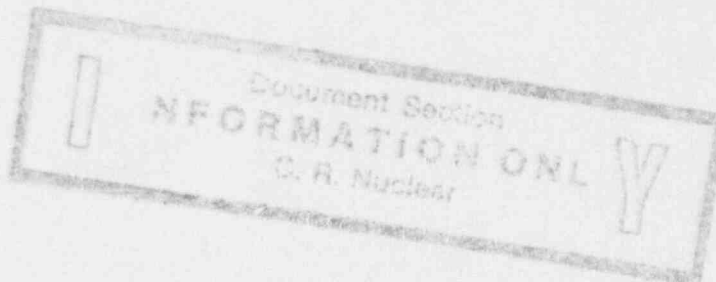


Rev. 8 04/08/93

Effective Date 4/15/93



ANNUNCIATOR RESPONSE

AR-502

FLORIDA POWER CORPORATION

CRYSTAL RIVER UNIT 3

ICS J Annunciator Response

THIS PROCEDURE ADDRESSES SAFETY RELATED COMPONENTS

APPROVED BY: Interpretation Contact

W. Marshall

DATE:

4/13/93

INTERPRETATION CONTACT: Manager, Nuclear Plant Operations

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## 1.0 PURPOSE

- 1.1 Establish a reference document for each Annunciator Window on the ICS-CY2 Lampbox.
- 1.2 Establish operator actions for valid Annunciator alarms on the ICS-CY2 Lampbox.
- 1.3 Establish a reference to other procedures which address operator actions for valid Annunciator alarms on the ICS-CY2 Lampbox.

## 2.0 REFERENCES

### 2.1 IMPLEMENTING REFERENCES

- 2.1.1 OP-301, Reactor Coolant System
- 2.1.2 OP-502, Control Rod Drive System
- 2.1.3 OP-503, Plant Computer
- 2.1.4 OP-507, Infrequent Operations of the ES and Reactor Protective Systems
- 2.1.5 AP-545, Plant Runback
- 2.1.6 AP-580, Reactor Trip
- 2.1.7 EP-140, Emergency Reactivity Control

### 2.2 DEVELOPMENTAL REFERENCES

- 2.2.1 INPO 90-021, Good Practice OP-217, Alarm Response Procedures
- 2.2.2 Annunciator Window Engraving Drawing E-224-048

## 3.0 PERSONNEL INDOCTRINATION

- 3.1 The Annunciator System is powered from VBDP-5 Breaker 28.

## 4.0 INSTRUCTIONS

- 4.1 Respond to alarms on the ICS-CY2 Lampbox as indicated on Enclosure 1, Annunciator Response.

5.0 FOLLOW-UP ACTIONS

None

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-01-01	J-01-01
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DSS  
CHANNEL  
TRIP

EVENT POINT 1306

INDICATED CONDITION:

- o DSS CHANNEL "A" TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o RCS PRESSURE >2450 PSIG AS SENSED BY RC-158-PT.
- o RED TRIP LIGHT ON DSS MODULE IN ATWS LOGIC CABINET IN C EFIC ROOM.

OPERATOR ACTIONS FOR A VALID ALARM:

- o REFER TO AP-580

DISCUSSION:

BOTH CHANNELS OF DSS ARE REQUIRED TO BE TRIPPED TO ACTUATE DSS.  
UPON DSS ACTUATION ROD GROUPS 5,6,7 AND ANY RODS ON THE AUX POWER SUPPLY  
WILL DROP INTO THE CORE.  
TO RESET THIS CONDITION THE RESET PUSHBUTTON MUST BE DEPRESSED.

REFERENCES: DRAWING 208-074 SHEET SP-01

SENSING ELEMENT:DSS K-1 RELAYS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-01-01	J-01-01
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DSS  
CHANNEL  
TRIP

## EVENT POINT 1318

### INDICATED CONDITION:

- o DSS CHANNEL "B" TRIPPED.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o RCS PRESSURE >2450 PSIG AS SENSED BY PC-159-PT.
- o RED TRIP LIGHT ON DSS MODULE IN ATWS LOGIC CABINET IN C EFIC ROOM.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o REFER TO AP-580

### DISCUSSION:

BOTH CHANNELS OF DSS ARE REQUIRED TO BE TRIPPED TO ACTUATE DSS.  
UPON DSS ACTUATION ROD GROUPS 5,6,7 AND ANY RODS ON THE AUX POWER SUPPLY  
WILL DROP INTO THE CORE.  
TO RESET THIS CONDITION THE RESET PUSHBUTTON MUST BE DEPRESSED.

### REFERENCES: DRAWING 208-074 SHEET SP-02

SENSING ELEMENT:DSS K-1 RELAYS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-01-02	J-01-02
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DSS  
CHANNEL  
IN TEST

## EVENT POINT 1201

### INDICATED CONDITION:

- o DSS SYSTEM "A" IN TEST

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o RED "TEST" LIGHT IS ON, LOCATED ON THE SYSTEM MONITORING CABINET.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY DSS SYSTEM "A" REQUIRED TO BE IN TEST.

### DISCUSSION:

DSS IS A TWO OUT OF TWO ACTUATION SYSTEM, WITH ONE DSS SYSTEM IN TEST THE DSS SYSTEM CANNOT ACTUATE.

REFERENCES: DRAWING 200 074 SHEET SP-01

SENSING ELEMENT: KA-1 RELAY

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-01-02	J-01-02
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DSS  
CHANNEL  
IN TEST

EVENT POINT 1234

INDICATED CONDITION:

- o DSS SYSTEM "B" IN TEST

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o RED "TEST" LIGHT IS ON, LOCATED ON THE SYSTEM MONITORING CABINET.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY DSS SYSTEM "B" REQUIRED TO BE IN TEST.

