of
Logic Power Supply JOB-PCD-100 #1 RK045E2

- 1.) The table below contains the minimum required equipment/parameters that should be monitored during this power supply loss. More actions can be taken if a review of this attachment, along with current plant status, warrants such actions.
- 2.) Equipment Operators should monitor equipment/parameters as often as possible but in all cases at a minimum of once per hour.
- 3.) Reactor Operators should monitor equipment/parameters continuously.
- 4.) If monitoring cannot be maintained with personal available, or due to computer unavailability, declaration of an ALERT should be considered due to reduced safety assessment capability.

| Work Area | Equipment/Parameter |
|---------------------|--|
| Control Room * # | CCW Parameters; Flow/Pump Status, RM-11, Area Rad Monitors, SFP Level, RCS Temperature |
| Primary | CO/CO2 Monitor, SFP Cooling and Cleanup |
| Secondary | ESF Swgr Room Temperature |
| Inside | UHS Level and Freeze Protection |

* Monitor LSELS ATI once every 30 minutes.

Inform Hot Lab that CO/CO2 Monitor will not alarm in the Control Room.

LOGIC POWER SUPPLY 708-PCD-100 #2 RK045E2

1 2 3 4 5 6 7 8 9 10 11 12 13

| | A | B | C | D | E | F |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| A | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC |
| B | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC |
| C | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC |
| D | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC |
| E | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC |
| F | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC |

RK014 SITE-RELATED

14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

| | A | B | C | D | E | F |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| A | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC |
| B | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC |
| C | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC |
| D | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC |
| E | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC |
| F | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC | NOV 7 TRIP LOGIC |

RK016 STATION ELECTRIC

LOGIC POWER SUPPLY 708-PCD-100 #2 RK045E2

| | | | | | | | | | | | | | | | | | | | | |
|---|----------------------------|-----------------------|-------------------|-------------------------|---------------|---------------|----------------------------|-------------------------|----------------------|------------------------|-------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|-------------------------|-------------------------|-------------------------|---|
| | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | |
| A | FOR LEV HI | FOR LTRUSS TEMP HI | FOR Y-POS TEMP HI | FOR BFTY SLY OPEN | SA TR A EMPTY | SA TR B EMPTY | LTON REGR HI TEMP HI | LTON HE TEMP HI DISTRT | BTRE TEMP HI DISTRT | SEA TRU TO MCP FLOW LO | DR LTRU FLOW HILO | ACC TR A 100 WLY NOT OPEN | ACC TR B 100 WLY NOT OPEN | ACC TR C 100 WLY NOT OPEN | ACC TR D 100 WLY NOT OPEN | EMPT TEMP LOLO | EMPTA TEMP TROUBLE | BT TEMP TROUBLE | SEA TRU TROUBLE | A |
| B | FOR LTRU WIND OFF LTRU TRU | FOR HE PRESS DEY | FOR PRESS HI | FOR OPEN | NO TRU L.O.D | SA TRU LEV LO | ENDORS LTON HI TEMP HI | LTON HE DISTRT TEMP HI | BTRE TEMP HI | SEA TRU AC FLTR 3 P HI | WCT LEV HILO | ACC TR A PRESS HILO | ACC TR B PRESS HILO | ACC TR C PRESS HILO | ACC TR D PRESS HILO | EMPT EMPTY | EMPTA ACC TR LEVEL LOLO | SEA TRU 100 WLY OPEN | SEA TRU LOOP LEV LO | B |
| C | FOR LO DEY | FOR PRESS LO WIND ON | FOR PRESS BLOCK | FOR BFTY TEMP HI | SA TR A HI | SA TR B HI | LP LTON BELTCT TEMP HI | BTRE BELTCT TEMP HI | SEA TRU TEMP HI | WCT PRESS HILO | ACC TR A HILO | ACC TR B HILO | ACC TR C HILO | ACC TR D HILO | EMPT LEV LOLO R | EMPTA ACC TR LEV LO | SEA TRU FLOW LO | SEA TRU FLOW LO | C | |
| D | FOR HE LEV WIND ON | FOR HTS CTR AT 6-9 | FOR TEMP HI | FOR PDRV DISTRT TEMP HI | SA TR A HILO | SA TR B HILO | EMPT LEV HILO | LTON HE DISTRT PRESS HI | BTRE DISTRT TROUBLE | SEA TRU DEY | WCT DISTRT TO SH | ACC TR A HILO | ACC TR B HILO | ACC TR C HILO | ACC TR D HILO | EMPT LEV LOLO I AUTO WIND | EMPTA ACC TR PRESS HI | SEA TRU DISTRT PRESS HI | SEA TRU DISTRT PRESS HI | D |
| E | FOR HTS TROUBLE | FOR HTS BLOCK LOCKOUT | FOR PRESS HI | | | EMPT HI TRACE | SEA TRU WIND TEMP PRESS LO | LTON HE FLOW HI | BTRE DISTRT LEV HILO | SEA TRU FLOW DEY | CHARTRNG HILO | | | BT TEMP HI | EMPT LEV HILO | EMPTA TRU A IN TEST | EMPT TRU B IN TEST | EMPT TRU C IN TEST | EMPT TRU D IN TEST | E |
| F | FOR EMPT TEMP LO | FOR SEA TRU 1 | FOR LEV HILO | | | | EMPT TEMP HILO | BTRE DISTRT LOLO CTR | FOR LEV LO | HE WIND PRESS LO | | | | | EMPTA TEMP NORMAL | EMPTA TRU B 5-9 WIND | EMPTA TRU C 5-9 WIND | EMPTA TRU D 5-9 WIND | F | |

RK018 ESFAS

| | | | | | | | | | | | | | | | | | | | | |
|---|-------------------------|--------------------|-------------------------|----------------------------|----------------------------|-------------------|-------------------------|----|------|-----------------|----------------------|---------------|---------|-----------------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|---|
| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | |
| A | SEA TRU A COX FLOW HILO | COX TO MCP FLOW LO | SEA TRU B COX FLOW HILO | SEA TRU A PRESS LO FLOW LO | SEA TRU B PRESS LO FLOW LO | SEA TRU A RETURNT | SEA TRU B COX FLOW HILO | | EMPT | EMPT HI HI | PROCESSING HILO | AREA SAC HILO | EMPT | COLO B/F BLOCK SLY NOT OPEN | NO HI FLOW AT 6-9 | LOOP 1 A-1 HI DEY | LOOP 2 A-1 HI DEY | LOOP 3 A-1 HI DEY | LOOP 4 A-1 HI DEY | A |
| B | FOR HTS TROUBLE | FOR HTS PRESS LO | FOR HTS TROUBLE | FOR HTS PRESS LO | FOR HTS TROUBLE | FOR HTS TROUBLE | FOR HTS TROUBLE | | EMPT | NO WIND TROUBLE | PROCESSING HILO | AREA SAC HILO | EMPT | NO HI FLOW AT 6-9 BLOCK | NO HI FLOW AT 6-9 BLOCK | LOOP 1 A-1 LO DEY | LOOP 2 A-1 LO DEY | LOOP 3 A-1 LO DEY | LOOP 4 A-1 LO DEY | B |
| C | FOR HTS FLOW LO | FOR HTS FLOW LO | FOR HTS FLOW LO | FOR HTS FLOW LO | FOR HTS FLOW LO | FOR HTS FLOW LO | FOR HTS FLOW LO | | EMPT | EMPT | PROCESSING HILO | AREA SAC HILO | EMPT | NO HI FLOW AT 6-9 | NO HI FLOW AT 6-9 | LOOP 1 A-1 HI DEY | LOOP 2 A-1 HI DEY | LOOP 3 A-1 HI DEY | LOOP 4 A-1 HI DEY | C |
| D | FOR HTS A LEV HILO | FOR HTS A TEMP HI | FOR HTS B LEV HILO | FOR HTS B TEMP HI | FOR HTS C LEV HILO | FOR HTS C TEMP HI | FOR HTS D LEV HILO | | EMPT | EMPT | NO BLOCKING SHIP 180 | FOR HTS | EMPT | NO HI FLOW AT 6-9 | NO HI FLOW AT 6-9 | LOOP 1 A-1 LO DEY | LOOP 2 A-1 LO DEY | LOOP 3 A-1 LO DEY | LOOP 4 A-1 LO DEY | D |
| E | | | | | | | | | | | FOR HTS | FOR HTS | | | | EMPT | EMPT | EMPT | EMPT | E |
| F | FOR HTS WIND ON | FOR HTS FLOW HI | FOR HTS FLOW LO | FOR HTS FLOW HILO | FOR HTS FLOW HILO | FOR HTS FLOW HILO | FOR HTS FLOW HILO | | EMPT | EMPT | NO WIND | FOR HTS | FOR HTS | EMPT | EMPT | EMPT | EMPT | EMPT | EMPT | F |

RK020 ESFAS

LOGIC POWER SUPPLY 70B-PCD-100 #2 RK045E2

| | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|------------------------|---------------------|----------------------------|-----------------------|-----------------------|-------------------------|--------------------------|----------------------|---|
| A | RCP VIS DANGER | RCP #1 BEAL LOP LO | RCP #1 BEAL FLOW HI | RCP #2 BEAL FLOW HI | RCP #1#2 CCM FLOW HILO | SWPS A GENERAL WARNING | SWPS B GENERAL WARNING | | PR CHANNEL DEV | ROD CTRL LRG FAIL | SP1 LRG ALARM | TWO MORE RODS AT BOTTOM | RO OVER PWR ROD STOP | ATME NO LEV PWR TRIP | A |
| B | RCP VIS/STB ALERT | | RCP #1 BEAL FLOW LO | RCP OIL LEAK | | RX SWP SWP A CLOWED | RX SWP SWP B CLOWED | SWP HI VOLT FAIL | PR UPPER DETECTOR FLUR DEV | ROD CTRL NOX LRG FAIL | SP1 NOX LRG ALARM | ROD AT BOTTOM | DT AT ROD STOP | | B |
| C | RCP A TURB BAR CCM FLOW | RCP B TURB BAR CCM FLOW | RCP C TURB BAR CCM FLOW | RCP D TURB BAR CCM FLOW | RCP TURB BAR CCM FLOW | RX SWP SWP A OPERABLE | RX SWP SWP B OPERABLE | SWP HI VOLT IN TEST | PR LOWER DETECTOR FLUR DEV | SP1 DEV OR PR TELL | SP1 ROD DEV | ROD BANK L/O LINES | OP AT ROD STOP | SWP PARTIAL TRIP | C |
| D | RCP A OVERLOAD TRIP | RCP B OVERLOAD TRIP | RCP C OVERLOAD TRIP | RCP D OVERLOAD TRIP | RCP OIL SWPR LEV HILO | SWP TEND PWR HI | SWP LEV HILO | SWP TR TRIP SWP | TR CHP VOLT FAIL | A B OUT OF BAND | | ROD BANK TO LINES | TR HI FLUR ROD STOP | | D |
| E | RCP A STEADPIPE LEV LO | RCP B STEADPIPE LEV LO | RCP C STEADPIPE LEV LO | RCP D STEADPIPE LEV LO | RCP A/D OIL TK A LEV HI | SWP COOL PWP A TRIP | SWP COOL PWP B TRIP | SWP HI VOLT FAIL | PR FLUR LO SETPT 17v | | | | | | E |
| F | RCP A STEADPIPE LEV HI | RCP B STEADPIPE LEV HI | RCP C STEADPIPE LEV HI | RCP D STEADPIPE LEV HI | RCP B/C OIL TK B LEV HI | SWP COOL PWP A FLOW LO | SWP COOL PWP B FLOW LO | SWP CLEANUP FLOW LO | | LODGE PARTS MOX | ROD DR NO SET TROUBLE | | BANK D FULL OUT ROD STOP | ATME PANEL TROUBLE | F |

RK022 REACTOR AUXILIARIES

| | 84 | 85 | 86 | 87 | 88 | |
|---|--------------------------|--------------------------|----------------------|------------------------|-------------------------|---|
| A | PR FLUR HI SETPT RX TRIP | RO LEV LOLO RX TRIP | LO FLOW S P7 RX TRIP | P2R PWRB LO RX TRIP | P2R PWRB SI RX TRIP | A |
| B | DT AT KJ TRIP | PR FLUR NO BATE RX TRIP | LO FLOW S P7 RX TRIP | P2R PWRB NO RX TRIP | SWP LRG PWRB SI RX TRIP | B |
| C | DT AT RX TRIP | PR FLUR LO SETPT RX TRIP | RCP UP RX TRIP | P2R LEV HI RX TRIP | NO CTMT PWRB SI RX TRIP | C |
| D | | DR NO FLUR RX TRIP | RCP LP RX TRIP | | MANUAL SI RX TRIP | D |
| E | | RO NO FLUR RX TRIP | | | | E |
| F | | | | TURB TRIP S P7 RX TRIP | MANUAL RX TRIP | F |

FIBERGLASS REACTOR TRIP

LOGIC POWER SUPPLY 706-PCD-100 '72 RKO45E2

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | |
| A | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| B | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| C | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| D | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| E | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| F | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

RKO24 TURBO-GENERATOR & BOP

TCNA# 93-0329

SG
PORV
DPEN

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | |
| A | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| B | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| C | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| D | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| E | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| F | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

RKO26 TURBO-GENERATOR & BOP

TCNA# 93-0329

TRAB DRG /
1-0 HI
TEMP

TRAB
ELEC
MALFN

TCNA# 93-0955

Compensatory Actions for Loss of
Logic Power Supply 70B-PCD-100 #2 RK045E2

- 1.) The table below contains the minimum required equipment/parameters that should be monitored during this power supply loss. More actions can be taken if a review of this attachment, along with current plant status, warrants such actions.
- 2.) Equipment Operators should monitor equipment/parameters as often as possible but in all cases at a minimum of once per hour.
- 3.) Reactor Operators should monitor equipment/parameters continuously.
- 4.) If monitoring cannot be maintained with personnel available, or due to computer unavailability, declaration of an ALERT should be considered due to reduced safety assessment capability.

| Work Area | Equipment/Parameter |
|--------------|---|
| Control Room | RCP Temperatures and Seal Parameters, CCW Flow/Temp, RM-11, Area Rad Monitors, DRPI, SB069 Bistable Panel, Tave-Tref deviation, Group Display Computer Mux Status |
| Primary | Rad Mon Heat Trace Panel Rod Drive MG sets |
| Secondary | Computer Rm Temp |
| Inside | UHS Level and Freeze Protection |

LOGIC POWER SUPPLY 70B-PCD-100 #3 RK045E2

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
|---|---------------------------|-------------------------|-------------------------|------------------------|-------------------|-------------------|-------------------|-------------------------|--------------------------|-----------------|----------------------|----------------------|----------------------|---|
| A | 8VDC BUS A TRIP | 8VDC BUS B TRIP | CA-BL-1 PCB 743 TRIP | | | 10 STOP TROUBLE | 8V 8108 TROUBLE | INTAKE SUP LOCKOUT | INTAKE SUP FLOW LO | | CATION SUP LOCKOUT | 8VDC VTR SUP LOCKOUT | CIRC VTR SUP LOCKOUT | A |
| B | VAL/VALS SUP FAIL | 8VDC SUP A OR B TROUBLE | CA-BL-1 PCB 743 TROUBLE | 8V 808 PCB 750 TROUBLE | | 10 STOP TROUBLE | CO2 STOP TROUBLE | INTAKE SUP STR G/C | INTAKE SUP STR G.P. HIGH | | HYDRO SUP LOCKOUT | CIRC VTR SUP G/C | B | |
| C | 8VDC SUP OF DMS-1 TROUBLE | 8VDC SUP SUPPLY TROUBLE | TIE SUP PCB 743 TRIP | | | 8VDC SUP TROUBLE | 8VDC SUP TROUBLE | INTAKE SUP STR TO OVER | INTAKE VTR LEV LO | | 8VDC VTR SUP LOCKOUT | CIRC VTR SUP LOCKOUT | C | |
| D | 8VDC CAB PRT /DMS LOCK | SPARE 8V 8108 TROUBLE | TIE SUP PCB 743 TROUBLE | 8V 811 PCB 743 TROUBLE | | 10P 810C TROUBLE | 8VDC SUP TROUBLE | INTAKE SUP ACC PRESS LO | INTAKE SUP ACC HOLD | VTR 811 TROUBLE | PIL VTR TROUBLE | 8VDC VTR SUP LOCKOUT | CIRC VTR SUP LOCKOUT | D |
| E | 8VDC 810C TROUBLE | 8VDC 810C TROUBLE | 8VDC 810C TROUBLE | 8VDC 810C TROUBLE | 8VDC 810C TROUBLE | 8VDC 810C TROUBLE | 8VDC 810C TROUBLE | INTAKE SUP TROUBLE | INTAKE SUP TROUBLE | | 8VDC 810C TROUBLE | 8VDC 810C TROUBLE | CIRC VTR SUP TROUBLE | E |
| F | 8VDC 810C TROUBLE | 8VDC 810C TROUBLE | 8VDC 810C TROUBLE | 8VDC 810C TROUBLE | 8VDC 810C TROUBLE | 8VDC 810C TROUBLE | 8VDC 810C TROUBLE | INTAKE SUP TROUBLE | INTAKE SUP TROUBLE | | 8VDC 810C TROUBLE | 8VDC 810C TROUBLE | CIRC 810C TROUBLE | F |