DISCUSSION:

DSS IS A TWO OUT OF TWO ACTUATION SYSTEM, WITH ONE DSS SYSTEM IN TEST THE DSS SYSTEM CANNOT ACTUATE.

REFERENCES: DRAWING 208-074 SHEET SP-02

SENSING ELEMENT:KB-1

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-01-03	J-01-03
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ATWS  
TROUBLE

## EVENT POINT 1505

### INDICATED CONDITION:

- o ATWS CHANNEL "A" POWER FAILURE.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o NO ALARM OR INDICATING LIGHTS ON ATWS CHANNEL A.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY ACDP-64 BREAKER 8 CLOSED.
- o NOTIFY I & C SHOP TO INVESTIGATE LOSS OF POWER.

### DISCUSSION:

ATWAS IS AN ENERGIZE TO ACTUATE SYSTEM, AND WILL NOT FUNCTION IN THIS CONDITION.

ATWAS IS COMPRISED OF TWO SUBSYSTEMS:

DSS - TRIPS ROD GROUPS 5, 6, AND 7 IF RCS PRESSURE EXCEEDS 2450 PSIG.

AMSAC- TRIPS THE TURBINE AND INITIATES EFIC IF: FEEDWATER FLOW IS <17% ON BOTH MAIN AND STARTUP FLOW TRANSMITTERS, AND REACTOR POWER IS >25% ON NI-15/14 ATWS (NI-15 ATWS CHANNEL A, NI-14 ATWS CHANNEL B).

### REFERENCES: DRAWING 208-074 SHEET SP-03

### SENSING ELEMENT: AT-008 FS (POWER SENSING RELAY)

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-01-03	J-01-03
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ATWS  
TROUBLE

## EVENT POINT 1506

### INDICATED CONDITION:

- o ATWS CHANNEL "B" POWER FAILURE.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o NO ALARM OR INDICATING LIGHTS ON ATWS CHANNEL B.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY ACDP-64 BREAKER 16 CLOSED.
- o NOTIFY I & C SHOP TO INVESTIGATE LOSS OF POWER.

### DISCUSSION:

ATWS IS AN ENERGIZE TO ACTUATE SYSTEM, AND WILL NOT FUNCTION IN THIS CONDITION.

ATWS IS COMPRISED OF TWO SUBSYSTEMS:

DSS - TRIPS ROD GROUPS 5, 6, AND 7 IF RCS PRESSURE EXCEEDS 2450 PSIG.

AMSAC- TRIPS THE TURBINE AND INITIATES EFIC IF: FEEDWATER FLOW IS <17% ON BOTH MAIN AND STARTUP FLOW TRANSMITTERS, AND REACTOR POWER IS >25% ON NI-15/14 ATWS (NI-15 ATWS CHANNEL A, NI-14 ATWS CHANNEL B).

### REFERENCES: DRAWING 208-074 SHEET SP-03

### SENSING ELEMENT: AT-008 FS (POWER SENSING RELAY)

ICS-J ANNUNCIATOR RESPONSE								ICS-CY2-01-03	J-01-03																																																																
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## EVENT POINT 1507

<p>INDICATED CONDITION:</p> <ul style="list-style-type: none"> <li>o ATWS POWER ON BATTERY BACKUP.</li> </ul>
<p>REDUNDANT INDICATION WHICH WILL VERIFY ALARM:</p>
<p>OPERATOR ACTIONS FOR A VALID ALARM:</p> <ul style="list-style-type: none"> <li>o VERIFY ACDP-64 BREAKER 16 AND 8 CLOSED.</li> <li>o NOTIFY I &amp; C SHOP TO INVESTIGATE LOSS OF POWER.</li> </ul>
<p>DISCUSSION:</p> <p>ATWS BATTERY PROVIDES 55 MINUTES OF POWER TO THE CABINET, AND IS LOCATED IN THE "B" EFIC ROOM ATWS CABINET.</p> <p>ATWS IS AN ENERGIZE TO ACTUATE SYSTEM, AND WILL NOT FUNCTION WHEN THE BATTERY HAS COMPLETELY DISCHARGED.</p> <p>ATWS IS COMPRISED OF TWO SUBSYSTEMS:</p> <p>DSS - TRIPS ROD GROUPS 5, 6, AND 7 IF RCS PRESSURE EXCEEDS 2450 PSIG.</p> <p>AMSAC- TRIPS THE TURBINE AND INITIATES EFIC IF: FEEDWATER FLOW IS &lt;17% ON BOTH MAIN AND STARTUP FLOW TRANSMITTERS, AND REACTOR POWER IS &gt;25% ON NI-15/14 ATWS (NI-15 ATWS CHANNEL A, NI-14 ATWS CHANNEL B).</p>
<p>REFERENCES: DRAWING 208-074 SHEET SP-03</p>
<p>SENSING ELEMENT: AT-008 FS (POWER SENSING RELAY)</p>

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-01-05	J-01-05
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CORE POWER  
DISTRIBUTION  
TROUBLE

EVENT POINT 1986

INDICATED CONDITION:

- o QUADRANT POWER TILT >3.329%
- o QUADRANT POWER TILT >8%
- o CONTROL ROD GROUP POSITION VIOLATES ROD INDEX LIMITS.
- o POWER IMBALANCE EXCEEDS LIMITS.
- o REACTOR POWER >102% RTP.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o POWER DISTRIBUTION INDICATIONS.

OPERATOR ACTIONS FOR A VALID ALARM:

- o REFER TO CORE OPERATING LIMITS REPORT, COLR.
- o REFER TO STS FOR OPERATIONAL ACTIONS REQUIRED.
- o CONTACT THE REACTOR ENGINEER.

DISCUSSION:

THIS ALARM INDICATES THE PLANT COMPUTER SENSES CORE CONDITIONS OUTSIDE NORMAL BOUNDARIES.

REFERENCES:

SENSING ELEMENT: COMPUTER POINTS M-142, M-143, M-144, M-145, M-146

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-02-01	J-02-01
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RCS  
PRESS  
LOW-LOW

## EVENT POINT 1363

### INDICATED CONDITION:

- o RCS LOOP "A" PRESSURE <1550 PSIG AS SENSED BY RC-3A-PS2.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o RCS WIDE RANGE PRESSURE INDICATORS AND RECORDERS.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o INVESTIGATE CAUSE OF PRESSURE DECREASE.
- o CONTROL RCS PRESSURE USING MAKE/UP, LETDOWN, AND PRESSURIZER HEATERS.

### DISCUSSION:

THIS ALARM INDICATES ES ACTUATION IS ABOUT TO OCCUR IF NOT BYPASSED.

REFERENCES: DRAWING 208-047 SHEET RC-027

SENSING ELEMENT: RC-3A-PS2

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-02-02	J-02-02
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ROD HOLD  
STARTUP RATE  
HIGH

EVENT POINT 0961

INDICATED CONDITION:

- o HIGH STARTUP RATE OF >2 DPM ON NI-1 OR NI-2, OR >3 DPM ON NI-3 OR NI-4.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o HIGH SUR ON STARTUP RATE INDICATORS NI-1-DNI, NI-2-DNI, NI-3-DNI, NI-4-DNI

OPERATOR ACTIONS FOR A VALID ALARM:

- o INSERT CONTROL RODS TO REDUCE STARTUP RATE.
- o VERIFY NO POSITIVE REACTIVITY ADDITIONS IN PROGRESS.
- o REFER TO EP-140.

DISCUSSION:

THIS ALARM INDICATES THE CONTROL ROD WITHDRAWAL HAS BEEN INHIBITED.  
THIS ALARM WILL CLEAR WHEN STARTUP RATE DROPS TO 1 DPM.

WHEN THE SOURCE RANGE REENERGIZES FOLLOWING A REDUCTION IN POWER TO THE  
SOURCE RANGE THE VOLTAGE SPIKE OF NI-1 AND NI-2 WILL FLASH THIS ALARM.

REFERENCES: CONTROL ROD DRIVE LOGIC DRAWINGS

SENSING ELEMENT: CONTROL ROD DRIVE RELAYS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-02-03	J-02-03
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CRD  
OUT  
INHIBIT

## EVENT POINT 1235

### INDICATED CONDITION:

#### ANY ONE OF THE FOLLOWING:

- SOURCE RANGE STARTUP RATE  $>2$  DPM
- INTERMEDIATE RANGE STARTUP RATE  $>3$  DPM
- ICS IN AUTO WITH RX PWR  $>60\%$  AND EITHER:  
SAFETY RODS NOT ON THE OUT LIMIT OR AN ASYMMETRIC ROD PATTERN EXISTS

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o OUT INHIBIT AMBER INDICATION ON DIAMOND CONTROL PANEL.
- o ROD POSITION INDICATION ON DIAMOND CONTROL PANEL.
- o STARTUP RATE INDICATION.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o IF AN ASYMMETRIC CONDITION EXISTS REFER TO AP-545.
- o STOP POSITIVE REACTIVITY ADDITIONS AND REFER TO EP-140.

### DISCUSSION:

OUT MOTION OF THE CONTROL RODS IS INHIBITED IN AUTO OR MANUAL UNTIL THIS CONDITION IS CLEARED.

REFERENCES: CONTROL ROD DRIVE DRAWINGS.

SENSING ELEMENT: CONTROL ROD DRIVE INHIBIT RELAYS.

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-02-04	J-02-04
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CRD  
ASYMMETRIC  
FAULT

EVENT POINT 1242

INDICATED CONDITION:

- o ONE OR MORE CONTROL RODS >9" MISALIGNED FROM ITS RESPECTIVE GROUP AVERAGE.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o ASYMMETRIC ROD INDICATION ON DIAMOND CONTROL PANEL.
- o >6.5% INDEX DIFFERENCE BETWEEN ONE OR MORE CONTROL RODS ON THE DIAMOND INDICATOR PANEL.

OPERATOR ACTIONS FOR A VALID ALARM:

- o REFER TO AP-545.
- o REFER TO OP-502 FOR RECOVERY OF MISALIGNED CONTROL RODS.

DISCUSSION:

ADDRESS STS REQUIREMENTS CONCERNING THIS CONDITION.

CONTROL ROD HEIGHT OF 9" IS EQUIVALENT TO 6.5% INDEX

REFERENCES: CONTROL ROD DRIVE DRAWINGS

SENSING ELEMENT: CONTROL ROD DRIVE ALARM RELAYS.

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-02-05	J-02-05
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[illegible]

CRD  
POWER  
FAULT

EVENT POINT 1236

INDICATED CONDITION:

- o LOSS OF + OR - 24V LOGIC POWER SUPPLIES A/B.
- o LOSS OF + OR - 24V SYSTEM POWER SUPPLIES A/B.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o LOSS OF POWER SUPPLY LIGHT ON DIAMOND CONTROL PANEL.
- o LOCAL 24V POWER SUPPLY INDICATION IN THE CRD ROOM.

OPERATOR ACTIONS FOR A VALID ALARM:

- o NOTIFY ELECTRIC SHOP CONCERNING THIS CONDITION.

DISCUSSION:

THE LOSS OF A SINGLE 24V POWER WILL NOT EFFECT CRD OPERATION.

REFERENCES: CONTROL ROD DRIVE SYSTEM DRAWINGS

SENSING ELEMENT: CONTROL ROD DRIVE SYSTEM ALARM RELAY

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-02-06	J-02-06
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[illegible]

CRD AC DC BKR  
SHUNT TRIP  
LOSS OF PWR

EVENT POINT 0790

INDICATED CONDITION:

- o CRD SHUNT TRIP LOSS OF DC POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o WHITE POWER INDICATING LIGHT IS OFF, LOCATED ON THE SHUNT TRIP PANEL.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY DPDP-5B SWITCH 30 CLOSED.
- o VERIFY DPDP-5A SWITCH 8 CLOSED.