RK014 SITE-RELATED

| | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|---|
| A | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | A |
| B | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | B |
| C | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | C |
| D | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | D |
| E | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | E |
| F | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | 8VDC 810C LOCKOUT | F |

RK016 STATION ELECTRIC

LOGIC POWER SUPPLY 708-PCD-100 #3 RK045E2

| | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | |
|---|-------------------|---------------------|--------------------|--------------------|-----------------|-----------------|------------------------|------------------------|-----------------------|-------------------------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------|----------------------|----------------------|---|
| A | POW LEV HI | POW LEV LO | POW SUPPLY TRIP HI | POW SUPPLY TRIP LO | SA TR A EMPTY | SA TR B EMPTY | LTON REGEN HI TEMP HI | LTON REGEN LO TEMP HI | STRG TEMP HI | STRG TEMP LO | REAL INJ TO RCP FLOW LO | QMS LTR FLOW HI | ACC TR A 1RD WY NOT OPEN | ACC TR B 1RD WY NOT OPEN | ACC TR C 1RD WY NOT OPEN | ACC TR D 1RD WY NOT OPEN | SMPT TRIP LO LD | SMPT TRIP TRIPBLE | SMPT TRIP TRIPBLE | A |
| B | POW LTR WTRNG DRY | POW HI PRESS DRY | POW HI PRESS HI | POW OPEN | SA TRS LEV LO | SA TRS LEV HI | EXCESS LTON HI TEMP HI | LTON HI DRYCH TEMP HI | STRG TEMP HI | REAL INJ TO RCP FLOW HI | ACT LEV HI | ACC TR A PRESS HI | ACC TR B PRESS HI | ACC TR C PRESS HI | ACC TR D PRESS HI | SMPT DRYCH | SMPT ADD TR LEVEL LO LD | SMPT ADD TR LEVEL HI | SMPT ADD TR LEVEL HI | B |
| C | POW LTR WTRNG DRY | POW HI PRESS LO | POW HI PRESS HI | POW SUPPLY TRIP HI | SA TR A LEV HI | SA TR B LEV HI | LTON HI RELEV TEMP HI | STRG RELEV TEMP HI | STRG RELEV TEMP HI | REAL WTR TO RCP FLOW HI | ACT LEV HI | ACC TR A PRESS HI | ACC TR B PRESS HI | ACC TR C PRESS HI | ACC TR D PRESS HI | SMPT TRIP LO LD # | SMPT ADD TR LEV LO | SMPT ADD TR LEV LO | SMPT ADD TR LEV LO | C |
| D | POW LEV HI | POW HI PRESS HI | POW HI PRESS HI | POW SUPPLY TRIP HI | SA TR A TEMP HI | SA TR B TEMP HI | SMPT LEV HI | LTON HI DRYCH PRESS HI | STRG DRYCH TRIPBLE | SA FLOW DRY | ACT DRYCH TO HI | ACC TR A NO HOR PRESS LO | | | | SMPT LEV LO LD AUTO WTR | SMPT ADD TR PRESS HI | SMPT ADD TR PRESS HI | SMPT ADD TR PRESS HI | D |
| E | POW HI TRIP | POW HI TRIP LOCKOUT | POW HI TRIP HI | | | | CYCS HI TRACE | BY WTR RELEV PRESS LO | LTON HI DRYCH FLOW HI | ACT ON HI | TOTAL FLOW DRY | CHANGING FLOW TRIPBLE | | | | SMPT TRIP HI | SMPT TRIP HI | SMPT TRIP HI | SMPT TRIP HI | E |
| F | POW HI TRIP | POW HI TRIP | POW HI TRIP | | | | | SMPT TRIP HI | STRG DRYCH LO LD | POW ON LEV LO | HE HOR PRESS LO | | | | | SMPT TRIP HI | SMPT TRIP HI | SMPT TRIP HI | SMPT TRIP HI | F |

RK018 ESFAS

| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | |
|---|------------------|--------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---|
| A | QMS HI A FLOW HI | QMS TO RCP FLOW LO | QMS HI C FLOW HI | QMS J FLOW LO | QMS B FLOW LO | QMS TRIPBLE | QMS DRYCH | QMS HI | PROCESS HI | AREA HI | QMS | QMS HI | QMS HI | QMS HI | QMS HI | QMS HI | QMS HI | QMS HI | QMS HI | A |
| B | QMS HI C FLOW HI | QMS HI C FLOW LO | QMS HI C FLOW HI | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | B |
| C | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | QMS HI C FLOW LO | C |
| D | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | D |
| E | | | | | | | | | | | | | | | | | | | | E |
| F | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | QMS HI C FLOW HI | F |

RK020 ESFAS

LOGIC POWER SUPPLY 70B-PCD-100 #3 RK045E2

| | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|------------------------|---------------------|----------------------------|-----------------------|-----------------------|--------------------------|-------------------------|----------------------|---|
| A | RCP VIS DANGER | RCP #1 SEAL SUP LO | RCP #1 SEAL FLOW HI | RCP #2 SEAL FLOW HI | RCP HTR CCM FLOW HILO | SWPS A GENERAL WARNING | SWPS B GENERAL WARNING | | SWPS CHANNEL DEV | RED CTRL LRG FAIL | WPI LRG ALARM | TWO MORE ROOMS AT BOTTOM | WPI OVER PWR MOD STOP | ATWS NO LEV PWR TRIP | A |
| B | RCP VIS/SPS ALERT | | RCP #1 SEAL FLOW LO | RCP OIL LEAK | | RX BYP SWR A CLOSED | RX BYP SWR B CLOSED | HI VOLT FAIL | PH UPPER DETECTOR FLUR DEV | RED CTRL HCH LRG FAIL | WPI HCH LRG ALARM | MOD AT BOTTOM | OT & T MOD STOP | | B |
| C | RCP A THRM BAR CCM FLOW | RCP B THRM BAR CCM FLOW | RCP C THRM BAR CCM FLOW | RCP D THRM BAR CCM FLOW | RCP THRM BAR CCM FLOW | RX BYP SWR A OPERABLE | RX BYP SWR B OPERABLE | WIS CH IN TEST | PH LOWER DETECTOR FLUR DEV | WPI DEV OR PW TILT | WPI MOD DEV | MOD BANK LO LIMIT | OP & T MOD STOP | WPI PARTIAL TRIP | C |
| D | RCP A OVERLOAD TRIP | RCP B OVERLOAD TRIP | RCP C OVERLOAD TRIP | RCP D OVERLOAD TRIP | RCP OIL REVRV LEV HILO | WPI TEMP HI | WPI LEV HILO | WPI/IR TRIP | WPI CHP VOLT FAIL | & O OUT OF BAND | | MOD BANK TO LIMIT | WPI HI FLUR MOD STOP | | D |
| E | RCP A STEADPIPE LEV LO | RCP B STEADPIPE LEV LO | RCP C STEADPIPE LEV LO | RCP D STEADPIPE LEV LO | RCP A/D OIL TK A LEV HI | WPI COOL PMP A TRIP | WPI COOL PMP B TRIP | WPI HI VOLT FAIL | PH FLUR LO SETPT 1/2 | | | | | | E |
| F | RCP A STEADPIPE LEV HI | RCP B STEADPIPE LEV HI | RCP C STEADPIPE LEV HI | RCP D STEADPIPE LEV HI | RCP B/C OIL TK B LEV HI | WPI COOL PMP A FLOW LO | WPI COOL PMP B FLOW LO | WPI CLEANUP FLOW LO | | LOCKS PARTS HCH | MOD DR HD SET TROUBLE | | WPI D FULL OUT MOD STOP | ATWS PANEL TROUBLE | F |

RK022 REACTOR AUXILIARIES

| | 84 | 85 | 86 | 87 | 88 | |
|---|--------------------------|--------------------------|----------------------|------------------------|------------------------------|---|
| A | PH FLUR HI SETPT RX TRIP | WPI LEV LOLO RX TRIP | LO FLOW & P1 RX TRIP | P2R PRE DR LO RX TRIP | P2R PRE DR HI RX TRIP | A |
| B | OT & T RX TRIP | PH FLUR HI RATE RX TRIP | LO FLOW & P2 RX TRIP | P2R PRE DR HI RX TRIP | STEAD PIPE PRE DR HI RX TRIP | B |
| C | OT & T RX TRIP | PH FLUR LO SETPT RX TRIP | RCP LN RX TRIP | P2R LEV HI RX TRIP | HI CHWT PRE DR HI RX TRIP | C |
| D | | CR HD FLUR RX TRIP | RCP LF RX TRIP | | MANUAL HI RX TRIP | D |
| E | | WPI HI FLUR RX TRIP | | | | E |
| F | | | | TURE TRIP & P1 RX TRIP | MANUAL HI RX TRIP | F |

FINNEDTJ REACTOR TRIP

LOGIC POWER SUPPLY 70B-PCD-100 #3 RK045E2

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 |
| A | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| B | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| C | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| D | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| E | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| F | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

RK024 TURBO-GENERATOR & BOP

SG
PDCV
DPEN

TCN#93-0329

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 |
| A | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| B | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| C | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| D | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| E | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| F | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

RK026 TURBO-GENERATOR & BOP

TURB
ELEC
MALFN

TURB BRG /
L-D HI
TEMP

TCN#93-0329

TCN#93-0955

Compensatory Actions for Loss of
Logic Power Supply 70B-PCD-100 #3 RK04JE2

- 1.) The table below contains the minimum required equipment/parameters that should be monitored during this power supply loss. More actions can be taken if a review of this attachment, along with current plant status, warrants such actions.
- 2.) Equipment Operators should monitor equipment/parameters as often as possible but in all cases at a minimum of once per hour.
- 3.) Reactor Operators should monitor equipment/parameters continuously.
- 4.) If monitoring cannot be maintained with personnel available, or due to computer unavailability, declaration of an ALERT should be considered due to reduced safety assessment capability.

| Work Area | Equipment/Parameter |
|-------------------|---|
| Control Room * | CVCS Charging Flow and VCT Press, S1 Accumulators, Nuclear Instruments, DRPI RCP temp and Seal Parameters |
| Primary | Seal Inj./RC Filter D/P |

* Monitor RCP Vibrations, Loose Parts Monitor and SSPS General Warning once every 30 minutes.

LOGIC POWER SUPPLY 708-PCD-100 #4 RK045E2

| | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | |
|---|---------------------------------|------------------------------------|-------------------------|------------------------|-------------------------|-------------------------|--------------------------------|------------------------------|----------------------------|-------------------------------|----------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------|-------------------------------|----------------------------|----------------------------|---|
| A | PFB LEV HI | PFB LIGHT TEMP HI | PFB WATER TEMP HI | PFB OFFY TEMP HI | BA TR A EMPTY | BA TR B EMPTY | LTON RECHG TEMP HI | LTON TEMP HI DIVERST | STRG TEMP HI DIVERST | BEAL INJ TO REP FLOW LO | ONE LTR FLOW HOLD | ACC TR A TRD SLY NOT OPEN | ACC TR B TRD SLY NOT OPEN | ACC TR C TRD SLY NOT OPEN | ACC TR D TRD SLY NOT OPEN | EMPT TEMP LOLD | SPRAY TEMP TROUBLE | SI TEMP TROUBLE | BAF TEMP TROUBLE | A |
| B | PFB TRD HTRD OFF LTON TRD | PFB HE PRESS DEV | PFB PRESS HI | POBY TEMP HI | BA TRS LEV LOLD | BA TRS LEV LOLD | CRCKDN LTON HI TEMP HI | LTON HI DTRCH TEMP HI | STRG TEMP HI | BEAL INJ AC FLOW S/P HI | WCT LEV HOLD | ACC TR A PRESS HOLD | ACC TR D PRESS HOLD | ACC TR C PRESS HOLD | ACC TR PRESS HOLD | EMPT EMPTY | SPRAY ACC TR LEVEL LOLD | BAF-HEC TRD SLY OPEN | BAF LOOP LEV LOLD | B |
| C | PFB LO LEV DEV | PFB HTRD ON | PFB HTRD W. SCH | PFB OFFY TEMP HI | BA TR A HI | BA TR B HI | L.P. LTON RELEST TEMP HI | STRG RELEST TEMP HI | BEAL WTR TRD TEMP HI | WCT PRESS HOLD | ACC TR A LEV HOLD | ACC TR B LEV HOLD | ACC TR C LEV HOLD | ACC TR D LEV HOLD | EMPT LEV LOLD S | SPRAY ACC TR LEV LO | BAF LOOP 1 FLOW LO | BAF LOOP 2 FLOW LO | C | |
| D | PFB HE LEV DEV HTRD ON | S/LV HTRD CTR. CT AUR S/D | PFB PRESS HI | PFB POBY TEMP HI | BA TR A TEMP HOLD | BA TR B TEMP HOLD | EMPT LEV HOLD | LTON HI DTRCH PRESS HI | STRG DTRCH TROUBLE | BA FLOW DEV | ACC TR DIVERST TO SH | ACC TR HE REP PRESS LO | | | | EMPT LEV LOLD S | SPRAY ACC TR PRESS HI | BAF A DTRCH PRESS HI | BAF B DTRCH PRESS HI | D |
| E | PFB HTR CTR. TROUBLE | S/LV HTRD LOCKOUT | PFB PRESS HI | | | CRCK HE TRNCE | HE H/LV DTRCH PRESS LO | LTON HI DTRCH FLOW HI | STRG DTRCH LEV HOLD | TOTAL H/LV FLOW DEV | CHARGE TEMP TROUBLE | | | | | EMPT TEMP HI | SPRAY TRD SLY IN TEST | BAF TRD SLY IN TEST | BAF LOOP LEV LOLD | E |
| F | PFB EMPT TEMP LO | PFB DTRCH TEMP LO | PFB LEV HOLD | | | | EMPT TEMP HOLD | | STRG DTRCH LOLD CTR. | POP ON LEV LO | HE HEP PRESS LO | | | | | EMPT TEMP NORMAL | SPRAY TRD SLY S/P OFF | BAF TRD SLY S/P OFF | BAF TRD SLY S/P OFF | F |

RK01B ESFAS

| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | |
|---|----------------------------------|---------------------------|----------------------------------|--------------------------------|----------------------------------|----------------------|----------------------------------|---------------------------------|-----------------------|-----------------------------|-------------------------------|----------------------------|------------------------|---|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|---|
| A | EMPT HE A CON FLOW HOLD | CON TO REP FLOW LO | EMPT HE B CON FLOW HOLD | CON PRESS LEV FLOW LO | EMPT HE C CON FLOW LOLD | NO SATURATE | NO FLOW DOUBLED | | EMPT | CTR HE HI | PROCESS BAD HOLD | AREA BAD HOLD | ORVIS | CON DTRCH BLOCK TEMP NOT OPEN | EMPT HE S/P S/S | LOOP 1 A-1 HI DEV | LOOP 2 A-1 HI DEV | LOOP 3 A-1 HI DEV | LOOP 4 A-1 HI DEV | A |
| B | CON HE A/C TROUBLE | CON HE A/C PRESS LO | CON HE A/C TROUBLE | CON HE A/C PRESS LO | EMPT TROUBLE | NO C/D SUBCOOL | NO FLOW DOUBLED S/P/PLC | | CTR | HE HEP TROUBLE | PROCESS BAD HI | AREA BAD HI | CTR HE ORVIS | CON HE TEMP LOLD | NO HE S/P BLOCK | LOOP 1 A-1 LO DEV | LOOP 2 A-1 LO DEV | LOOP 3 A-1 LO DEV | LOOP 4 A-1 LO DEV | B |
| C | CON HE A FLOW LO | CON HE C FLOW LO | CON HE B FLOW LO | CON HE D FLOW LO | EMPT HE S/P HI | | HE A H/LV FAIL | CON HE FLOW LO | CTR HE HI | EMPT TRD TEMP LOLD | PROCESS BAD HEP FAIL | AREA BAD HEP FAIL | | CON HE PRESS HOLD | AUCT TEMP HI | LOOP 1 A-1 HI DEV | LOOP 2 A-1 HI DEV | LOOP 3 A-1 HI DEV | LOOP 4 A-1 HI DEV | C |
| D | CON HE B LEV HOLD | CON HE A TEMP HI | CON HE B LEV HOLD | CON HE B TEMP HI | EMPT HEP HOLD | | HE B H/LV FAIL | BY FLS LEAKOFF TEMP HI | CTR | CTR HEC/AC TEMP HI | NO SLURRY SUPPLY TRD | TRD | CTR HEC TEMP HI | EMPT HEP TEMP HI | EMPT HEP TEMP HI | LOOP 1 A-1 LO DEV | LOOP 2 A-1 LO DEV | LOOP 3 A-1 LO DEV | LOOP 4 A-1 LO DEV | D |
| E | | | | EMPT HEP TROUBLE | CON HEC PRESS | | EMPT HEP FAIL | | CTR HEP LEV HI | TEMP/HE HEP TEMP HI | EMPT HEP TEMP HI | EMPT HEP TEMP HI | EMPT HEP TEMP HI | | EMPT HEP TEMP HI | EMPT HEP TEMP HI | EMPT HEP TEMP HI | EMPT HEP TEMP HI | EMPT HEP TEMP HI | E |
| F | CON HEP TEMP HI | CON HEP TEMP HI | CON HEP TEMP HI | CON HEP TEMP HI | CON HEP TEMP HI | | EMPT HEP TEMP HI | CTR HEP TEMP HI | CTR HEP TEMP HI | EMPT HEP TEMP HI | EMPT HEP TEMP HI | EMPT HEP TEMP HI | EMPT HEP TEMP HI | EMPT HEP TEMP HI | EMPT HEP TEMP HI | EMPT HEP TEMP HI | EMPT HEP TEMP HI | EMPT HEP TEMP HI | EMPT HEP TEMP HI | F |