### DISCUSSION:

SHUNT TRIP IS AN ENERGIZE TO ACTUATE CIRCUIT.  
THIS CONDITION WILL NOT ALLOW THE SHUNT TRIP DEVICES TO FUNCTION.

REFERENCES: DRAWING 208-024 SHEET DR-03

SENSING ELEMENT: KSTP-1

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-03-01	J-03-01
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RCS  
PRESS  
HIGH

## EVENT POINT 1362

### INDICATED CONDITION:

- o LOOP "A" RCS PRESSURE >2255 PSIG AS SENSED BY RC-3A-PS1.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o RCS PRESSURE INDICATORS AND RECORDERS.
- o PRESSURIZER SPRAY VALVE, RCV-14, IN AUTO WILL STROKE TO 40% OPEN.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY PRESSURIZER HEATERS OFF.
- o REFER TO OP-301 FOR RCS HIGH PRESSURE GUIDANCE

### DISCUSSION:

PRESSURIZER SPRAY VALVE OPENS AT 2205 PSIG AND CLOSES AT 2155 PSIG.  
PORV OPENS AT 2450 PSIG AND CLOSES AT 2380 PSIG.  
REACTOR TRIP ON HIGH RCS PRESSURE AT 2355 PSIG.

REFERENCE: DRAWING 208-047 SHEET RC-027

SENSING ELEMENT: RC-3A-PS1

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-03-01	J-03-01
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RCS  
PRESS  
HIGH

## EVENT POINT 1364

### INDICATED CONDITION:

- o LOOP "B" RCS PRESSURE >2255 PSIG AS SENSED BY RC-3B-PS.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o RCS PRESSURE INDICATORS AND RECORDERS.
- o PRESSURIZER SPRAY VALVE, RCV-14, IN AUTO WILL STROKE TO 40% OPEN.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY PRESSURIZER HEATERS OFF.
- o REFER TO OP-301 FOR RCS HIGH PRESSURE GUIDANCE.

### DISCUSSION:

PRESSURIZER SPRAY VALVE OPENS AT 2205 PSIG AND CLOSSES AT 2155 PSIG.  
PORV OPENS AT 2450 PSIG AND CLOSSES AT 2380 PSIG.  
REACTOR TRIP ON HIGH RCS PRESSURE AT 2355 PSIG.

REFERENCES: DRAWING 208-047 SHEET RC-027

SENSING ELEMENT: RC-3B-PS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-03-02	J-03-02
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RCS  
T<sub>h</sub> TEMP  
HIGH

## EVENT POINT 1369

### INDICATED CONDITION:

- o RCS OUTLET TEMPERATURE >605°F AS SENSED BY RC-4-TS.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o RC T<sub>h</sub> INDICATORS AND RECORDERS.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o REDUCE T<sub>ave</sub> TO NORMAL VALUE.
- o REDUCE REACTOR POWER AS REQUIRED.

### DISCUSSION:

REACTOR WILL TRIP WHEN T<sub>hot</sub> REACHES 618° F.  
ADDRESS STS REQUIREMENTS CONCERNING THIS CONDITION, (DNB PARAMETERS)

REFERENCES: DRAWING 208-047 SHEET RC-027

SENSING ELEMENT: RC-4-TS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-03-03	J-03-03
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RCS  
FLOW  
LOW

## EVENT POINT 1366

### INDICATED CONDITION:

- o RCS LOOP "A" FLOW <95% FULL FLOW AS SENSED BY RC-14A-FS.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o RC FLOW INDICATORS AND RECORDERS.
- o RC PUMP AMPS NOT NORMAL.
- o RC PUMP TRIP.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o IF RC PUMP TRIPS REFER TO AP-545.
- o IF Tave TRANSFERS STABILIZE RCS PRESSURE.

### DISCUSSION:

Tave WILL TRANSFER FROM THE LOOP WITH LOW FLOW AND WILL NOT TRANSFER BACK TO THAT LOOP.

REFERENCES: DRAWING 208-047 SHEET RC-027

SENSING ELEMENT: RC-14A-FS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-03-03	J-03-03
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RCS  
FLOW  
LOW

### EVENT POINT 1367

#### INDICATED CONDITION:

- o RCS LOOP "B" FLOW <95% FULL FLOW AS SENSED BY RC-14B-FS.

#### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o RC FLOW INDICATORS AND RECORDERS.
- o RC PUMP AMPS NOT NORMAL.
- o RC PUMP TRIP.

#### OPERATOR ACTIONS FOR A VALID ALARM:

- o IF RC PUMP TRIPS REFER TO AP-545.
- o IF Tave TRANSFERS STABILIZE RCS PRESSURE.

#### DISCUSSION:

Tave WILL TRANSFER FROM THE LOOP WITH LOW FLOW AND WILL NOT TRANSFER BACK TO THAT LOOP.

REFERENCES: DRAWING 208-047 SHEET RC-027

SENSING ELEMENT: RC-14B-FS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-03-03	J-03-03
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[illegible]

RCS  
FLOW  
LOW

EVENT POINT 1368

INDICATED CONDITION:

- o RCS TOTAL FLOW <95% FULL FLOW AS SENSED BY RC-13-FS.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o RC FLOW INDICATORS AND RECORDERS.
- o RC PUMP AMPS NOT NORMAL.
- o RC PUMP TRIP.

OPERATOR ACTIONS FOR A VALID ALARM:

- o IF RC PUMP TRIPS REFER TO AP-545.
- o IF Tave TRANSFERS STABILIZE RCS PRESSURE.

DISCUSSION:

TAVE WILL TRANSFER FROM THE LOOP WITH LOW FLOW AND WILL NOT TRANSFER BACK TO THAT LOOP.

REFERENCES: DRAWING 208-047 CUFFT RC-027

SENSING ELEMENT: RC-13-FS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-03-05	J-03-05
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CRD  
CONTROL  
FAULT

EVENT POINT 1237

INDICATED CONDITION:

- o CRD VOLTAGE REGULATOR A/B OVERTEMP.
- o ROD DRIVE MOTOR SUPPLIES BLOWER FAILURE.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o MOTOR SUPPLIES FAULT LIGHT IS ON, LOCATED ON THE DIAMOND ROD CONTROL PANEL.

OPERATOR ACTIONS FOR A VALID ALARM:

- o NOTIFY ELECTRIC SHOP.

DISCUSSION:

THE VOLTAGE REGULATOR AND MOTOR COOLING FANS ARE LOCATED IN THE CRD ROOM.

THIS ALARM WILL ALSO BE RECEIVED WHENEVER A OR B CRD BREAKER IS OPEN. THIS CONDITION DE-ENERGIZES THE ALARM LOGIC WHICH WILL ACTUATE THE ALARM.

REFERENCES: CONTROL ROD DRIVE DRAWINGS

SENSING ELEMENT: CONTROL ROD DRIVE SYSTEM ALARM RELAYS.

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-04-01	J-04-01
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REACTOR  
TRIP

## EVENT POINT 1244

### INDICATED CONDITION:

- o TRIP CONFIRM LOGIC (HOURGLASS) HAS BEEN SATISFIED VERIFYING THAT ROD AC AND DC BREAKERS ARE OPEN AND ALL RODS WILL BE DEENERGIZED.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o ABSOLUTE ROD POSITION INDICATE CONTROL ROD GROUPS 1,2,3,4,5,6, AND 7 ARE FULLY INSERTED.
- o LOCAL CRD BREAKER STATUS.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o REFER TO AP-580.

### DISCUSSION:

TRIP CONFIRM WILL ACTIVATE THE REACTOR TRIP LOCKOUT.

REFERENCES: CONTROL ROD DRIVE DRAWINGS

SENSING ELEMENT: K-5 CONTROL ROD DRIVE RELAYS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-04-02	J-04-02
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RCS  
PRESS  
LOW

## EVENT POINT 1361

### INDICATED CONDITION:

- o LOOP "A" RCS PRESSURE <2055 PSIG AS SENSED BY RC-3A-PY1-5,

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o RCS PRESSURE INDICATORS AND RECORDERS.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o ENSURE ALL PRESSURIZER HEATERS ON.
- o MANUALLY CLOSE PRESSURIZER SPRAY VALVE, RCV-14.
- o CLOSE SPRAY BLOCK VALVE, RCV-13.
- o CLOSE PORV BLOCK VALVE, RCV-11.
- o REFER TO OP-301 FOR RCS LOW PRESSURE GUIDELINES.

### DISCUSSION:

LOW PRESSURIZER TEMPERATURES CAN LEAD TO LOW RCS PRESSURE CONDITIONS, LARGE PRESSURIZER INSURGES SHOULD BE AVOIDED.

### REFERENCES: DRAWING 208-047 SHEET RC 007

### SENSING ELEMENT: RC-3A-PY1-5

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-04-02	J-04-02
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RCS  
PRESS  
LOW

## EVENT POINT 1365

### INDICATED CONDITION:

- o LOOP "B" RCS PRESSURE <2055 PSIG AS SENSED BY RC-3B-PY1-5,

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o RCS PRESSURE INDICATORS AND RECORDERS.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o ENSURE ALL PRESSURIZER HEATERS ON.
- o MANUALLY CLOSE PRESSURIZER SPRAY VALVE, RCV-14.
- o CLOSE SPRAY BLOCK VALVE, RCV-13.
- o CLOSE PORV BLOCK VALVE, RCV-11.
- o REFER TO OP-301 FOR RCS LOW PRESSURE GUIDELINES.

### DISCUSSION:

LOW PRESSURIZER TEMPERATURES CAN LEAD TO LOW RCS PRESSURE CONDITIONS, LARGE PRESSURIZER INSURGES SHOULD BE AVOIDED.

REFERENCES: DRAWING 208-047 SHEET RC-027

SENSING ELEMENT: RC-3B-PY1-5

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-04-05	J-04-05
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OPERATOR SEL  
COMPUTER  
ALARM

## EVENT POINT 0810

### INDICATED CONDITION:

- o OPERATOR SELECTED COMPUTER MONITORED PARAMETER IS IN ALARM.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o OBSERVATION OF COMPUTER POINT MONITORED USING FUNCTION 23 SELECTION 01 ON THE OPERATORS COMPUTER CONSOLE.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o CORRECT ALARM CONDITION.
- o REFER TO OP-503

### DISCUSSION:

THE OPERATOR SELECTED ALARM FUNCTION IS ACCOMPLISHED BY USING FUNCTION 23 ON THE OPERATORS COMPUTER CONSOLE. THIS FUNCTION ALLOWS MONITORING OF UP SEVERAL DIFFERENT COMPUTER POINTS SIMULTANEOUSLY. WHILE OBSERVING THESE POINTS THE CURRENT VALUES MAY BE UPDATED BY PRESSING THE ENTER KEY ON THE CONSOLE.

### REFERENCES:

SENSING ELEMENT: VARIOUS COMPUTER POINTS.

J-04-06

EVENT POINT 1914

SENSING ELEMENT: COMPUTER ALARMS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-05-01	J-05-01
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RPS  
CHANNEL A  
TRIP

## EVENT POINT 0963

### INDICATED CONDITION:

- o RPS PROTECTIVE SUBSYSTEM No.1 AMBER LIGHT IS BRIGHT ON TOP OF ALL RPS CABINETS.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o RPS TRIP BISTABLE SETPOINT EXCEEDED.
- o RPS MODULE SWITCH NOT IN "OPERATE".
- o RPS MODULE REMOVED.
- o LOSS OF POWER TO RPS CHANNEL "A".

### OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF CHANNEL TRIP AND RESTORE AS REQUIRED.

### DISCUSSION:

EXCEEDING THE SETPOINT FOR THE FOLLOWING MODULES WILL TRIP THE CHANNEL:

NUCLEAR OVERPOWER	HIGH RB PRESS.	HIGH Thot	HIGH RCS PRESS.
LOW RCS PRESS	PWR/IMB/FLOW	PRESS/TEMP	LOSS OF RC PUMPS

PLACING THE FOLLOWING MODULES OUT OF "OPERATE" WILL TRIP THE CHANNEL:

POWER RANGE TEST	CONTACT MONITOR TEST	TEMPERATURE TEST
FLOW CHANNEL TEST	RB HIGH PRESS TEST	PRESSURE TEST

REMOVING ANY OF THE FOLLOWING MODULES WILL TRIP THE CHANNEL:

CONTACT MONITOR	PWR/PUMPS BS	CONT MON AUX BS	LOOP A SQ RT EXT
PWR/IMB/FLOW BS	RB HI PRESS	TOT FLOW BUFFER	LOOP B SQ RT EXT
PWR ENG TEST CKT	LIN AMP TOP ION CH	PWR ENG DET P.S.	SUMMING AMP
FUNCTION GEN	LIN AMP BOT ION CH	LOW PRESS BS	880 SIG CONVERT
OVERPOWER BS	PRESS/TEMP BS	DELTA FLUX	PRESS BUFFER AMP
HI TEMP BS	HI PRESS BS	LINEAR BRIDGE	SHUTDOWN BYP BS
	KEY SWITCH MOD	S/D BYP AUX RELAY	

REFERENCES: RPS AND NNI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-05-02	J-05-02
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RPS CHANNEL A  
S/D BYPASS  
ACTUATED

## EVENT POINT 0964

### INDICATED CONDITION:

- o RPS CHANNEL "A" IN SHUTDOWN BYPASS.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o SHUTDOWN BYPASS KEY SWITCH POSITIONED TO BYPASS.
- o SHUTDOWN BYPASS INDICATOR LIGHT IS BRIGHT.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o ENSURE PLANT CONDITIONS ARE SUCH THAT SHUTDOWN BYPASS MODE IS REQUIRED.

### DISCUSSION:

WITH RPS CHANNEL IN SHUTDOWN BYPASS THE FOLLOWING TRIPS ARE BYPASSED:

PUMP POWER MONITOR      LOW RCS PRESSURE      VARIABLE LOW PRESSURE  
POWER IMBALANCE FLOW

EFIC ACTUATION ON LOSS OF BOTH MAIN FEED PUMPS IS BYPASSED WITH THE RPS IN SHUTDOWN BYPASS.

REFER TO STS FOR ADMINISTRATIVE REQUIREMENTS.

REFERENCES: RPS AND NNI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-05-03	J-05-03
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RPS  
CHANNEL A  
BYPASSED

EVENT POINT 0965

INDICATED CONDITION:

- o RPS CHANNEL "A" IN BYPASS.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o KEY BYPASS SWITCH IN RPS CABINET IN BYPASS.
- o RED MANUAL BY-PASS LIGHT IS BRIGHT, LOCATED ON OUTSIDE OF RPS CABINET.
- o RED CHANNEL BYPASS LIGHT IS BRIGHT, LOCATED ON CHANNEL BYPASS MODULE.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY RPS CHANNEL IS REQUIRED TO BE BYPASSED.

DISCUSSION:

PLACING THIS CHANNEL IN BYPASS REMOVES IT'S INPUT TO THE REACTOR TRIP CIRCUIT, AND THEREFORE PLACES RPS IN A TWO OUT OF THREE LOGIC TO TRIP THE REACTOR. THIS RESULTS IN LESS RELIABILITY.

PLACING A RPS CHANNEL IN BYPASS IS INTERLOCKED WITH IT'S ASSOCIATED EFIC CHANNEL. IF ANOTHER EFIC CHANNEL IS IN A BYPASS CONDITION IT WILL AUTOMATICALLY BE REMOVED FROM BYPASSED REGARDLESS OF THE POSITION OF IT'S BYPASS KEY SWITCH.

REFERENCES: RPS AND NNI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS.

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-05-04	J-05-04
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RPS  
CHANNEL A  
TROUBLE

EVENT POINT 0966

INDICATED CONDITION:

- o NI-1 OR NI-5 DETECTOR POWER SUPPLY FAULT.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o VOLTAGE INDICATION ON POWER SUPPLIES IN RPS CABINET.
- o NUCLEAR INSTRUMENTS.

OPERATOR ACTIONS FOR A VALID ALARM:

- o NOTIFY I&C SHOP

DISCUSSION:

NI-1 POWER SUPPLY IS OFF WHEN >10% REACTOR POWER.

ADDRESS STS REQUIREMENTS CONCERNING THIS CONDITION.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-05-04	J-05-04
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RPS  
CHANNEL A  
TROUBLE

## EVENT POINT 0967

### INDICATED CONDITION:

- o POSITIVE OR NEGATIVE 15V POWER SUPPLIES FAULT.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o VOLTAGE INDICATION ON POWER SUPPLIES.
- o RED INDICATING LIGHT IS OFF, LOCATED ON POWER SUPPLY IN RPS CABINET.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY CABINET INPUT BREAKER CLOSED LOCATED IN TOP OF CABINET.
- o VERIFY POWER AVAILABLE FROM VBDP-3 BKR 17.
- o RESTORE POWER PER OP-507.
- o NOTIFY I&C SHOP.