RK020 ESFAS

LOGIC POWER SUPPLY 70B-PCD-100 #4 RK045E2

| | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|------------------------|---------------------|----------------------------|------------------------|-----------------------|--------------------------|--------------------------|----------------------|---|
| A | RCP VIS DANGER | RCP #1 BEAL S/P LO | RCP #1 BEAL FLOW HI | RCP #2 BEAL FLOW HI | RCP #2 BEAL FLOW HILO | SWPS A GENERAL WARNING | SWPS B GENERAL WARNING | | PH CHANNEL DEV | RED CTRL LUNG FAIL | RPI LUNG ALARM | RED/WHITE RODS AT BOTTOM | PH OVER PWR ROD STOP | ATWS NO LEV PWR TRIP | A |
| B | RCP VIB/SHV ALERT | | RCP #1 BEAL FLOW LO | RCP OIL LEAK | | RK BYP SW A CLOSED | RK BYP SW C CLOSED | IR HI VOLT FAIL | PH LOWER DETECTOR FLUX DEV | RED CTRL NON LUNG FAIL | RPI NON LUNG ALARM | | OT S1 ROD STOP | | B |
| C | RCP A THRM BAR CCM FLOW | RCP B THRM BAR CCM FLOW | RCP C THRM BAR CCM FLOW | RCP D THRM BAR CCM FLOW | RCP THRM BAR CCM FLOW | RK BYP SW A OPERABLE | RK BYP SW B OPERABLE | WIS CH IN TEST | PH LOWER DETECTOR FLUX DEV | RPI DEV ON PH YILT | RPI ROD DEV | RED BARR LOLO LIMIT | OP S1 ROD STOP | ATWS PARTIAL TRIP | C |
| D | RCP A OVERLOAD TRIP | RCP B OVERLOAD TRIP | RCP C OVERLOAD TRIP | RCP D OVERLOAD TRIP | RCP OIL WSWO LEV HILO | RFP TEMP HI | RFP LEV HILO | BR/IR TRIP BYP | IR CRP VOLT FAIL | S/D OUT OF BAND | | RED BARR TO LIMIT | IR HI FLUX ROD STOP | | D |
| E | RCP A STROKPIPE LEV LO | RCP B STROKPIPE LEV LO | RCP C STROKPIPE LEV LO | RCP D STROKPIPE LEV LO | RCP A/D OIL TR A LEV HI | RFP COOL PMP A TRIP | RFP COOL PMP B TRIP | PH HI VOLT FAIL | PH FLUX LO RE TRIP 1/4 | | | | | | E |
| F | RCP A STROKPIPE LEV HI | RCP B STROKPIPE LEV HI | RCP C STROKPIPE LEV HI | RCP D STROKPIPE LEV HI | RCP B/C OIL TR B LEV HI | RFP COOL PMP A FLOW LO | RFP COOL PMP B FLOW LO | RFP CLEANUP FLOW LO | | LOCKE PARTS MON | RED DR HI SET TROUBLE | | SWPS D TOLL OUT ROD STOP | ATWS PANEL TROUBLE | F |

RK022 REACTOR AUXILIARIES

| | 84 | 85 | 86 | 87 | 88 | |
|---|-------------------------------|-------------------------------|-------------------------|---------------------------|------------------------------|---|
| A | PH FLUX HI RE TRIP RK TRIP | RCP LEV LOLO RK TRIP | LO FLOW & PH RK TRIP | PZN PRESS LO RK TRIP | PZN PRESS SI RK TRIP | A |
| B | OT S1 ON TRIP | PH FLUX HI BATT RK TRIP | LO FLOW & PZ RK TRIP | PZN PRESS HI RK TRIP | STRA LNK PRESS SI RK TRIP | B |
| C | OT S1 ON TRIP | PH FLUX LO RE TRIP RK TRIP | RCP LN RK TRIP | PZN LEV HI RK TRIP | HI CRMT PRESS SI RK TRIP | C |
| D | | IR HI FLUX RK TRIP | RCP LP RK TRIP | | GENERAL SI RK TRIP | D |
| E | | IR HI FLUX RK TRIP | | | | E |
| F | | | | TRMB TRIP & PH RK TRIP | GENERAL RK TRIP | F |

FEMTOLT REACTOR TRIP

LOGIC POWER SUPPLY 708-PCD-100 #4 RK045E2

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 |
| A | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| B | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| C | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| D | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| E | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| F | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |

RK024 TURBO-GENERATOR & BOP

TON# 93-0329

56
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| | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 |
| A | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| B | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| C | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| D | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| E | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| F | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |

RK026 TURBO-GENERATOR & BOP

TON# 93-0329

TURB 8861
L-O HI
TEMP

THIRD
ELEC
MALFN

TON# 93-0455

Compensatory Actions for Loss of
Logic Power Supply 70B-PCD-100 #4 RK045E2

- 1.) The table below contains the minimum required equipment/parameters that should be monitored during this power supply loss. More actions can be taken if a review of this attachment, along with current plant status, warrants such actions.
- 2.) Equipment Operators should monitor equipment/parameters as often as possible but in all cases at a minimum of once per hour.
- 3.) Reactor Operators should monitor equipment/parameters continuously.
- 4.) If monitoring cannot be maintained with personnel available, or due to computer unavailability, declaration of an ALERT should be considered due to reduced safety assessment capability.

| Work Area | Equipment/Parameter |
|-------------------|--|
| Control Room * | PZR Heaters, Area Rad Monitors, SI Accumulator 'D', DRPI, RCP Temperatures, SB069 Bistable Panel |
| Primary | CVCS Heat Trace Rod Drive MG sets |
| Inside | UHS Freeze Protection |

* Monitor ATWS Panel once every 30 minutes.

LOGIC POWER SUPPLY 706-PCD-100 #1 RK045E3

| | | | | | | | | | | | | | | | | | | | | |
|---|--------------------------|---------------------------------|-------------------------|------------------------------|-------------------------|-------------------------|-----------------------------|-----------------------------------|----------------------------------|-------------------------------|----------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------------------|------------------------------|---------------------------|--------------------------|-------------------------|
| | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | |
| A | P20 LEV HI | P20 L2000 TEMP HI | P20 W2000 TEMP HI | P20 W211 VLV OPEN | SA TR A EMPTY | SA TR B EMPTY | L20N W2000 HI TEMP HI | L20N W2000 HI DIRT | W200 TEMP HI DIRT | REAL INJ TO JCP FLOW LO | CHG LINE FLOW HOLD | ACC TR A L20 W.F NOT OPEN | ACC TR B L20 W.F NOT OPEN | ACC TR C L20 W.F NOT OPEN | ACC TR D L20 W.F NOT OPEN | SHUT TEMP L20 S | SPRAY PUMP TROUBLE | SI PUMP TROUBLE | SW PUMP TROUBLE | |
| B | P20 L20 L20N HI | P20 W2000 DIRT | P20 W2000 HI | P20W OPEN | SA TRS LEV LOLD | SA TRS LEV LO | L2000 L20N HI TEMP HI | L20N DIRT TEMP HI | W200 TEMP HI | REAL INJ AC FLOW & P HI | W1 LEV HOLD | ACC TR A P2000 HOLD | ACC TR B P2000 HOLD | ACC TR C P2000 HOLD | ACC TR D P2000 HOLD | SHUT EMPTY | SPRAY ADD TR LEVEL L20 | SW-SEN L20 W.F OPEN | SW LOOP LEV LO | |
| C | P20 L20 DEV | P20 P2000 DIRT | P20 P2000 BLOCK | P20 W211 DIRT HI | SA TR A LEV HI | SA TR B LEV HI | L20N W2000 TEMP HI | W200 TEMP HI | REAL WTR DIRT TEMP HI | WCT P2000 HOLD | | ACC TR A LEV HOLD | ACC TR B LEV HOLD | ACC TR C LEV HOLD | ACC TR D LEV HOLD | SHUT LEV L20 S | SPRAY ADD TR LEV LO | SW LOOP 1 FLOW LO | SW LOOP 2 FLOW LO | |
| D | P20 LEV DIRT HI | SA TRS DIRT AT L20 S/D | W21 TEMP HI | P20 W2000 DIRT TEMP HI | SA TR A TEMP HOLD | SA TR B TEMP HOLD | SHUT LEV HOLD | L20N W2000 DIRT P2000 HI | W200 DIRT TROUBLE | SA FLOW DIRT | WCT DIRT TO SHI | ACC TR NO WTR P2000 LO | | | | SHUT LEV L20 S AUTO OFF | SPRAY ADD TR P2000 HI | SW A DIRT P2000 HI | SW B DIRT P2000 HI | |
| E | P20 DIRT TROUBLE | P20 DIRT TROUBLE | P20 DIRT TROUBLE | P20 DIRT TROUBLE | | | CYCLE HI TRACE | W200 W2000 DIRT FLOW LO | L20N W2000 DIRT FLOW HI | W200 DIRT LEV HOLD | TOTAL W200 FLOW DIRT | CHARGING PUMP TROUBLE | | | | SHUT LEV HOLD | SPRAY ADD TR IN TEST | SW TROUBLE IN TEST | SW TROUBLE IN TEST | SW LOOP LEV HI |
| F | P20 SHUT TEMP LO | P20 SHUT TEMP LO | P20 SHUT TEMP LO | P20 SHUT TEMP LO | | | SHUT TEMP HOLD | SHUT TEMP HOLD | SHUT TEMP HOLD | SHUT TEMP HOLD | SHUT TEMP HOLD | | | | | SHUT TEMP HOLD | SHUT TEMP HOLD | SHUT TEMP HOLD | SHUT TEMP HOLD | |

RK018 ESFAS

| | | | | | | | | | | | | | | | | | | | | |
|---|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--|
| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | |
| A | W20 LEV A DIRT FLOW HOLD | W20 LEV B DIRT FLOW HOLD | W20 LEV C DIRT FLOW HOLD | W20 LEV D DIRT FLOW HOLD | W20 LEV E DIRT FLOW HOLD | W20 LEV F DIRT FLOW HOLD | W20 LEV G DIRT FLOW HOLD | W20 LEV H DIRT FLOW HOLD | W20 LEV I DIRT FLOW HOLD | W20 LEV J DIRT FLOW HOLD | W20 LEV K DIRT FLOW HOLD | W20 LEV L DIRT FLOW HOLD | W20 LEV M DIRT FLOW HOLD | W20 LEV N DIRT FLOW HOLD | W20 LEV O DIRT FLOW HOLD | W20 LEV P DIRT FLOW HOLD | W20 LEV Q DIRT FLOW HOLD | W20 LEV R DIRT FLOW HOLD | W20 LEV S DIRT FLOW HOLD | |
| B | W20 LEV A DIRT FLOW HOLD | W20 LEV B DIRT FLOW HOLD | W20 LEV C DIRT FLOW HOLD | W20 LEV D DIRT FLOW HOLD | W20 LEV E DIRT FLOW HOLD | W20 LEV F DIRT FLOW HOLD | W20 LEV G DIRT FLOW HOLD | W20 LEV H DIRT FLOW HOLD | W20 LEV I DIRT FLOW HOLD | W20 LEV J DIRT FLOW HOLD | W20 LEV K DIRT FLOW HOLD | W20 LEV L DIRT FLOW HOLD | W20 LEV M DIRT FLOW HOLD | W20 LEV N DIRT FLOW HOLD | W20 LEV O DIRT FLOW HOLD | W20 LEV P DIRT FLOW HOLD | W20 LEV Q DIRT FLOW HOLD | W20 LEV R DIRT FLOW HOLD | W20 LEV S DIRT FLOW HOLD | |
| C | W20 LEV A DIRT FLOW HOLD | W20 LEV B DIRT FLOW HOLD | W20 LEV C DIRT FLOW HOLD | W20 LEV D DIRT FLOW HOLD | W20 LEV E DIRT FLOW HOLD | W20 LEV F DIRT FLOW HOLD | W20 LEV G DIRT FLOW HOLD | W20 LEV H DIRT FLOW HOLD | W20 LEV I DIRT FLOW HOLD | W20 LEV J DIRT FLOW HOLD | W20 LEV K DIRT FLOW HOLD | W20 LEV L DIRT FLOW HOLD | W20 LEV M DIRT FLOW HOLD | W20 LEV N DIRT FLOW HOLD | W20 LEV O DIRT FLOW HOLD | W20 LEV P DIRT FLOW HOLD | W20 LEV Q DIRT FLOW HOLD | W20 LEV R DIRT FLOW HOLD | W20 LEV S DIRT FLOW HOLD | |
| D | W20 LEV A DIRT FLOW HOLD | W20 LEV B DIRT FLOW HOLD | W20 LEV C DIRT FLOW HOLD | W20 LEV D DIRT FLOW HOLD | W20 LEV E DIRT FLOW HOLD | W20 LEV F DIRT FLOW HOLD | W20 LEV G DIRT FLOW HOLD | W20 LEV H DIRT FLOW HOLD | W20 LEV I DIRT FLOW HOLD | W20 LEV J DIRT FLOW HOLD | W20 LEV K DIRT FLOW HOLD | W20 LEV L DIRT FLOW HOLD | W20 LEV M DIRT FLOW HOLD | W20 LEV N DIRT FLOW HOLD | W20 LEV O DIRT FLOW HOLD | W20 LEV P DIRT FLOW HOLD | W20 LEV Q DIRT FLOW HOLD | W20 LEV R DIRT FLOW HOLD | W20 LEV S DIRT FLOW HOLD | |
| E | W20 LEV A DIRT FLOW HOLD | W20 LEV B DIRT FLOW HOLD | W20 LEV C DIRT FLOW HOLD | W20 LEV D DIRT FLOW HOLD | W20 LEV E DIRT FLOW HOLD | W20 LEV F DIRT FLOW HOLD | W20 LEV G DIRT FLOW HOLD | W20 LEV H DIRT FLOW HOLD | W20 LEV I DIRT FLOW HOLD | W20 LEV J DIRT FLOW HOLD | W20 LEV K DIRT FLOW HOLD | W20 LEV L DIRT FLOW HOLD | W20 LEV M DIRT FLOW HOLD | W20 LEV N DIRT FLOW HOLD | W20 LEV O DIRT FLOW HOLD | W20 LEV P DIRT FLOW HOLD | W20 LEV Q DIRT FLOW HOLD | W20 LEV R DIRT FLOW HOLD | W20 LEV S DIRT FLOW HOLD | |
| F | W20 LEV A DIRT FLOW HOLD | W20 LEV B DIRT FLOW HOLD | W20 LEV C DIRT FLOW HOLD | W20 LEV D DIRT FLOW HOLD | W20 LEV E DIRT FLOW HOLD | W20 LEV F DIRT FLOW HOLD | W20 LEV G DIRT FLOW HOLD | W20 LEV H DIRT FLOW HOLD | W20 LEV I DIRT FLOW HOLD | W20 LEV J DIRT FLOW HOLD | W20 LEV K DIRT FLOW HOLD | W20 LEV L DIRT FLOW HOLD | W20 LEV M DIRT FLOW HOLD | W20 LEV N DIRT FLOW HOLD | W20 LEV O DIRT FLOW HOLD | W20 LEV P DIRT FLOW HOLD | W20 LEV Q DIRT FLOW HOLD | W20 LEV R DIRT FLOW HOLD | W20 LEV S DIRT FLOW HOLD | |

RK020 ESFAS

LOGIC POWER SUPPLY 70B-PCD-100 #1 RK045E3

| | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | |
|---|---------------------------|---------------------------|---------------------------|---------------------------|-------------------------|------------------------|------------------------|---------------------|----------------------------|-----------------------|-----------------------|-------------------------|--------------------------|----------------------|---|
| A | RCP VIS OVERDR | RCP #1 SEAL ΔP LO | RCP #1 SEAL FLOW HI | RCP #2 SEAL FLOW HI | RCP HYD COX FLOW HILO | SRPS A GENERAL WARNING | SRPS B GENERAL WARNING | | PR CHANNEL DEV | ROD CTRL LAG FAIL | RPI LAG ALARM | TRIP/ROD RECD AT BOTTOM | PR OVER PWR ROD STOP | ATWS NO LEV PRE TRIP | A |
| B | RCP VIS/SYS ALERT | | RCP #1 SEAL FLOW LO | RCP OIL LEAK | | RK BYP BWR A CLOSED | RK BYP BWR B CLOSED | TR HI VOLT FAIL | PR UPPER DETECTOR FLUX DEV | ROD CTRL NEW LAG FAIL | RPI NEW LAG ALARM | ROD AT BOTTOM | DT ΔT ROD STOP | | B |
| C | RCP A THERM BAR COX FLOW | RCP B THERM BAR COX FLOW | RCP C THERM BAR COX FLOW | RCP D THERM BAR COX FLOW | RCP THERM BAR COX FLOW | RK BYP BWR A OPERABLE | RK BYP BWR B OPERABLE | MS CH IN TEST | PR LOWER DETECTOR FLUX DEV | RPI DEV OR PR TILT | RPI ROD DEV | ROD BANK LOLO LIMIT | OP ΔT ROD STOP | RK PARTIAL TRIP | C |
| D | RCP A OVERLOAD TRIP | RCP B OVERLOAD TRIP | RCP C OVERLOAD TRIP | RCP D OVERLOAD TRIP | RCP OIL REWR LEV HILO | RFP TEMP HI | RFP LEV HILO | SR/TR TRIP BYP | TR CMP VOLT FAIL | Δ Δ OUT OF BAND | | ROD BANK TO LIMIT | LE HI FLUX ROD STOP | | D |
| E | RCP A STEADY STATE LEV LO | RCP B STEADY STATE LEV LO | RCP C STEADY STATE LEV LO | RCP D STEADY STATE LEV LO | RCP Δ/D OIL TX A LEV HI | RFP COOL PWR A TRIP | RFP COOL PWR B TRIP | SR HI VOLT FAIL | PR FLUX LO REPT 1/4 | | | | | | E |
| F | RCP A STEADY STATE LEV HI | RCP B STEADY STATE LEV HI | RCP C STEADY STATE LEV HI | RCP D STEADY STATE LEV HI | RCP B/C OIL TX B LEV HI | RFP COOL PWR A FLOW LO | RFP COOL PWR B FLOW LO | RFP CLEANUP FLOW LO | | LOOSE PARTS MON | ROD DR ΔZ BEI TROUBLE | | BANK D FULL OUT ROD STOP | ATWS PANEL TROUBLE | F |