### DISCUSSION:

A LOSS OF POWER FROM THE VBDP WILL TOTALLY DEENERGIZE THE RPS CABINET. THIS WILL CAUSE THE RPS CHANNEL TO TRIP AND THE LOSS OF INDICATION AND CONTROL FROM ANY NUCLEAR INSTRUMENT LOCATED IN THAT CABINET.

ADDRESS STS REQUIREMENTS CONCERNING THIS CONDITION.

### REFERENCES: RPS AND NI DRAWINGS

### SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-1 ANNUNCIATOR RESPONSE	ICS-CY2-05-04	J-05-04
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RPS  
CHANNEL A  
TROUBLE

EVENT POINT 0968

INDICATED CONDITION:

- o RPS CABINET "A" FAN FAILURE.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o "A" OR "B" CABINET COOLING FANS NOT RUNNING.
- o AMBER INDICATING LIGHT IS BRIGHT ON OUTSIDE OF RPS CABINET.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY FAN INPUT BREAKER CLOSED LOCATED INSIDE OF CABINET.
- o NOTIFY I&C SHOP.

DISCUSSION:

CONSIDERATION SHOULD BE GIVEN TO OPENING FRONT AND BACK RPS CABINET DOORS TO ALLOW THE CABINET TO STAY COOL DURING TIMES WHEN NO FANS ARE RUNNING. HOWEVER, WITH THE REDUCED SHIELDING OF THE OPEN DOOR, RADIO FREQUENCY INTERFERENCE CAN POTENTIALLY CAUSE UNDESIRABLE AND UNPREDICTABLE EFFECTS ON THE SYSTEM OPERATION.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-05-04	J-05-04
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[illegible]

RPS  
CHANNEL A  
TROUBLE

EVENT POINT 0969

INDICATED CONDITION:

- 0 RPS CABINET "A" HIGH FLUX BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR POWER EXCEEDS THE SETPOINT OF THE HIGH FLUX BISTABLE AS INDICATED ON NI-5 TOTAL FLUX.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.1 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "A" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

TRIP SETPOINTS ARE SPECIFIED BY STS BASED ON RCP COMBINATION, AND OTHER CONDITIONS WHERE MORE RESTRICTIVE LIMITS APPLY.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-05-04	J-05-04
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[illegible]

RPS  
CHANNEL A  
TROUBLE

EVENT POINT 0970

INDICATED CONDITION:

- 0 RPS CABINET "A" FLUX/FLOW/IMBALANCE BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o FLUX/FLOW/IMBALANCE IS OUTSIDE THE LIMITS OF THE GENERATED BARN CURVE.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.1 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "A" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

TRIP SETPOINTS ARE SPECIFIED BY STS BASED ON RCP COMBINATION AND OTHER CONDITIONS WHERE MORE RESTRICTIVE LIMITS APPLY.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-05-04	J-05-04
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[illegible]

RPS  
CHANNEL A  
TROUBLE

EVENT POINT 0971

INDICATED CONDITION:

- 0 RPS CABINET "A" PUMP POWER BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o TWO OR MORE REACTOR COOLANT PUMPS INDICATE <1152 KW OR >14,400 KW FROM THE REACTOR COOLANT PUMP POWER MONITOR.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o TWO OR MORE WHITE PUMP POWER MONITOR INDICATOR LIGHTS ARE BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.1 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "A" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS PDS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-05-04	J-05-04
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RPS  
CHANNEL A  
TROUBLE

EVENT POINT 0972

INDICATED CONDITION:

- o RPS CABINET "A" REACTOR COOLANT HIGH PRESSURE BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR COOLANT PRESSURE IS >2355 PSIG.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.1 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "A" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.  
IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-05-04	J-05-04
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RPS  
CHANNEL A  
TROUBLE

EVENT POINT 0973

INDICATED CONDITION:

- o RPS CABINET "A" REACTOR COOLANT LOW PRESSURE BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR COOLANT PRESSURE IS <1800 PSIG.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.1 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "A" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.  
IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-05-04	J-05-04
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RPS  
CHANNEL A  
TROUBLE

## EVENT POINT 0974

### INDICATED CONDITION:

- o RPS CABINET "A" REACTOR COOLANT VARIABLE LOW PRESSURE BISTABLE HAS TRIPPED.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR COOLANT PRESSURE IS  $< (11.59 \times \text{Thot} - 5037.8)$  PSIG.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.1 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "A" RPS IS TRIPPED.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

### DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.  
IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

### REFERENCES: RPS AND NI DRAWINGS

### SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-05-04	J-05-04
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A 6x6 grid with a black square in the center. The grid is composed of 6 columns and 6 rows. The black square is located in the 4th column and the 4th row, making it the central square of the grid.

RPS  
CHANNEL A  
TROUBLE

EVENT POINT 0975

INDICATED CONDITION:

- 0 RPS CABINET "A" REACTOR COOLANT HIGH TEMPERATURE BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR COOLANT HOT IS >618° F.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.1 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "A" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

J-05-04

# RPS CHANNEL A TROUBLE

EVENT POINT 0976

INDICATED CONDITION:

- o RPS CABINET "A" REACTOR BUILDING HIGH PRESSURE 4 PSIG BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR BUILDING PRESSURE IS >4 PSIG.
- o RED BISTABLE TRIP LIGHT IS ON.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.1 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "A" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-05-06	J-05-06
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CRD  
BREAKER  
OPEN

EVENT POINT 1240

INDICATED CONDITION:

- o CONTROL ROD DRIVE 480V FEEDER BREAKER RX AUX BUS 3A UNIT 2D IS OPEN.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o LOCAL BREAKER INDICATION IN THE UNIT 480V SWITCHGEAR ROOM.

OPERATOR ACTIONS FOR A VALID ALARM:

- o INVESTIGATE CAUSE OF BREAKER OPENING.