RK022 REACTOR AUXILIARIES

| | 84 | 85 | 86 | 87 | 88 | |
|---|-------------------------|-------------------------|-----------------------|----------------------|----------------------------|---|
| A | PR FLUX HI REPT RX TRIP | SR LEV LO Δ RX TRIP | LO FLOW Δ RX TRIP | PZR PRESS LO RX TRIP | PZR PRESS SI Δ RX TRIP | A |
| B | DT ΔT RE TRIP | PR FLUX HI REPT RX TRIP | LO FLOW Δ P/T RX TRIP | PZR PRESS HI RX TRIP | SRM THE PRESS SI Δ RX TRIP | B |
| C | DT ΔT RX TRIP | PR FLUX LO REPT RX TRIP | RCP UP RX TRIP | PZR LEV HI RX TRIP | HI CTM PRESS SI Δ RX TRIP | C |
| D | | TR HI FLUX RX TRIP | RCP UP RX TRIP | | MANUAL SI Δ RX TRIP | D |
| E | | DR HI FLUX RX TRIP | | | | E |
| F | | | | TURB TRIP Δ RX TRIP | MANUAL RX TRIP | F |

FORMULT REACTOR TRIP

LOGIC POWER SUPPLY 708-PCD-100 #1 INK045E3

| | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 106 | 107 | 108 | 109 | 110 | 111 |
| A | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| B | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| C | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| D | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| E | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| F | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

IN024 TURBO-GENERATOR A BOP

SG
PORV
OPEN

TEN#93-0329

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 |
| A | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| B | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| C | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| D | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| E | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| F | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

IN026 TURBO-GENERATOR A BOP

TURB
ELEC
MALFN

TURB BCG /
L-D HI
TEMP

TEN#93-0329

TEN#93-0455

Compensatory Actions for Loss of
Logic Power Supply 70B-PCD-100 #1 RK045E3

- 1.) The table below contains the minimum required equipment/parameters that should be monitored during this power supply loss. More actions can be taken if a review of this attachment, along with current plant status, warrants such actions.
- 2.) Equipment Operators should monitor equipment/parameters as often as possible but in all cases at a minimum of once per hour.
- 3.) Reactor Operators should monitor equipment/parameters continuously.
- 4.) If monitoring cannot be maintained with personal available, or due to computer unavailability, declaration of an ALERT should be considered due to reduced safety assessment capability.

| Work Area | Equipment/Parameter |
|--------------|--|
| Control Room | Emergency D/G Day and Storage Tank Levels, Condensate Pumps Bearing Temperatures, S/G Levels, CST Level |
| Secondary | Air Compressors & Dryers, Central Chillers, Heater Drain Tank Dump Valve position, HP and LP HTR Levels, MSDT/1st STG/2nd STG Valve positions |

LOGIC POWER SUPPLY 708-PCD-100 #2 RK045E3

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
|---|---------------------------------|-----------------------------|--------------------------|--------------------------|------------------------|-------------------------|---------------------------|---------------------------|---------------------------|------------------------|------------------------|-----------------------------|-----------------------------|---|
| A | 8PYS BUS 9 TRIP | 8PYS BUS 9 TRIP | CA-9L-1 PCB 1448 TRIP | | | NO STOP PROB 10 | NO STOP TROUBLE | INTAKE PMP LOCKOUT | INTAKE WELL 918 FLOW LO | | CAUTION AIR IN EM | 8ERY 918 PMP LOCKOUT | CIRC 918 PMP LOCKOUT | A |
| B | 8YS/922 BUS 7-8 | 8PONT/8 A DR 8 TROUBLE | CA-9L-1 PCB 1448 TROUBLE | 8EM 918 PCB 1448 TROUBLE | | NO STOP TROUBLE | NO STOP TROUBLE | INTAKE PMP 918 O/C | INTAKE 14V 918 O/P 91111 | | 8ERY 918 EM | | CIRC 918 PMP 918 O/C | B |
| C | 8PYS 918 OR 8PYS SUPPLY TROUBLE | 8PYS 918 SUPPLY TROUBLE | 11E 918 PCB 943 TRIP | | | | 8EM 918 818C TROUBLE | INTAKE SUPPLY PMP BY 918 | INTAKE 918 11V LO | | | 8ERY 918 LUM 918 PMP 918 LO | CIRC 918 LUM 918 PMP 918 LO | C |
| D | 8PYS 918 OR 918 LUM TROUBLE | 8PYS 918 OR 918 LUM TROUBLE | 11E 918 PCB 943 TROUBLE | 8EM 11E PCB 943 TROUBLE | | 11P 918 PCB 943 TROUBLE | 8ERY 918 818C/918 TROUBLE | INTAKE 918 918 PMP 918 LO | INTAKE 918 918 PMP 918 LO | 918 101 918 918 11V LO | 918 101 918 918 11V LO | 14V 918 PMP TROUBLE | CIRC 918 PMP TROUBLE | D |
| E | 8PYS 918 OR 918 LUM TROUBLE | 8PYS 918 OR 918 LUM TROUBLE | 8U 918 PCB 943 TRIP | 8U 918 PCB 943 TRIP | 8U 918 PCB 943 TRIP | 8U 918 PCB 943 TRIP | 8U 918 PCB 943 TRIP | 8U 918 PCB 943 TRIP | 8U 918 PCB 943 TRIP | 8U 918 PCB 943 TRIP | 8U 918 PCB 943 TRIP | 8U 918 PCB 943 TRIP | 8U 918 PCB 943 TRIP | E |
| F | 8PYS 918 OR 918 LUM TROUBLE | 8PYS 918 OR 918 LUM TROUBLE | 8U 918 PCB 943 TROUBLE | 8U 918 PCB 943 TROUBLE | 8U 918 PCB 943 TROUBLE | 8U 918 PCB 943 TROUBLE | 8U 918 PCB 943 TROUBLE | 8U 918 PCB 943 TROUBLE | 8U 918 PCB 943 TROUBLE | 8U 918 PCB 943 TROUBLE | 8U 918 PCB 943 TROUBLE | 8U 918 PCB 943 TROUBLE | 8U 918 PCB 943 TROUBLE | F |

RK014 SITE-RELATED

| | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | | |
|---|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| A | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | A |
| B | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | B |
| C | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | C |
| D | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | D |
| E | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | E |
| F | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | 8U 918 OR 918 LUM LOCKOUT | F |

RK016 STATION ELECTRIC

LOGIC POWER SUPPLY 708-PCD-100 #2 RK045E3

| | | | | | | | | | | | | | | | | | | | | |
|---|----------------------------------|-----------------------------|---------------------------|-------------------------------|-------------------------|-------------------------|------------------------------|------------------------------|-----------------------------|-------------------------------|--------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|--------------------------------|------------------------------|----------------------------|--|
| | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | |
| A | PSS LEV HI | PSS 1 DISCH TEMP HI | PSS 2 DISCH TEMP HI | PSS BFTV BFTV OPEN | SA TR A EMPTY | SA TR B EMPTY | LTON RESEN HI TEMP HI | LTON DISCH TEMP HI | STRG TEMP HI | REAL INJ TO TOP FLOW LO | CHG LINE FLOW HOLD | ACC TR A 100 WLY NOT OPEN | ACC TR B 100 WLY NOT OPEN | ACC TR C 100 WLY NOT OPEN | ACC TR D 100 WLY NOT OPEN | SHWT TEMP LO LO | SPRAY ADD TR TROUBLE | SH TEMP TROUBLE | SHW TEMP TROUBLE | |
| B | PSS 1 TR HTRD OPT LTON ISO | PSS NO PRESS DEV | PSS PRESS HI | PSS OPEN | SA TRS LEV LO LO | SA TRS LEV LO | EXCESS LTON HI TEMP HI | LTON DISCH TEMP HI | STRG TEMP HI | REAL INJ NO FLTR S/P HI | WCT LEV HOLD | ACC TR A PRESS HOLD | ACC TR B PRESS HOLD | ACC TR C PRESS HOLD | ACC TR D PRESS HOLD | SHWT EMPTY | SPRAY ADD TR LEVEL LO LO | SHW ACS 1 TRS WLY OPEN | SHW LOOP LEV LO | |
| C | PSS LO LEV DEV | PSS PRESS LO HTRD ON | PSS PRESS BLOCK | PSS BFTV DISCH TEMP HI | SA TR A LEV HI | SA TR B LEV HI | LP LTON RELEV TEMP HI | STRG RE FLTR TEMP HI | REAL WTC INJ TEMP HI | WCT PRESS HOLD | ACC TR A LEV HOLD | ACC TR B LEV HOLD | ACC TR C LEV HOLD | ACC TR D LEV HOLD | SHWT ADD TR LO LO B | SPRAY ADD TR LEV LO | SHW LOOP 1 FLOW LO | SHW LOOP 2 FLOW LO | | |
| D | PSS HI LEV HI HTRD ON | SA TRS CTR ST AIR S/D | INT TEMP HI | PSS PRESS DISCH TEMP HI | SA TR S TEMP HOLD | SA TR S TEMP HOLD | SHWT LEV HOLD | LTON HI DISCH PRESS HI | STRG DISCH TROUBLE | SA FLOW DEV | WCT DISCH TO SH | ACC TR NO ADD PRESS LO | | | | SHWT LEV LO LO 1 AUTO OFF | SPRAY ADD TR PRESS HI | SHW A DISCH PRESS HI | SHW B DISCH PRESS HI | |
| E | PSS HTR CTR TROUBLE | PSS HTR DISCH LOCKOUT | INT PRESS HI | | | | CHG HT TRACE | RE WLY NO ADD PRESS LO | LTON HI DISCH FLOW HI | STRG CH DISCH LEV HI LO | TOTAL WLY FLOW DEV | CHARGE PMP TROUBLE | | | | SHWT PRESS HI | SHW TRAIN A 2M TEST | SHW TRAIN B 2M TEST | SHW LOOP WLY HI | |
| F | PSS SHWT TEMP LO | PSS DISCH TEMP LO | INT LEV HOLD | | | | | SHWT TEMP HOLD | STRG DISCH LO CTR | POP ON LEV LO | NO ADD PRESS LO | | | | | SHWT NORMAL | SHW TRAIN A S/P OFF | SHW TRAIN B S/P OFF | SHW AS S/P S/P OFF | |

RK018 ESFAS

| | | | | | | | | | | | | | | | | | | | | |
|---|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | |
| A | SHW HI A CON FLOW HOLD | SHW TO TOP FLOW LO | SHW HI B CON FLOW HOLD | SHW A PRESS LO FLOW LO | SHW B PRESS LO FLOW LO | SHW SATURATE | SHW FLTR DOUBLED | CONAS | CHWT HI HI | PROCES SAC HI HI | SHWA SAC HI HI | CHWTB | SHWB SAC HI HI | CHWTB | SHWB SAC HI HI | SHW NO FLOW S/P S/D | LOOP 1 S 1 HI DEV | LOOP 2 S 1 HI DEV | LOOP 3 S 1 HI DEV | LOOP 4 S 1 HI DEV |
| B | SHW PMP S/C TROUBLE | SHW PMP S/C PRESS LO | SHW PMP S/D TROUBLE | SHW PMP S/D PRESS LO | SHW PMP S/D TROUBLE | SHW S/D BLOCK | SHW FLTR DOUBLED S/P S/D | CHWTB | SHWT ANALYER TROUBLE | PROCES SAC HI | SHWA SAC HI | CHWTB | SHWB SAC HI | CHWTB | SHWB SAC HI | SHW NO FLOW S/P S/D | LOOP 1 S 1 LO DEV | LOOP 2 S 1 LO DEV | LOOP 3 S 1 LO DEV | LOOP 4 S 1 LO DEV |
| C | SHW PMP A FLOW LO | SHW PMP B FLOW LO | SHW PMP B FLOW LO | SHW PMP B FLOW LO | SHW PMP B FLOW LO | SHW PMP B FLOW LO | SHW PMP B FLOW LO | SHW PMP B FLOW LO | SHW PMP B FLOW LO | SHW PMP B FLOW LO | SHW PMP B FLOW LO | SHW PMP B FLOW LO | SHW PMP B FLOW LO | SHW PMP B FLOW LO | SHW PMP B FLOW LO | SHW PMP B FLOW LO | SHW PMP B FLOW LO | SHW PMP B FLOW LO | SHW PMP B FLOW LO | SHW PMP B FLOW LO |
| D | SHW NO TR A LEV HOLD | SHW NO TR A DISCH TEMP HI | SHW NO TR B LEV HOLD | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI |
| E | | | | | | | | | | | | | | | | | | | | |
| F | SHW NO TR A DISCH TEMP HI | SHW NO TR A DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI | SHW NO TR B DISCH TEMP HI |

RK020 ESFAS

LOGIC POWER SUPPLY 70B-PCD-100 #2 RK045E3

| | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|------------------------|--------------------|----------------------------|-----------------------|-----------------------|--------------------------|-------------------------|----------------------|---|
| A | RCP VIB DAMPER | RCP #1 SEAL S/P LD | RCP #1 SEAL FLOW HI | RCP #2 SEAL FLOW HI | RCP HTG CCK FLOW HI | SSPS A GENERAL WARNING | SSPS B GENERAL WARNING | | PS CHANNEL DEV | ROD CTRL LRG FAIL | RPI LRG ALARM | TWO/THREE RODS AT BOTTOM | PS OVER PWR ROD STOP | ATWS BC LEV PWR TRIP | A |
| B | RCP VIB/VIB ALERT | | RCP #1 SEAL FLOW LD | RCP OIL LEAK | | RK BYP SWR A CLOSED | RK BYP SWR B CLOSED | IS HI VOLT FAIL | PS UPPER DETECTOR FLUX DEV | ROD CTRL MSH LRG FAIL | RPI MSH LRG ALARM | ROD AT BOTTOM | OP & T ROD STOP | | B |
| C | RCP A THRM BAR CCK FLOW | RCP B THRM BAR CCK FLOW | RCP C THRM BAR CCK FLOW | RCP D THRM BAR CCK FLOW | RCP THRM BAR CCK FLOW | RK BYP SWR A OPERABLE | RK BYP SWR B OPERABLE | MS CH IN TEST | PS LOWER DETECTOR FLUX DEV | RPI DEV OR PS TILT | RPI ROD DEV | ROD BANK LO C LTRIP | OP & T ROD STOP | RK PARTIAL TRIP | C |
| D | RCP A OVERLOAD TRIP | RCP B OVERLOAD TRIP | RCP C OVERLOAD TRIP | RCP D OVERLOAD TRIP | RCP OIL OVERLEV HI | RFP TEMP HI | RFP LEV HI | BR/IR TRIP BYP | IS CH VOLT FAIL | Δ D OUT OF BAND | | ROD BANK TO LTRIP | IS HI FLUX ROD STOP | | D |
| E | RCP A STNODPIPE LEV LD | RCP B STNODPIPE LEV LD | RCP C STNODPIPE LEV LD | RCP D STNODPIPE LEV LD | RCP A/D OIL IN A LEV HI | RFP COOL PMP A TRIP | RFP COOL PMP B TRIP | BE HI VOLT FAIL | PS FLUX LO SETPT 1/4 | | | | | | E |
| F | RCP A STNODPIPE LEV HI | RCP B STNODPIPE LEV HI | RCP C STNODPIPE LEV HI | RCP D STNODPIPE LEV HI | RCP S/C OIL IN B LEV HI | RFP COOL PMP A FLOW LD | RFP COOL PMP B FLOW LD | RFP CL/ALP FLOW LD | | LOGS PARTS MON | ROD DR HD SET TROUBLE | | ROD D FULL OUT ROD STOP | ATWS PANEL TROUBLE | F |

RK022 REACTOR AUXILIARIES

| | 84 | 85 | 86 | 87 | 88 | |
|---|--------------------------|--------------------------|---------------------|-----------------------|----------------------------|---|
| A | PS FLUX HI SETPT RK TRIP | NO LEV LO LD RK TRIP | LO FLOW S/P RK TRIP | PZR PRESS LO RK TRIP | PZR PRESS HI RK TRIP | A |
| B | OP & T RK TRIP | PS FLUX HI RATE RK TRIP | LO FLOW S/P RK TRIP | PZR PRESS HI RK TRIP | STNODPIPE PRESS HI RK TRIP | B |
| C | OP & T RK TRIP | PS FLUX LO SETPT RK TRIP | RCP L/R RK TRIP | PZR LEV HI RK TRIP | HI CNTY PRESS HI RK TRIP | C |
| D | | IS HI FLUX RK TRIP | RCP LF RK TRIP | | MANUAL HI RK TRIP | D |
| E | | OR HI FLUX RK TRIP | | | | E |
| F | | | | FLUX TRIP S/P RK TRIP | MANUAL HI RK TRIP | F |

FIRSTOUT REACTOR TRIP

LOGIC POWER SUPPLY 708-PCD-100 #2 RKO45E3

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 |
| A | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| B | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| C | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| D | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| E | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| F | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |

RKO24 TURBO-GENERATOR & BUP

TEN# 93-0329

5G
PORV
OPEN

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 |
| A | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| B | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| C | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| D | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| E | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| F | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |

RKO26 TURBO-GENERATOR & BUP

TEN# 93-0329

TURB DRIFT
L-O HI
TEMP

TURB
ELEC
MALFN

TEN# 93-0955

Compensatory Actions for Loss of
Logic Power Supply 70B-PCD-100 #2 RK045E3

- 1.) The table below contains the minimum required equipment/parameters that should be monitored during this power supply loss. More actions can be taken if a review of this attachment, along with current plant status, warrants such actions.
- 2.) Equipment Operators should monitor equipment/parameters as often as possible but in all cases at a minimum of once per hour.
- 3.) Reactor Operators should monitor equipment/parameters continuously.
- 4.) If monitoring cannot be maintained with personal available, or due to computer unavailability, declaration of an ALERT should be considered due to reduced safety assessment capability.

| Work Area | Equipment/Parameter |
|---------------------|---|
| Control Room * # | B Emerg D/G Day Tank Lvl, Group Display N2 Accum Tank Press, Condensate Pump Bearing Temp, S/G Levels, Demin Tk Lvl |
| Primary | |
| Secondary | Instrument Air System, Closed Cooling Water System, 'D' MSR/1st/2nd Stage RHTR Drain TK Valve positions, Heater Drain Tank Dump position, Main Turb Lube Oil and EHC Systems |
| Inside | Unit Aux XFMR, Main XFMR |

* Monitor Seismic System once every 30 minutes.

Notify Chemistry that Process Sample Trouble will not alarm in Control Room.

LOGIC POWER SUPPLY 70B-PCD-100 #3 RKO45E.3

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| A | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP |
| B | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP |
| C | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP |
| D | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP |
| E | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP |
| F | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP |

RK014 SITE-RELATED

| | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| A | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP |
| B | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP |
| C | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP |
| D | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP |
| E | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP |
| F | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP | SWD 200A TRIP |

RK016 STATION ELECTRIC

LOGIC POWER SUPPLY 70B-PCD-100 #3 RK045E3

| | | | | | | | | | | | | | | | | | | | | |
|---|---------------------|---------------------|-----------------|------------------|-------------------|-------------------|------------------------|------------------------|----------------------|---------------------------|--------------------|----------------------------|---------------------------|---------------------------|---------------------------|----------------------------|--------------------------|-----------------------|----------------------|--|
| | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | |
| A | PWR LEV HI | PWR LEV LO | PWR VAPOR | PWR DFT WLV OPEN | SA TR A EMPTY | SA TR B EMPTY | LTON RECH HI TEMP HI | LTON HI TEMP HI DIVERG | STWB TEMP HI DIVERG | REAR INJ TO HOP FLOW LO | DRS LINE FLOW HOLD | ACC TR A TRD WLV NOT OPEN | ACC TR B TRD WLV NOT OPEN | ACC TR C TRD WLV NOT OPEN | ACC TR D TRD WLV NOT OPEN | INERT TEMP L.O.D | SPRAY PMP TROUBLE | SI PMP TROUBLE | SB PMP TROUBLE | |
| B | PWR L1 LEV HI | PWR L1 LEV LO | PWR L1 LEV HI | PWR L1 LEV LO | SA TR A LEV L.O.D | SA TR B LEV L.O.D | LTON HI DIVERG TEMP HI | LTON HI DIVERG TEMP HI | STWB TEMP HI | REAR INJ RE FL WLV S/P HI | L1 LEV HOLD | ACC TR A PMSB HOLD | ACC TR B PMSB HOLD | ACC TR C PMSB HOLD | ACC TR D PMSB HOLD | INERT EMPTY | SPRAY ADD TR LEVEL L.O.D | SBP-HCB TRD WLV OPEN | SDP LOOP LEV L.O.D | |
| C | PWR L2 LEV HI | PWR L2 LEV LO | PWR L2 LEV HI | PWR L2 LEV LO | SA TR A LEV HI | SA TR B LEV HI | L1 LTON RELET TEMP HI | STWB RELET TEMP HI | REAR WTR TEMP HI | ACT PMSB HOLD | ACC TR A LEV HOLD | ACC TR B LEV HOLD | ACC TR C LEV HOLD | ACC TR D LEV HOLD | INERT LEV L.O.D # | SPRAY ADD TR LEV L.O.D | SBP LOOP 1 FLOW L.O.D | SDP LOOP 2 FLOW L.O.D | | |
| D | PWR HI LEV DFT | PWR HI LEV DFT | PWR HI LEV DFT | PWR HI LEV DFT | SA TR A TEMP HOLD | SA TR B TEMP HOLD | INERT LEV HOLD | LTON HI DIVERG PMSB HI | STWB SHUTTER TROUBLE | SA FLOW DFT | ACT DIVERG TO DFT | ACC TR A NO HWR PMSB L.O.D | | | | INERT LEV L.O.D 1 ALTO WTR | SPRAY ADD TR PMSB HI | SBP A DIVERG PMSB HI | SBP B DIVERG PMSB HI | |
| E | PWR HI CTRB TROUBLE | PWR HI CTRB LOCKOUT | PWR HI CTRB HI | | | | | | | | | | | | | | | | | |
| F | PWR HI TEMP L.O.D | PWR HI TEMP L.O.D | PWR HI LEV HOLD | | | | | | | | | | | | | | | | | |

RK018 ESFAS

| | | | | | | | | | | | | | | | | | | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | |
| A | DRS IN A CTRB FLOW HOLD | DRS IN B CTRB FLOW L.O.D | DRS IN C CTRB FLOW HOLD | DRS IN D CTRB FLOW L.O.D | DRS IN E CTRB FLOW L.O.D | DRS IN F CTRB FLOW L.O.D | DRS IN G CTRB FLOW L.O.D | DRS IN H CTRB FLOW L.O.D | DRS IN I CTRB FLOW L.O.D | DRS IN J CTRB FLOW L.O.D | DRS IN K CTRB FLOW L.O.D | DRS IN L CTRB FLOW L.O.D | DRS IN M CTRB FLOW L.O.D | DRS IN N CTRB FLOW L.O.D | DRS IN O CTRB FLOW L.O.D | DRS IN P CTRB FLOW L.O.D | DRS IN Q CTRB FLOW L.O.D | DRS IN R CTRB FLOW L.O.D | DRS IN S CTRB FLOW L.O.D | DRS IN T CTRB FLOW L.O.D |
| B | DRS IN A CTRB TROUBLE | DRS IN B CTRB TROUBLE | DRS IN C CTRB TROUBLE | DRS IN D CTRB TROUBLE | DRS IN E CTRB TROUBLE | DRS IN F CTRB TROUBLE | DRS IN G CTRB TROUBLE | DRS IN H CTRB TROUBLE | DRS IN I CTRB TROUBLE | DRS IN J CTRB TROUBLE | DRS IN K CTRB TROUBLE | DRS IN L CTRB TROUBLE | DRS IN M CTRB TROUBLE | DRS IN N CTRB TROUBLE | DRS IN O CTRB TROUBLE | DRS IN P CTRB TROUBLE | DRS IN Q CTRB TROUBLE | DRS IN R CTRB TROUBLE | DRS IN S CTRB TROUBLE | DRS IN T CTRB TROUBLE |
| C | DRS IN A CTRB FLOW L.O.D | DRS IN B CTRB FLOW L.O.D | DRS IN C CTRB FLOW L.O.D | DRS IN D CTRB FLOW L.O.D | DRS IN E CTRB FLOW L.O.D | DRS IN F CTRB FLOW L.O.D | DRS IN G CTRB FLOW L.O.D | DRS IN H CTRB FLOW L.O.D | DRS IN I CTRB FLOW L.O.D | DRS IN J CTRB FLOW L.O.D | DRS IN K CTRB FLOW L.O.D | DRS IN L CTRB FLOW L.O.D | DRS IN M CTRB FLOW L.O.D | DRS IN N CTRB FLOW L.O.D | DRS IN O CTRB FLOW L.O.D | DRS IN P CTRB FLOW L.O.D | DRS IN Q CTRB FLOW L.O.D | DRS IN R CTRB FLOW L.O.D | DRS IN S CTRB FLOW L.O.D | DRS IN T CTRB FLOW L.O.D |
| D | DRS IN A CTRB LEV HOLD | DRS IN B CTRB LEV HOLD | DRS IN C CTRB LEV HOLD | DRS IN D CTRB LEV HOLD | DRS IN E CTRB LEV HOLD | DRS IN F CTRB LEV HOLD | DRS IN G CTRB LEV HOLD | DRS IN H CTRB LEV HOLD | DRS IN I CTRB LEV HOLD | DRS IN J CTRB LEV HOLD | DRS IN K CTRB LEV HOLD | DRS IN L CTRB LEV HOLD | DRS IN M CTRB LEV HOLD | DRS IN N CTRB LEV HOLD | DRS IN O CTRB LEV HOLD | DRS IN P CTRB LEV HOLD | DRS IN Q CTRB LEV HOLD | DRS IN R CTRB LEV HOLD | DRS IN S CTRB LEV HOLD | DRS IN T CTRB LEV HOLD |
| E | | | | | | | | | | | | | | | | | | | | |
| F | DRS IN A CTRB HI | DRS IN B CTRB HI | DRS IN C CTRB HI | DRS IN D CTRB HI | DRS IN E CTRB HI | DRS IN F CTRB HI | DRS IN G CTRB HI | DRS IN H CTRB HI | DRS IN I CTRB HI | DRS IN J CTRB HI | DRS IN K CTRB HI | DRS IN L CTRB HI | DRS IN M CTRB HI | DRS IN N CTRB HI | DRS IN O CTRB HI | DRS IN P CTRB HI | DRS IN Q CTRB HI | DRS IN R CTRB HI | DRS IN S CTRB HI | DRS IN T CTRB HI |

RK020 ESFAS

LOGIC POWER SUPPLY 70B-PCD-100 #3 RK045E3

| | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|------------------------|---------------------|----------------------------|-----------------------|-----------------------|-------------------------|--------------------------|----------------------|---|
| A | RCP VIS OVERDR | RCP #1 SEAL ΔP LO | RCP #1 SEAL FLOW HI | RCP #2 SEAL FLOW HI | RCP #TR CRY FLOW HI/LO | SWPS A GENERAL WARNING | SWPS B GENERAL WARNING | | PS CHANNEL DEV | ROD CTRL LRG FAIL | RPI LRG ALARM | TWO-MORE RODS AT BOTTOM | PS OVER PWR ROD STOP | ATWS NO LEV PWR TRIP | A |
| B | RCP VIS/OPS ALERT | RCP #1 SEAL FLOW LO | RCP OIL LEAK | | | RK BYP SWR A CLOSED | RK BYP SWR B CLOSED | IR HI VOLT FAIL | PS UPPER DETECTOR FLUR DEV | ROD CTRL MOD LRG FAIL | RPI MOD LRG ALARM | ROD AT BOTTOM | DT ΔT ROD STOP | | B |
| C | RCP A 3-PM BAR CCM FLOW | RCP B 3-PM BAR CCM FLOW | RCP C 3-PM BAR CCM FLOW | RCP D 3-PM BAR CCM FLOW | RCP 3-PM BAR CCM FLOW | RK BYP SWR A OPERABLE | RK BYP SWR B OPERABLE | KIS ON 24 TEST | PS LOWER DETECTOR FLUR DEV | RPI DEV OR PH TILT | RPI ROD DEV | ROD BANK LQ,C LIMIT | DP ΔT ROD STOP | RK PARTIAL TRIP | C |
| D | RCP A OVERLOAD TRIP | RCP B OVERLOAD TRIP | RCP C OVERLOAD TRIP | RCP D OVERLOAD TRIP | RCP OIL WIND LEV HI/LO | RFP TEMP HI | RFP LEV HI/LO | RO/IS TRIP BYP | IR CRV VOLT FAIL | ΔC OUT OF BAND | | ROD BANK TO LIMIT | IR HI FLUR ROD STOP | | D |
| E | RCP A STANDBY LEV LO | RCP B STANDBY LEV LO | RCP C STANDBY LEV LO | RCP D STANDBY LEV LO | RCP A/D OIL TK A LEV HI | RFP COOL PMP A TRIP | RFP COOL PMP B TRIP | IR HI VOLT FAIL | PS FLUR LO REPT 1/4 | | | | | | E |
| F | RCP A STANDBY LEV HI | RCP B STANDBY LEV HI | RCP C STANDBY LEV HI | RCP D STANDBY LEV HI | RCP B/C OIL TK B LEV HI | RFP COOL PMP A FLOW LO | RFP COOL PMP B FLOW LO | RFP CLEANUP FLOW LO | | LOOSE PARTS MON | ROD IS NO SET TROUBLE | | BANK C FULL OUT ROD STOP | ATWS PANEL TROUBLE | F |

RK022 REACTOR AUXILIARIES

| | 84 | 85 | 86 | 87 | 88 | |
|---|-------------------------|-------------------------|----------------------|------------------------|-------------------------|---|
| A | PS FLUR HI REPT RX TRIP | NO LEV LO/LO RX TRIP | LO FLOW S P6 RX TRIP | PZR PRES LO RX TRIP | PZR PRES S1 RX TRIP | A |
| B | DT ΔT RX TRIP | PS FLUR HI WATT RX TRIP | LO FLOW S P7 RX TRIP | PZR PRES HI RX TRIP | STM LNE PRES S1 RX TRIP | B |
| C | DT ΔT RX TRIP | NO FLUR LO REPT RX TRIP | RCP UN RX TRIP | PZR LEV HI RX TRIP | HI CHM PRES S1 RX TRIP | C |
| D | | IR HI FLUR RX TRIP | RCP UP RX TRIP | | MANUAL S1 RX TRIP | D |
| E | | IR HI FLUR RX TRIP | | | | E |
| F | | | | TURB TRIP S PS RX TRIP | MANUAL S1 RX TRIP | F |

← FINISH REACTOR TRIP →

LOGIC POWER SUPPLY 706-PCD-100 #3 PK045E3

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | |
| A | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| B | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| C | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| D | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| E | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| F | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

PK024 TURBO-GENERATOR & BOP

GG
PORV
OPEN

TONA#93-0329

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | |
| A | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| B | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| C | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| D | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| E | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| F | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

PK026 TURBO-GENERATOR & BOP

TURB BROT
L-O HI
TEMP

TURB
ELEC
MALFN

TONA-93-0329

TONA#93-0955

Compensatory Actions for Loss of
Logic Power Supply 70B-PCD-100 #3 RK045E3

- 1.) The table below contains the minimum required equipment/parameters that should be monitored during this power supply loss. More actions can be taken if a review of this attachment, along with current plant status, warrants such actions.
- 2.) Equipment Operators should monitor equipment/parameters as often as possible but in all cases at a minimum of once per hour.
- 3.) Reactor Operators should monitor equipment/parameters continuously.
- 4.) If monitoring cannot be maintained with personal available, or due to computer unavailability, declaration of an ALERT should be considered due to reduced safety assessment capability.

| Work Area | Equipment/Parameter |
|-------------------|--|
| Control Room * | Condenser Vacuum Computer Display for N2 Accum. Press. |
| Secondary | Main Turbine Lube Oil, Isophase Bus System, EHC System, A and B MFP |

* Monitor RCP Vibrations once every 30 minutes.

LOGIC POWER SUPPLY 70B-PCD-100 #1 RK045E3

| | | | | | | | | | | | | | | | | | | | | |
|---|--------------------------------|--------------------------------|-------------------------|------------------------------|-------------------------|-------------------------|------------------------------|------------------------------|-----------------------------|--------------------------------|------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------|------------------------------|-----------------------------|---------------------------|---|
| | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | |
| A | PER LEV HI | PER L100 TO TEMP HI | PER VAPOR TEMP HI | PER BPTT OPEN | SA TR A EMPTY | SA TR B EMPTY | L10N RECIN HI TEMP HI | L10N HI DIRCH TEMP HI | B10S TEMP HI DIRCH | REAL TNU TO RCP FLOW LO | CHS LINE FLOW HILO | ACC TR A 100 VLV NOT OPEN | ACC TR B 100 VLV NOT OPEN | ACC TR C 100 VLV NOT OPEN | ACC TR D 100 VLV NOT OPEN | SHUT TEMP LOLO | SHUT TEMP TROUBLE | SI TEMP TROUBLE | SHS TEMP TROUBLE | A |
| B | PER TR H10S OFF L10N 100 | PER HI PRESS DEV | PER PRESS HI | PERV OPEN | SA TRS LEV LOLO | SA TRS LEV LO | EXCESS L10N HI TEMP HI | L10N HI DIRCH TEMP HI | B10S TEMP HI | REAL TNU NO FLTRS S/P HI | VCT LEV HILO | ACC TR A PRESS HILO | ACC TR B PRESS HILO | ACC TR C PRESS HILO | ACC TR D PRESS HILO | SHUT EMPTY | SHUT ADD TR LEVEL LOLO | SHS ADD TR LEVEL LOLO | SHS LOOP LEV LO | B |
| C | PER L10 LEV DEV | PER PRESS LO H10S ON | PER PRESS BLOCK | PER BPTT DIRCH TEMP HI | SA TR A LEV HI | SA TR B LEV HI | | L10N HI DIRCH TEMP HI | B10S NO FLTRS TEMP HI | REAL VLV TNU TEMP HI | VCT PRESS HILO | ACC TR A LEV HILO | ACC TR B LEV HILO | ACC TR C LEV HILO | ACC TR D LEV HILO | SHUT LOLO B | SHUT ADD TR LEV LO | SHS LOOP 1 FLOW LO | SHS LOOP 2 FLOW LO | C |
| D | PER HI LEV DEV H10S ON | SHS VLV DIRCH AT S/P S/P | PER TEMP HI | PER VLV DIRCH TEMP HI | SA TR A TEMP HILO | SA TR B TEMP HILO | SHUT LEV HILO | L10N HI DIRCH PRESS HI | B10S DIRCH TROUBLE | NA FLOW DEV | VCT DIRCH TO SHT | ACC TR NO HOB PRESS LO | | | | SHUT LEV AUTO HOB | SHUT ADD TR PRESS HI | SHS DIRCH PRESS HI | SHS DIRCH PRESS HI | D |
| E | PER HI DIRCH TROUBLE | PER HI DIRCH TROUBLE | PER PRESS HI | | | | CHS HI TRACE | NO FLTR DIRCH PRESS LO | L10N HI DIRCH FLOW HI | B10S DIRCH LEV HILO | TOTAL NO FLTR FLOW DEV | CHARGE DIRCH TROUBLE | | | | SHS PRESS HI | SHUT LEV HILO | SHS TRAIN B IN TEST | SHS TRAIN B IN TEST | E |
| F | PER DIRCH TEMP LO | PER DIRCH TEMP LO | PER LEV HILO | | | | | SHUT TEMP HILO | B10S DIRCH LO DIRCH | PER ON LEV LO | NO HOB PRESS LO | | | | | | | SHS TRAIN B S/P S/P | SHS TRAIN B S/P S/P | F |

RK018 ESFAS

| | | | | | | | | | | | | | | | | | | | | | |
|---|----------------------------|---------------------------|----------------------------|------------------------------|------------------------------|---------------------|--------------------------|-------|-------|------------------------|-----------------------|---------------------|-------|---------------------|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|---|
| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | | |
| A | SHS HI 2 DIRCH HILO | SHS NO RCP FLOW LO | SHS HI B DIRCH HILO | SHS B PRESS LO FLOW LO | SHS B PRESS LO FLOW LO | NO SATURATE | NO FLTR DIRCH HILO | | DIRCH | DIRCH HI | PROCESS NO HILO | NO DIRCH HILO | DIRCH | DIRCH NO HILO | SHS NO FLTR AT S/P | LOOP 1 A 1 HI DEV | LOOP 2 A 1 HI DEV | LOOP 3 A 1 HI DEV | LOOP 4 A 1 HI DEV | A | |
| B | DIRCH DIRCH TROUBLE | DIRCH DIRCH TROUBLE | DIRCH DIRCH TROUBLE | DIRCH DIRCH TROUBLE | DIRCH DIRCH TROUBLE | NO C SO DIRCH | NO FLTR DIRCH HILO | | DIRCH | NO DIRCH TROUBLE | PROCESS NO HILO | NO DIRCH HILO | DIRCH | DIRCH NO HILO | NO DIRCH HILO | LOOP 1 A 1 LO DEV | LOOP 2 A 1 LO DEV | LOOP 3 A 1 LO DEV | LOOP 4 A 1 LO DEV | B | |
| C | DIRCH DIRCH FLOW LO | DIRCH DIRCH FLOW LO | DIRCH DIRCH FLOW LO | DIRCH DIRCH FLOW LO | DIRCH DIRCH FLOW LO | NO DIRCH HILO | DIRCH DIRCH HILO | DIRCH | DIRCH | DIRCH NO HILO | PROCESS NO HILO | NO DIRCH HILO | DIRCH | DIRCH NO HILO | NO DIRCH HILO | ACT DIRCH HILO | LOOP 1 A 1 HI DEV | LOOP 2 A 1 HI DEV | LOOP 3 A 1 HI DEV | LOOP 4 A 1 HI DEV | C |
| D | DIRCH DIRCH LEV HILO | DIRCH DIRCH TEMP HI | DIRCH DIRCH LEV HILO | DIRCH DIRCH TEMP HI | DIRCH DIRCH TEMP HI | NO DIRCH HILO | DIRCH DIRCH HILO | DIRCH | DIRCH | DIRCH NO HILO | PROCESS NO HILO | NO DIRCH HILO | DIRCH | DIRCH NO HILO | NO DIRCH HILO | ACT DIRCH HILO | LOOP 1 A 1 LO DEV | LOOP 2 A 1 LO DEV | LOOP 3 A 1 LO DEV | LOOP 4 A 1 LO DEV | D |
| E | | | | | | NO DIRCH HILO | DIRCH DIRCH HILO | | DIRCH | DIRCH NO HILO | PROCESS NO HILO | NO DIRCH HILO | DIRCH | DIRCH NO HILO | NO DIRCH HILO | ACT DIRCH HILO | LOOP 1 A 1 LO DEV | LOOP 2 A 1 LO DEV | LOOP 3 A 1 LO DEV | LOOP 4 A 1 LO DEV | E |
| F | DIRCH DIRCH FLOW HI | DIRCH DIRCH FLOW HI | DIRCH DIRCH FLOW LO | DIRCH DIRCH FLOW HILO | DIRCH DIRCH TROUBLE | NO DIRCH HILO | DIRCH DIRCH HILO | DIRCH | DIRCH | DIRCH NO HILO | PROCESS NO HILO | NO DIRCH HILO | DIRCH | DIRCH NO HILO | NO DIRCH HILO | ACT DIRCH HILO | LOOP 1 A 1 LO DEV | LOOP 2 A 1 LO DEV | LOOP 3 A 1 LO DEV | LOOP 4 A 1 LO DEV | F |

RK020 ESFAS

LOGIC POWER SUPPLY 70B-PCD-100 #4 RK045E3

| | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------|------------------------|------------------------|---------------------|------------------------------|------------------------|-----------------------|-------------------------|--------------------------|----------------------|---|
| A | RCP VIS DANGER | RCP #1 SEAL DP LO | RCP #1 SEAL FLOW HI | RCP #2 SEAL FLOW HI | RCP MTR COX FLOW HI LO | SWPS A GENERAL WARNING | SWPS B GENERAL WARNING | | TR CHANNEL DEV | ROD CTRL LING FAIL | RPI LING ALARM | TWO MORE RODS AT BOTTOM | PR OVER PWR ROD STOP | ATWS RC LIF PWR TRIP | A |
| B | RCP VIS SWP ALERT | | RCP #1 SEAL FLOW LO | RCP OIL LEAK | | RX SWP SWP A CLOSED | RX SWP SWP B CLOSED | TR HI VOLT FAIL | PR UPPER DETECTOR FLUX DEV | ROD CTRL NON LING FAIL | RPI NON LING ALARM | ROD AT BOTTOM | OF AT ROD STOP | | B |
| C | RCP A THERM BAR COX FLOW | RCP B THERM BAR COX FLOW | RCP C THERM BAR COX FLOW | RCP D THERM BAR COX FLOW | RCP THERM BAR COX FLOW | RX SWP SWP A OPERABLE | RX SWP SWP B OPERABLE | HIS CH IN TEST | PR LOWER DETECTOR FLUX DEV | RPI DEV ON PR TILT | RPI ROD DEV | ROD BANK LOLO LIMIT | OF AT ROD STOP | RX PARTIAL TRIP | C |
| D | RCP A OVERLOAD TRIP | RCP B OVERLOAD TRIP | RCP C OVERLOAD TRIP | RCP D OVERLOAD TRIP | RCP OIL REFR LEV HI LO | RFP TEMP HI | RFP LEV HI LO | SW/TR TRIP SWP | TRIP SWP HI VOLT FAIL | LO OUT OF BAND | | ROD BANK TO LIMIT | TR HI FLUX ROD STOP | | D |
| E | RCP A SINEPIPE LEV LO | RCP B SINEPIPE LEV LO | RCP C SINEPIPE LEV LO | RCP D SINEPIPE LEV LO | RCP A/D OIL TK A LEV HI | RFP COOL PMP A TRIP | RFP COOL PMP B TRIP | SR HI VOLT FAIL | PR FLUX LO SETPT 1/4 | | | | | | E |
| F | RCP A SINEPIPE LEV HI | RCP B SINEPIPE LEV HI | RCP C SINEPIPE LEV HI | RCP D SINEPIPE LEV HI | RCP B/C OIL TK B LEV HI | RFP COOL PMP A FLOW LO | RFP COOL PMP B FLOW LO | RFP CLEANUP FLOW LO | | LOOSE PARTS MON | ROD ON HI SET TROUBLE | | BANK D FULL OUT ROD STOP | ATWS PANEL TROUBLE | F |

RK022 REACTOR AUXILIARIES

| | 84 | 85 | 86 | 87 | 88 | |
|---|--------------------------|--------------------------|----------------------|------------------------|-------------------------|---|
| A | PR FLUX HI SETPT MX TRIP | SR LEV LOLO RX TRIP | LO FLOW & PR RX TRIP | PZR PWR LO RX TRIP | PZR PWR HI RX TRIP | A |
| B | OF AT RX TRIP | PR FLUX HI SETPT RX TRIP | LO FLOW & PR RX TRIP | PZR PWR HI RX TRIP | STABLING PWR HI RX TRIP | B |
| C | OF AT RX TRIP | PR FLUX LO SETPT RX TRIP | RCP LO RX TRIP | PZR LEV HI RX TRIP | HI CONT PWR HI RX TRIP | C |
| D | | SR HI FLUX RX TRIP | RCP UP RX TRIP | | WARNING HI MX TRIP | D |
| E | | SR HI FLUX RX TRIP | | | | E |
| F | | | | TURB TRIP & PR RX TRIP | WARNING HI MX TRIP | F |

FIBERGLASS REACTOR TRIP

LOGIC POWER SUPPLY 708-PCU-100 #4 RKO45E3

| | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 |
|---|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| B | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| C | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| D | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| E | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| F | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |

RK024 TURBO-GENERATOR & BOP

SG
PORV
OPEN

TWR#93-0329

| | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| B | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| C | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| D | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| E | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| F | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |

RK026 TURBO-GENERATOR & BOP

TURB
ELEC
MALFN

TURB BRG/
L-O HI
TEMP

TWR#93-0329

TWR#93-0955

Compensatory Actions for Loss of
Logic Power Supply 70B-PCD-100 #4 RK045E3

- 1.) The table below contains the minimum required equipment/parameters that should be monitored during this power supply loss. More actions can be taken in a review of this attachment, along with current plant status, warrants such actions.
- 2.) Equipment Operators should monitor equipment/parameters as often as possible but in all cases at a minimum of once per hour.
- 3.) Reactor Operators should monitor equipment/parameters continuously.
- 4.) If monitoring cannot be maintained with personnel available, or due to computer unavailability, declaration of an ALERT should be considered due to reduced safety assessment capability.

| Work Area | Equipment/Parameter |
|-------------------|--|
| Control Room * | Area Rad Monitors, Emergency Diesel Gen Day Tank Levels, Turbine Vibration, Steam Seal System |
| Secondary | Main Turbine Lube Oil and EHC, A and B MFP's, PK Batteries, Main Generator Stator and H2 Local Ann. Panels |
| Inside | Unit Aux and Main XFMR |

* Monitor BOP \pm SFAS ATI once every 30 minutes.

MSA

OPTICAL ISOLATED POWER SUPPLY 70-TDC

13

11

10

9

8

7

6

5

4

3

2

1

| | A | B | C | D | E | F |
|---|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| A | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY |
| B | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY |
| C | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY |
| D | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY |
| E | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY |
| F | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY |

RR014 SITE-RELATED

| | A | B | C | D | E | F |
|---|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| A | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY |
| B | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY |
| C | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY |
| D | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY |
| E | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY |
| F | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY | SWITCHING POWER SUPPLY |

RR016 STATION ELECTRIC

OPTICAL ISOLATOR POWER SUPPLY 70-IDC-1 RK045A

| | | | | | | | | | | | | | | | | | | | | |
|---|---------------------------------|----------------------------|-------------------------|-----------------------------|-------------------------|-------------------------|-----------------------------|------------------------------|---------------------------------|-------------------------------|-------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-----------------------------------|---------------------------|-------------------------------|-------------------------------|---|
| | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | |
| A | PWR LEV HI | PWR LIBERS TEMP HI | PWR SHACK TEMP HI | PWR B77 SLY OPEN | SA TR A TEMP HI | SA TR B TEMP HI | LTON MEMO IN TEMP HI | LTON HI TEMP HI DIRECT | STRO TEMP HI DIRT | REAR SHU TO MCP FLOW LO | DRS LHM FLOW HOLD | ACC TR A 2ND SLY NOT OPEN | ACC TR B 1ST SLY NOT OPEN | ACC TR C 1ST SLY NOT OPEN | ACC TR D 1ST SLY NOT OPEN | SWP TEMP LO LD | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | A |
| B | PWR LTD HTRN SLY LTON SLO | PWR HI PRESS DEV | PWR PRESS HI | PWR OPEN | SA TRS LEV LO | SA TRS LEV LO | ENRSM LTON HI TEMP HI | LTON HI DIRSCH TEMP HI | STRO TEMP HI | REAR SHU AC FLOW SLP HI | ACT LEV HOLD | ACC TR A PRESS HOLD | ACC TR B PRESS HOLD | ACC TR C PRESS HOLD | ACC TR D PRESS HOLD | SWP COPY | SWP ACC TR LEVEL LO | SWP ACC TR TEMP HI | SWP LOOP LEV LO | B |
| C | PWR LO LEV DEV | PWR PRESS LO HTRN SH | PWR PRESS R SCH | PWR B77 DIRCH TEMP HI | SA TR A LEV HI | SA TR B LEV HI | | LD LTON DIRCH TEMP HI | STRO AC LHM TEMP HI | REAR SHU TEMP HI | ACT PRESS HOLD | ACC TR A LEV HOLD | ACC TR B LEV HOLD | ACC TR C LEV HOLD | ACC TR D LEV HOLD | SWP LEV LO LD P | SWP ACC TR LEV LO | SWP LOOP 1 FLOW LO | SWP LOOP 2 FLOW LO | C |
| D | PWR LO LEV HTRN SH | SWP HTRN ACT SLY | PWR TEMP HI | PWR DIRCH TEMP HI | SA TR A TEMP HOLD | SA TR B TEMP HOLD | SWP LEV HOLD | LTON HI DIRSCH TEMP HI | STRO DIRCH TROUBLE | SA FLTR SLP | ACT DIRSCH TO SWP | ACC TR NO HTRN PRESS LO | | | | SWP LEV LO LD 1 ALTO SLY | SWP ACC TR PRESS HI | SWP 2 DIRCH PRESS HI | SWP 3 DIRCH PRESS HI | D |
| E | PWR HTRN TROUBLE | PWR HTRN LOCKOUT | PWR PRESS HI | | | | | SWP HI TRACE | SA ACT DIRSCH PRESS LO | LTON HI DIRSCH FLOW HI | STRO DIRCH LEV HI | REAR SHU FLOW LEV | DRS TROUBLE | | | SWP LEV HOLD | SWP ACC TR IN TEST | SWP TEMP TROUBLE | SWP LOOP LEV HI | E |
| F | PWR TEMP LO | PWR TEMP LO | PWR TEMP HOLD | | | | | SWP TEMP HOLD | STRO DIRCH LO CTR | STRO DIRCH LEV LO | POP DIRCH LEV LO | HE HTRN LEV LO | | | | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | F |

RK018 ESFAS

| | | | | | | | | | | | | | | | | | | | | |
|---|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|---|
| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | |
| A | SWP LEV HOLD | SWP TEMP LO | SWP TEMP HOLD | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | A |
| B | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | B |
| C | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | C |
| D | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | D |
| E | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | E |
| F | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | SWP TEMP TROUBLE | F |

RK020 ESFAS

OPTICAL ISOLATOR POWER SUPPLY 70-IDC-1 RK045A

| | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|------------------------|-------------------|----------------------------|------------------------|-----------------------|-------------------------|--------------------------|---------------------|---|
| A | RCP VIB DANGER | RCP #1 SEAL DP LO | RCP #1 SEAL FLOW HI | RCP #2 SEAL FLOW HI | RCP #1/2 CCR FLOW HILO | SRPS A GENERAL WARNING | SRPS B GENERAL WARNING | | PS CHANNEL DEV | ROD CTRL LRG FAIL | RFI LRG ALARM | TRC-HOSE SEEN AT BOTTOM | PS OVER PWR ROD STOP | ATM SC LEV PNE TRIP | A |
| B | RCP VIB/STB ALERT | | RCP #1 SEAL FLOW LO | RCP OIL LEAK | | RX BYP SWP A CLOSED | RX BYP SWP B CLOSED | IS HI VOLT FAIL | PS UPPER DETECTOR FLUX DEV | ROD CTRL HIGH LRG FAIL | RFI HIGH LRG ALARM | ROD AT BOTTOM | DIAGN ROD STOP | | B |
| C | RCP A 1-2M BAR CCR FLOW | RCP B 1-2M BAR CCR FLOW | RCP C 1-2M BAR CCR FLOW | RCP D 1-2M BAR CCR FLOW | RCP 1-2M BAR CCR FLOW | RX BYP SWP A OPERABLE | RX BYP SWP B OPERABLE | HIS CH TN TEST | PS LOWER DETECTOR FLUX DEV | RFI DEV OR PN TILT | RFI ROD DEV | ROD BANK LOLO LIMIT | DIAGN ROD STOP | RX PARTIAL TRIP | C |
| D | RCP A OVERLOAD TRIP | RCP B OVERLOAD TRIP | RCP C OVERLOAD TRIP | RCP D OVERLOAD TRIP | RCP OIL SWRN LEV HILO | SWP TEMP HI | SWP LEV HILO | IS ZIR S. TP B. P | IS CMP VOLT FAIL | IS B OUT OF BAND | | ROD BANK TO LIMIT | IS HI FLUX ROD STOP | | D |
| E | RCP A STAGPIPE LEV LO | RCP B STAGPIPE LEV LO | RCP C STAGPIPE LEV LO | RCP D STAGPIPE LEV LO | RCP A/D OIL TN A LEV HI | SWP COOL PWP A TRIP | SWP COOL PWP B TRIP | IS HI VOLT FAIL | PS FLUX LO SETPT /74 | | | | | | E |
| F | RCP A STAGPIPE LEV HI | RCP B STAGPIPE LEV HI | RCP C STAGPIPE LEV HI | RCP D STAGPIPE LEV HI | RCP B/C OIL TN B LEV HI | SWP COOL PWP A FLOW LO | SWP COOL PWP B FLOW LC | SWP CLEAN FLOW D | | LOOSE PARTS NON | ROD DR HI SET TROUBLE | | BANK D FAIL OUT ROD STOP | ATM PANEL TROUBLE | F |

RK022 REACTOR AUXILIARIES

| | 84 | 85 | 86 | 87 | 88 | |
|---|--------------------------|--------------------------|-----------------------|-------------------------|---------------------------|---|
| A | PS FLUX HI RETPT RX TRIP | SW LEV LOLO RX TRIP | LO FLOW RX TRIP | PZR PRESS LO RX TRIP | PZR PRESS HI RX TRIP | A |
| B | DIAGN RX TRIP | PS FLUX HI RATE RX TRIP | LO FLOW S. PT RX TRIP | PZR PRESS HI RX TRIP | STHE SHE PRESS HI RX TRIP | B |
| C | DIAGN RX TRIP | PS FLUX LO RETPT RX TRIP | RCP LN RX TRIP | PZR LEV HI RX TRIP | HI CTMT PRESS HI RX TRIP | C |
| D | | IS HI FLUX RX TRIP | RCP LF RX TRIP | | MANUAL RI RX TRIP | D |
| E | | SW HI FLUX RX TRIP | | | | E |
| F | | | | TURB TRIP S. PT RX TRIP | MANUAL RI RX TRIP | F |

FIBERGLASS REACTOR TRIP

OPTICAL ISOLATOR POWER SUPPLY 70-1UC-1 8K045A

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 |
| A | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| B | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| C | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| D | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| E | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| F | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |

8K024 TURBO-GENERATOR & BOP

TCN#93-0329
SG
POPV
OPEN

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 |
| A | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| B | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| C | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| D | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| E | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |
| F | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W | W |

8K026 TURBO-GENERATOR & BOP

TURB DRG /
L-O HI
TEMP

TURD
ELEC
MALFN
TCN#93-0955

TCN#93-0329

Compensatory Actions for Loss of
Optical Isolator Power Supply 7C-IDC-1 RK045A

- 1.) The table below contains the minimum required equipment/parameters that should be monitored during this power supply loss. More actions can be taken if a review of this attachment, along with current plant status, warrants such actions.
- 2.) Equipment Operators should monitor equipment/parameters as often as possible but in all cases at a minimum of once per hour.
- 3.) Reactor Operators should monitor equipment/parameters continuously.
- 4.) If monitoring cannot be maintained with personal available, or due to computer unavailability, declaration of an ALERT should be considered due to reduced safety assessment capability.

| Work Area | Equipment/Parameter |
|-------------------|---|
| Control Room * | 'A' PZR B/U Htrs, 'A' CCP Status, 'A' Train CCW Pump Status and Flow |
| Primary | 'A' Train SFP Cooling |
| Secondary | 'A' Emerg Diesel, NG01 and NG03 Load Centers, |
| Inside | NG05E MCC, NG07 Load Center |

* Monitor 'A' Train LSELS ATI once every 30 minutes.

OPTICAL ISOLATOR POWER SUPPLY 70-IDC-1 RK045B

| | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
|---|---------------------------|----------------------|--------------------|----------------------|-----------------|-----------------|----------------------------|------------------------------------|------------------------------|-------------------------|------------------------|---------------------------|---------------------------|---------------------------|---------------------------|--------------|--------------|--------------|--------------|
| A | PWR LEV HI | PWR LEV HI | PWR LEV HI | PWR LEV HI | SA TR A EMPTY | SA TR B EMPTY | LTON HE TEMP HI | LTON HE TEMP HI | STRS TEMP HI | REAL TOL TO HOP FLOW LO | DRS LINE FLOW HI | ACC TR A 1RD W/V NOT OPEN | ACC TR B 1RD W/V NOT OPEN | ACC TR C 1RD W/V NOT OPEN | ACC TR D 1RD W/V NOT OPEN | DRYTR L.O.D. | DRYTR L.O.D. | DRYTR L.O.D. | DRYTR L.O.D. |
| B | PWR HTS HTRD OFF LTON 1RD | PWR HTS HTRD DEV | PWR HTS HTRD HI | PWR HTS HTRD HI | SA TR A LEV LO | SA TR B LEV LO | STRS LTON HE TEMP HI | STRS LTON HE TEMP HI | STRS TEMP HI | REAL TOL TO FLOW HI | ACT LEV HI | ACC TR A PRES HI | ACC TR B PRES HI | ACC TR C PRES HI | ACC TR D PRES HI | DRYTR EMPTY | DRYTR L.O.D. | DRYTR L.O.D. | DRYTR L.O.D. |
| C | PWR L.O. LEV DEV | PWR HTS HTRD ON | PWR HTS HTRD BLOCK | PWR HTS HTRD TEMP HI | SA TR A LEV HI | SA TR B LEV HI | LP LTON HE LTON HE TEMP HI | STRS HE LTON HE TEMP HI | REAL TOL TO FLOW HI | ACT LEV HI | ACC TR A LEV HI | ACC TR B LEV HI | ACC TR C LEV HI | ACC TR D LEV HI | DRYTR L.O.D. | DRYTR L.O.D. | DRYTR L.O.D. | DRYTR L.O.D. | DRYTR L.O.D. |
| D | PWR HE LAY DEV HTRD ON | SAV HTS HTRD AT 6/5 | PWR HTS HTRD HI | PWR HTS HTRD TEMP HI | SA TR A TEMP HI | SA TR B TEMP HI | DRYTR LTON HE STRS HTRD | STRS HTRD TEMP HI | DRS DLS DEV | ACT DRYTR TO HTRD | ACC TR HE HTRD PRES LO | | | | DRYTR L.O.D. | DRYTR L.O.D. | DRYTR L.O.D. | DRYTR L.O.D. | DRYTR L.O.D. |
| E | PWR HTS LTON TROUBLE | PWR HTS LTON LONKOUT | PWR HTS HTRD HI | | | | CYCS HI TRACE | BY H/O STRS PRES LO | LTON HE STRS LTON HE TEMP HI | STRS DLS LTON HE LEV HI | TOTAL H/O FLOW DEV | CHANGING PWR TROUBLE | | | DRYTR L.O.D. | DRYTR L.O.D. | DRYTR L.O.D. | DRYTR L.O.D. | DRYTR L.O.D. |
| F | PWR HTS LTON HI | PWR HTS LTON HI | PWR HTS LTON HI | | | | | DRYTR LTON HE STRS LTON HE TEMP HI | STRS DLS LTON HE LEV HI | PWR HTS LTON HI | HE HTRD PRES LO | | | | DRYTR L.O.D. | DRYTR L.O.D. | DRYTR L.O.D. | DRYTR L.O.D. | DRYTR L.O.D. |

RK018 ESFAS

| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | | |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| A | DRYTR A FLOW HI | DRYTR A FLOW LO | DRYTR B FLOW HI | DRYTR B FLOW LO | DRYTR C FLOW HI | DRYTR C FLOW LO | DRYTR D FLOW HI | DRYTR D FLOW LO | DRYTR E FLOW HI | DRYTR E FLOW LO | DRYTR F FLOW HI | DRYTR F FLOW LO | DRYTR G FLOW HI | DRYTR G FLOW LO | DRYTR H FLOW HI | DRYTR H FLOW LO | DRYTR I FLOW HI | DRYTR I FLOW LO | DRYTR J FLOW HI | DRYTR J FLOW LO | |
| B | DRYTR A/C TROUBLE | DRYTR B/C TROUBLE | DRYTR C/D TROUBLE | DRYTR D/E TROUBLE | DRYTR E/F TROUBLE | DRYTR F/G TROUBLE | DRYTR G/H TROUBLE | DRYTR H/I TROUBLE | DRYTR I/J TROUBLE | DRYTR J/K TROUBLE | DRYTR K/L TROUBLE | DRYTR L/M TROUBLE | DRYTR M/N TROUBLE | DRYTR N/O TROUBLE | DRYTR O/P TROUBLE | DRYTR P/Q TROUBLE | DRYTR Q/R TROUBLE | DRYTR R/S TROUBLE | DRYTR S/T TROUBLE | DRYTR T/U TROUBLE | DRYTR U/V TROUBLE |
| C | DRYTR A FLOW LO | DRYTR B FLOW LO | DRYTR C FLOW LO | DRYTR D FLOW LO | DRYTR E FLOW LO | DRYTR F FLOW LO | DRYTR G FLOW LO | DRYTR H FLOW LO | DRYTR I FLOW LO | DRYTR J FLOW LO | DRYTR K FLOW LO | DRYTR L FLOW LO | DRYTR M FLOW LO | DRYTR N FLOW LO | DRYTR O FLOW LO | DRYTR P FLOW LO | DRYTR Q FLOW LO | DRYTR R FLOW LO | DRYTR S FLOW LO | DRYTR T FLOW LO | DRYTR U FLOW LO |
| D | DRYTR A LEV HI | DRYTR B LEV HI | DRYTR C LEV HI | DRYTR D LEV HI | DRYTR E LEV HI | DRYTR F LEV HI | DRYTR G LEV HI | DRYTR H LEV HI | DRYTR I LEV HI | DRYTR J LEV HI | DRYTR K LEV HI | DRYTR L LEV HI | DRYTR M LEV HI | DRYTR N LEV HI | DRYTR O LEV HI | DRYTR P LEV HI | DRYTR Q LEV HI | DRYTR R LEV HI | DRYTR S LEV HI | DRYTR T LEV HI | DRYTR U LEV HI |
| E | | | | | | | | | | | | | | | | | | | | | |
| F | DRYTR A FLOW HI | DRYTR B FLOW HI | DRYTR C FLOW HI | DRYTR D FLOW HI | DRYTR E FLOW HI | DRYTR F FLOW HI | DRYTR G FLOW HI | DRYTR H FLOW HI | DRYTR I FLOW HI | DRYTR J FLOW HI | DRYTR K FLOW HI | DRYTR L FLOW HI | DRYTR M FLOW HI | DRYTR N FLOW HI | DRYTR O FLOW HI | DRYTR P FLOW HI | DRYTR Q FLOW HI | DRYTR R FLOW HI | DRYTR S FLOW HI | DRYTR T FLOW HI | DRYTR U FLOW HI |

RK020 ESFAS

OPTICAL ISOLATOR POWER SUPPLY 70-IDC-1 RK045B

| | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------|------------------------|------------------------|---------------------|----------------------------|-----------------------|-----------------------|------------------------|-------------------------|----------------------|---|
| A | WPI A DANGER | RCP #1 SEAL DP LO | RCP #1 SEAL FLOW HI | RCP #2 SEAL FLOW HI | RCP #2R CCR FLOW HOLD | WPI A GENERAL WARNING | WPI B GENERAL WARNING | | PS CHANNEL DEV | ROD CTRL LMS FAIL | WPI LMS ALARM | TWO-ROD WOOD AT BOTTOM | PS OVER-PWR ROD STOP | ATWR HI LEV PWR TRIP | A |
| B | RCP VIB-SEAL ALERT | | RCP #1 SEAL FLOW LO | RCP OIL LEAK | | RX BYP SW A CLOSED | RX BYP SW B CLOSED | IR HI VOLT FAIL | PS UPPER DETECTOR FLUR DEV | ROD CTRL NON LMS FAIL | WPI NON LMS ALARM | ROD AT BOTTOM | OP & T ROD STOP | | B |
| C | RCP A THERM BAR CCR FLOW | RCP B THERM BAR CCR FLOW | RCP C THERM BAR CCR FLOW | RCP D THERM BAR CCR FLOW | RCP THERM BAR CCR FLOW | RX BYP SW A OPERABLE | RX BYP SW B OPERABLE | NIS CH 3N TEST | PS LOWER DETECTOR FLUR DEV | WPI DEV OR PR TILT | WPI ROD DEV | ROD BANK LO LO LIMIT | OP & T ROD STOP | RX PARTIAL TRIP | C |
| D | RCP A OVERLOAD TRIP | RCP B OVERLOAD TRIP | RCP C OVERLOAD TRIP | RCP D OVERLOAD TRIP | RCP OIL PRESS LEV HOLD | WPI TEMP HI | WPI LEV HOLD | SW/IR TRIP SW | IR CMP VOLT FAIL | Q B OUT OF BAND | | ROD BANK TO LIMIT | IR HI FLUR ROD STOP | | D |
| E | RCP A STAGPIPE LEV LO | RCP B STAGPIPE LEV LO | RCP C STAGPIPE LEV LO | RCP D STAGPIPE LEV LO | RCP A/D OIL TX A LEV HI | WPI COOL PMP A TRIP | WPI COOL PMP B TRIP | IR HI VOLT FAIL | PS FLUR LO DETPT L/A | | | | | | E |
| F | RCP A STAGPIPE LEV HI | RCP B STAGPIPE LEV HI | RCP C STAGPIPE LEV HI | RCP D STAGPIPE LEV HI | RCP B/C OIL TX B LEV HI | WPI COOL PMP A FLOW LO | WPI COOL PMP B FLOW LO | WPI CLEANUP FLOW LO | | LOOK PARTS MON | ROD SW HI SET TROUBLE | | ROD D FULL OUT ROD STOP | ATWR PANEL TROUBLE | F |

RK022 REACTOR AUXILIARIES

| | 84 | 85 | 86 | 87 | 88 | |
|----------------------|--------------------------|--------------------------|----------------------|------------------------|---------------------------|---|
| A | PS FLUR HI DETPT RX TRIP | RO LEV LO LO RX TRIP | LO FLOW & PS RX TRIP | PZR PRESS LO RX TRIP | PZR PRESS HI RX TRIP | A |
| B | OP & T RX TRIP | PS FLUR HI BATE RX TRIP | LO FLOW & PT RX TRIP | PZR PRESS HI RX TRIP | STAGPIPE PRESS SI RX TRIP | B |
| C | OP & T RX TRIP | PS FLUR LO DETPT RX TRIP | RCP LW RX TRIP | PZR LEV HI RX TRIP | HI CTRV PRESS SC RX TRIP | C |
| D | | IR HI FLUR RX TRIP | RCP HP RX TRIP | | MANUAL RS RX TRIP | D |
| E | | IR HI FLUR RX TRIP | | | | E |
| F | | | | TURB TRIP & PS RX TRIP | MANUAL RS RX TRIP | F |
| FIMBULT REACTOR TRIP | | | | | | |

OPTICAL ISOLATOR POWER SUPPLY 70-10C-1 RK04156

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 |
| A | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV |
| B | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV |
| C | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV |
| D | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV |
| E | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV |
| F | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV |

RK024 TURBO-GENERATOR & BOP

TCNH 93-0319

5G PORY OPEN

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 |
| A | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV |
| B | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV |
| C | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV |
| D | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV |
| E | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV |
| F | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV | WV |

RK026 TURBO-GENERATOR & BOP

TCNH 93-0319

TURB ELEC MALFN

TCNH 93-0955

TURB BRO/ L-D HI TEMP

Compensatory Actions for Loss of
Optical Isolator Power Supply 70-IDC-1 RK045B

- 1.) The table below contains the minimum required equipment/parameters that should be monitored during this power supply loss. More actions can be taken if a review of this attachment, along with current plant status, warrants such actions.
- 2.) Equipment Operators should monitor equipment/parameters as often as possible but in all cases at a minimum of once per hour.
- 3.) Reactor Operators should monitor equipment/parameters continuously.
- 4.) If monitoring cannot be maintained with personal available, or due to computer unavailability, declaration of an ALERT should be considered due to reduced safety assessment capability.

| Work Area | Equipment/Parameter |
|-------------------|---|
| Control Room * | 'B' PZR B/U HTRS, 'B' CCP Status, 'B' Train CCW Pump Status and Flow |
| Primary | 'B' Train SFP Cooling Pump |
| Secondary | 'B' Emerg Diesel, NG02 and NG04 Load Centers, |
| Inside | NG06E MCC, NG08 Load Center |

* Monitor 'B' Train LSELS ATI once every 30 minutes.

ANNUNCIATORS WITH REFLASH CAPABILITIES

- 1) Use this attachment in conjunction with the appropriate Logic Power Supply attachment if only the -125 VDC has failed to determine which annunciator have reflash capability and are affected by the failure.
- 2) Annunciators that have reflash capabilities are highlighted by bold outline and cross hatched windows.
- 3) Reflash windows have multiple inputs from the field into the RK cabinets. A window with reflash capabilities will re-alarm when a new alarm occurs (with an existing alarm present) from one of the other inputs.
- 4) Reflash of a window that is a common alarm window for a local annunciator panel (i.e., Aux Steam Sys. Trouble) is dependent on the reflash capabilities of the individual local annunciator panels. The local annunciator panel may require local acknowledgement to allow a different local alarm input to bring in the common MCB annunciator.

ANNUNCIATORS WITH REFLASH CAPABILITIES

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
|---|-------------------------|------------------------|-------------------------|--------------------------|--------------------------|----------------------|--------------------------|-------------------------|---------------------------|----------------------------|----------------------|---------------------------|----------------------|---|
| A | WVD BUS A TRIP | WVD BUS B TRIP | CA-SE-1 PCB 943 TRIP | | | HR STOR PRESS LO | RD STOR TROUBLE | INTAKE PMP LOCKOUT | INTAKE WELL VTR FLOW LO | | CATION MATH LHM | WERY VTR PMP LOCKOUT | CIRC VTR PMP LOCKOUT | A |
| B | WLS-992 SWR FAIL | SYNCHTR A TRIP TROUBLE | CA-SE-1 PCB 943 TROUBLE | GEN SWR PCB 943 TROUBLE | | HR STOR TROUBLE | CRD STOR TROUBLE | INTAKE PMP VTR S/C | INTAKE TRV SCRM G.P. H/HE | | NEEDS BLD LHM | CIRC VTR PMP VTR S/C | B | |
| C | WVD SWR OR TRIP TROUBLE | WVD PWR SUPPLY TROUBLE | TIE SWR PCB 943 TRIP | | | | RENADE W/PC TROUBLE | INTAKE SUPY PWR SW OVER | INTAKE VTR LEV LO | | | WERY VTR LOW VTR PRESS LO | CIRC VTR PRESS LO | C |
| D | WVD CHG POT/TDR LOW | WVHE MV WVR TROUBLE | TIE SWR PCB 943 TROUBLE | GEN TIE PCB 943 TROUBLE | | TOP WISC TROUBLE | BERY BLD KICKOFF TROUBLE | INTAKE WVD ACC PRESS LO | INTAKE WAMPRES HOLD | WTR VRT INFLUENT PWR SW HI | VTL VTR TANK LEV LOW | WERY VTR PMP TROUBLE | CIRC VTR PMP TROUBLE | D |
| E | WVD WISC DC TROUBLE | WITE W/2 BUS TROUBLE | W/1 WVR PCB 941 TRIP | W/1 CA-8 PCB 941 TRIP | W/1 CA-7 PCB 940 TRIP | ON WISC TROUBLE | WVYS LHM LT TROUBLE | INTAKE W/2 TROUBLE | INTAKE W/2 TROUBLE | | DI WTR TRASH TROUBLE | WERY VTR W/2 TROUBLE | CIRC VTR W/2 TROUBLE | E |
| F | REDUITY ON TROUBLE | WITE W/2 BUS TROUBLE | W/1 WVR PCB 941 TROUBLE | W/1 CA-8 PCB 941 TROUBLE | W/1 CA-7 PCB 940 TROUBLE | ALM F-8 WISC TROUBLE | PLANT DISCH LEV HI | INTAKE WISC TROUBLE | INTAKE WISC TROUBLE | | | CIRC BLD WVD ACC PRESS LO | COOL TOWER LEV HOLD | F |

RK014 SITE-RELATED

| | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | |
|---|--------------------------|----------------------------|-------------------------|------------------------|--------------------------|------------------------|------------------------|--------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|-------------------------|-------------------------|---|
| A | S/D WVR LOCKOUT | WVD/2 SWR LOCKOUT | WVLS/2 WVR LOCKOUT | WVD/2 WVD BUS TRIP | WVD/2 WVD BUS LOCKOUT | WVD/2 WVD LOCKOUT | DO WERE 2 IMBAL | WVD/2 WVD LOCKOUT | WVD/2 WVD LOCKOUT | DO WERE 2 IMBAL | WVD/2 WVD LOCKOUT | WVD/2 WVD BUS LV | WVD/2 WVD BUS LV | WVD/2 WVD BUS LV | WVD/2 WVD BUS LV | | WV 2PMA LOCKED ACTUATED | WV 2PMA LOCKED ACTUATED | A |
| B | S/D WVR DC CTRL PWR LOSS | WVD/2 DC CTRL BUS TRIP | WVLS/2 DC CTRL BUS TRIP | WVD/2 WVD/SH TROUBLE | WVD/2 WVD BUS TRIP | WVD/2 DC CTRL PWR LOSS | DO WERE LV OR LP | WVD/2 WVD BUS TRIP | | DO WERE LV OR LP | WVD/2 WVD LOCKOUT | WVD/2 WVD TRIP LV | WVD/2 WVD TRIP LV | WVD/2 WVD TRIP LV | WVD/2 WVD TRIP LV | | WV 2PMA TEST TROUBLE | WV 2PMA TEST TROUBLE | B |
| C | S/D WVR PRESS | WVD/2 DC CTRL PWR LOSS | WVLS/2 DC CTRL PWR LOSS | WVD/2 WVD LOCKOUT | WV 2PMA WVD REC ACTUATED | WVD/2 WVD PWR LOSS | DO WERE ON | WV 2PMA WVD REC ACTUATED | WVD/2 WVD PWR LOSS | DO WERE ON | WVD/2 WVD LOCKOUT | WVD/2 WVD TROUBLE | WVD/2 WVD TROUBLE | WVD/2 WVD TROUBLE | WVD/2 WVD TROUBLE | WV BATT SW HI HI | WV 2PMA DOOR OPEN | WV 2PMA DOOR OPEN | C |
| D | S/D WVR LOCKOUT | WVD/2 2 IMBAL | WVLS/2 TIE SWR LOCKOUT | WVD/2 WVD LV | WVD/2 WVD UN RELAY 1/4 | WVD/2 WVD TROUBLE | DO WERE TROUBLE | WVD/2 WVD UN RELAY 1/4 | WVD/2 WVD TROUBLE | DO WERE TROUBLE | WVD/2 WVD LOCKOUT | WVD/2 WVD LOCKOUT | WVD/2 WVD LOCKOUT | WVD/2 WVD LOCKOUT | WVD/2 WVD LOCKOUT | WVD/2 WVD LOCKOUT | WVD/2 WVD LOCKOUT | WVD/2 WVD LOCKOUT | D |
| E | WVD/2 WVD PWR LOSS | WVD/2 WVD AUTO TRIP | WVLS/2 WVD FALL PRESS | WVD/2 DC CTRL PWR LOSS | WVD/2 DC CTRL PWR LOSS | DO WERE DCB | DO WERE DCB | WVD/2 DC CTRL PWR LOSS | WVD/2 DC CTRL PWR LOSS | DO WERE DCB | WVD/2 WVD BUS LV | WVD/2 WVD BUS LV | WVD/2 WVD BUS LV | WVD/2 WVD BUS LV | WVD/2 WVD BUS LV | WVD/2 WVD BUS LV | WVD/2 WVD BUS LV | WVD/2 WVD BUS LV | E |
| F | WVD/2 WVD PWR LOSS | WVLS/2 WVD SUPPLY PARALLEL | WVLS/2 WVD TROUBLE | WVD/2 WVD TROUBLE | WVD/2 WVD NOT OPERABLE | WVD/2 WVD NOT OPERABLE | WVD/2 WVD NOT OPERABLE | WVD/2 WVD NOT OPERABLE | WVD/2 WVD NOT OPERABLE | WVD/2 WVD NOT OPERABLE | WVD/2 WVD NOT OPERABLE | WVD/2 WVD NOT OPERABLE | WVD/2 WVD NOT OPERABLE | WVD/2 WVD NOT OPERABLE | WVD/2 WVD NOT OPERABLE | WVD/2 WVD NOT OPERABLE | WVD/2 WVD NOT OPERABLE | WVD/2 WVD NOT OPERABLE | F |

RK016 STATION ELECTRIC

ANNUNCIATORS WITH REFLASH CAPABILITIES

| | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
|---|--------------------------|--------------------------|--------------------------|--------------------------|----------------|----------------|-------------------------|-------------------------|-----------------------|-------------------------|-----------------|---------------------------|---------------------------|---------------------------|---------------------------|--------------|--------------|--------------|--------------|
| A | FOR LEV HI | FOR LEV HI | FOR LEV HI | FOR LEV HI | SA TR A EMPTY | SA TR B EMPTY | LTON RECH HI TEMP HI | LTON HI TEMP HI | STRE TEMP HI | REAL INJ TO MCP FLOW LO | CHG LHM FLOW HI | ACC TR A 1RD WLY NOT OPEN | ACC TR B 1RD WLY NOT OPEN | ACC TR C 1RD WLY NOT OPEN | ACC TR D 1RD WLY NOT OPEN | WNET TEMP LO | WNET TEMP HI | WNET TEMP HI | WNET TEMP HI |
| B | FOR HI WINDS DT LTON 1RD | FOR HI WINDS DT LTON 2RD | FOR HI WINDS DT LTON 3RD | FOR HI WINDS DT LTON 4RD | SA TR A LEV LO | SA TR B LEV LO | EXCESS LTON HI TEMP HI | LTON HI DIBCH TEMP HI | STRE TEMP HI | REAL INJ TO MCP FLOW HI | WCT LEV HI | ACC TR A PRESS HI | ACC TR B PRESS HI | ACC TR C PRESS HI | ACC TR D PRESS HI | WNET EMPTY | WNET LEV LO | WNET LEV HI | WNET LEV HI |
| C | FOR LO LEV DEY | FOR PRESS LO WINDS ON | FOR PRESS HI WINDS ON | FOR PRESS HI WINDS ON | SA TR A LEV HI | SA TR B LEV HI | LTON HI WEL LEV TEMP HI | LTON HI WEL LEV TEMP HI | STRE HI FLUSH TEMP HI | REAL INJ TO MCP FLOW HI | WCT PRESS HI | ACC TR A LEV HI | ACC TR B LEV HI | ACC TR C LEV HI | ACC TR D LEV HI | WNET LEV LO | WNET LEV HI | WNET LEV HI | WNET LEV HI |
| D | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | SA TR A LEV HI | SA TR B LEV HI | WNET LEV HI | LTON HI PRESS HI | STRE HI FLUSH TROUBLE | SA FLOW DEY | WCT DIBCH TO HI | ACC TR A PRESS LO | ACC TR B PRESS LO | ACC TR C PRESS LO | ACC TR D PRESS LO | WNET LEV LO | WNET LEV HI | WNET LEV HI | WNET LEV HI |
| E | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | SA TR A LEV HI | SA TR B LEV HI | WNET LEV HI | LTON HI PRESS HI | STRE HI FLUSH TROUBLE | SA FLOW DEY | WCT DIBCH TO HI | ACC TR A PRESS LO | ACC TR B PRESS LO | ACC TR C PRESS LO | ACC TR D PRESS LO | WNET LEV LO | WNET LEV HI | WNET LEV HI | WNET LEV HI |
| F | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | SA TR A LEV HI | SA TR B LEV HI | WNET LEV HI | LTON HI PRESS HI | STRE HI FLUSH TROUBLE | SA FLOW DEY | WCT DIBCH TO HI | ACC TR A PRESS LO | ACC TR B PRESS LO | ACC TR C PRESS LO | ACC TR D PRESS LO | WNET LEV LO | WNET LEV HI | WNET LEV HI | WNET LEV HI |

RK018 ESFAS

| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| A | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON |
| B | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON |
| C | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON |
| D | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON |
| E | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON |
| F | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON | FOR HI WINDS ON |

RK020 ESFAS

ANNUNCIATORS WITH REFLASH CAPABILITIES

| | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|------------------------|---------------------|----------------------------|-----------------------|-----------------------|--------------------------|-------------------------|----------------------|---|
| A | RCP VIS DANGER | RCP #1 SEAL DP LO | RCP #1 SEAL FLOW HI | RCP #2 SEAL FLOW HI | RCP #1#2 CCM FLOW HI | SSPS A GENERAL WARNING | SSPS B GENERAL WARNING | | PR CHANNEL DEV | ROD CTRL LAG FAIL | SP1 LAG ALARM | TWO/THREE RODS AT BOTTOM | PR OVER PWR ROD STOP | ATWS SC LEV PWR TRIP | A |
| B | RCP VIS/SPN ALERT | | RCP #1 SEAL FLOW LO | RCP OIL LEAK | | RX BYP SWR A CLOSED | RX BYP SWR B CLOSED | DIR HI VOLT FAIL | PR UPPER DETECTOR FLUX DEV | ROD CTRL NON LAG FAIL | SP1 NON LAG ALARM | ROD AT BOTTOM | DT AT ROD STOP | | B |
| C | RCP A THRM BAR CCM FLOW | RCP B THRM BAR CCM FLOW | RCP C THRM BAR CCM FLOW | RCP D THRM BAR CCM FLOW | RCP THRM BAR CCM FLOW | RX BYP SWR A OPERABLE | RX BYP SWR B OPERABLE | HIS CH IN TEST | PR LOWER DETECTOR FLUX DEV | SP1 DEV OR PR TILT | SP1 ROD DEV | ROD BANK LO/D LIMIT | DT AT ROD STOP | SPN PARTIAL TRIP | C |
| D | RCP A OVERLOAD TRIP | RCP B OVERLOAD TRIP | RCP C OVERLOAD TRIP | RCP D OVERLOAD TRIP | RCP OIL RSVR LEV HI/LO | SWP TEMP HI | SWP LEV HI/LO | SW/IR TRIP BYP | DIR CHP VOLT FAIL | ΔO OUT OF BAND | | ROD BANK LO LIMIT | IR HI FLUX ROD STOP | | D |
| E | RCP A STNPIPE LEV LO | RCP B STNPIPE LEV LO | RCP C STNPIPE LEV LO | RCP D STNPIPE LEV LO | RCP A/D OIL TK A LEV HI | SWP COOL PMP A TRIP | SWP COOL PMP B TRIP | DIR HI VOLT FAIL | PR FLUX LO BEIPT 1/4 | | | | | | E |
| F | RCP A STNPIPE LEV HI | RCP B STNPIPE LEV HI | RCP C STNPIPE LEV HI | RCP D STNPIPE LEV HI | RCP B/C OIL TK B LEV HI | SWP COOL PMP A FLOW LO | SWP COOL PMP B FLOW LO | SWP CLEARUP FLOW LO | | LOOSE PARTS MON | ROD ON HD SET TROUBLE | | ROD D FULL OUT ROD STOP | ATWS PANEL TROUBLE | F |

RK022 REACTOR AUXILIARIES

| | 84 | 85 | 86 | 87 | 88 | |
|---|--------------------------|--------------------------|----------------------|------------------------|-------------------------|---|
| A | PR FLUX HI BEIPT RX TRIP | ROD LEV LO/D RX TRIP | LO FLOW & PR RX TRIP | PZR PRESS LO RX TRIP | PZR PRESS HI RX TRIP | A |
| B | DT AT RX TRIP | PR FLUX HI DATE RX TRIP | LO FLOW & PZ RX TRIP | PZR PRESS HI RX TRIP | STWINE PRESS HI RX TRIP | B |
| C | DT AT RX TRIP | PR FLUX LO BEIPT RX TRIP | RCP UN RX TRIP | PZR LEV HI RX TRIP | HI CNT PRESS HI RX TRIP | C |
| D | | IR HI FLUX RX TRIP | RCP UP RX TRIP | | MANUAL HI RX TRIP | D |
| E | | SC HI FLUX RX TRIP | | | | E |
| F | | | | TURB TRIP & PR RX TRIP | MANUAL RX TRIP | F |

FIRSTOUT REACTOR TRIP

ARRANGIATIONS WITH REFRESH CAPABILITIES

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 |
| A | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF |
| B | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF |
| C | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF |
| D | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF |
| E | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF |
| F | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF |

RK024 TURBO-GENERATOR & BOP

SG
DORY
OPEN

TCNH 93-0329

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 |
| A | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF |
| B | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF |
| C | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF |
| D | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF |
| E | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF |
| F | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF | REF |

RK026 TURBO-GENERATOR & BOP

TURB
ELEC
MALFN

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ATTACHMENT 17

TCNH 93-0955

TURB ORG
L-O HI
TEMP

TCNH 93-0329