DISCUSSION:

WITH THIS BREAKER OPEN NO "A" SIDE CRD BREAKERS WILL CLOSE.

REFERENCES: DRAWING 208-024 SHEET DR-01

SENSING ELEMENT: BREAKER CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-05-06	J-05-06
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[illegible]

CRD  
BREAKER  
OPEN

EVENT POINT 1241

INDICATED CONDITION:

- 0 CONTROL ROD DRIVE 480V FEEDER BREAKER PLANT AUX BUS UNIT 3B IS OPEN.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o LOCAL BREAKER INDICATION IN THE UNIT 480V SWITCHGEAR ROOM.

OPERATOR ACTIONS FOR A VALID ALARM:

- o INVESTIGATE CAUSE OF BREAKER OPENING.

DISCUSSION:

WITH THIS BREAKER OPEN NO "B" SIDE CRD BREAKERS WILL CLOSE.

REFERENCES: DRAWING 200 024 SHEET DR-02

SENSING ELEMENT: BROKEN CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-05-06	J-05-06
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[illegible]

CRD  
BREAKER  
OPEN

EVENT POINT 1982

INDICATED CONDITION:

- o "A" CONTROL ROD DRIVE BREAKER IS OPEN.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o LOCAL BREAKER INDICATION IN THE CRD ROOM.
- o RED BREAKER OPEN INDICATION ON OUTSIDE OF "A" RPS CABINET IS BRIGHT.
- o RED BREAKER OPEN INDICATION ON REACTOR TRIP MODULE INSIDE "A" RPS CABINET IS BRIGHT.

OPERATOR ACTIONS FOR A VALID ALARM:

- o INVESTIGATE CAUSE FOR OPEN BREAKER.
- o CLOSE BREAKER LOCALLY.

DISCUSSION:

PRESSING "TRIP RESET" ON THE DIAMOND CONTROL PANEL WILL CLOSE THE BREAKER AS LONG AS SAFETY RODS ARE NOT WITHDRAWN.

REFERENCES: CRD DRAWINGS

SENSING ELEMENT: BREAKER CONTACTS

J-05-06

CRD  
BREAKER  
OPEN

## EVENT POINT 1983

INDICATED CONDITION:

- o "B" CONTROL ROD DRIVE BREAKER IS OPEN.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o LOCAL BREAKER INDICATION IN THE CRD ROOM.
- o RED BREAKER OPEN INDICATION ON OUTSIDE OF "B" RPS CABINET IS BRIGHT.
- o RED BREAKER OPEN INDICATION ON REACTOR TRIP MODULE INSIDE "B" RPS CABINET IS BRIGHT.

OPERATOR ACTIONS FOR A VALID ALARM:

- o INVESTIGATE CAUSE FOR OPEN BREAKER.
- o CLOSE BREAKER LOCALLY.

DISCUSSION:

PRESSING "TRIP RESET" ON THE DIAMOND CONTROL PANEL WILL CLOSE THE BREAKER AS LONG AS SAFETY RODS ARE NOT WITHDRAWN.

REFERENCES: CRD DRAWINGS

SENSING ELEMENT: BREAKER CONTACTS

ICS-J ANNUNCIATOR RESPONSE

ICS-CY2-05-06

J-05-06

[illegible]

CRD  
BREAKER  
OPEN

EVENT POINT 1984

INDICATED CONDITION:

- o EITHER "C" CONTROL ROD DRIVE BREAKER IS OPEN.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o LOCAL BREAKER INDICATION IN THE CRD ROOM.
- o RED BREAKER OPEN INDICATION ON OUTSIDE OF "C" RPS CABINET IS BRIGHT.
- o RED BREAKER OPEN INDICATION ON REACTOR TRIP MODULE INSIDE "C" RPS CABINET IS BRIGHT.

OPERATOR ACTIONS FOR A VALID ALARM:

- o INVESTIGATE CAUSE FOR OPEN BREAKER.
- o CLOSE BREAKER LOCALLY.

DISCUSSION:

PRESSING "TRIP RESET" ON THE DIAMOND CONTROL PANEL WILL CLOSE THE BREAKER AS LONG AS SAFETY RODS ARE NOT WITHDRAWN. THE RED BREAKER OPEN INDICATION ABOVE THE RPS CABINET INDICATES THAT BOTH DC BREAKERS AND ALL ELECTRONIC TRIP DEVICES ARE OPEN. PRESSING FAULT RESET ON THE DIAMOND CONTROL PANEL WILL RESET THE ELECTRONIC TRIPS AND CAUSE THE RED LIGHT TO GO DIM.

REFERENCES: CRD DRAWINGS

SENSING ELEMENT: BREAKER CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-05-06	J-05-06
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[illegible]

CRD  
BREAKER  
OPEN

EVENT POINT 1985

INDICATED CONDITION:

- o EITHER "D" CONTROL ROD DRIVE BREAKER IS OPEN.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o LOCAL BREAKER INDICATION IN THE CRJ ROOM.
- o RED BREAKER OPEN INDICATION ON OUTSIDE "D" RPS CABINET IS BRIGHT.
- o RED BREAKER OPEN INDICATION ON REACTOR TRIP MODULE INSIDE "D" RPS CABINET IS BRIGHT.

OPERATOR ACTIONS FOR A VALID ALARM:

- o INVESTIGATE CAUSE FOR OPEN BREAKER.
- o CLOSE BREAKER LOCALLY.

### DISCUSSION:

PRESSING "TRIP RESET" ON THE DIAMOND CONTROL PANEL WILL CLOSE THE BREAKER AS LONG AS SAFETY RODS ARE NOT WITHDRAWN. THE RED BREAKER OPEN INDICATION ABOVE THE RPS CABINET INDICATES THAT BOTH DC BREAKERS AND ALL ELECTRONIC TRIP DEVICES ARE OPEN. PRESSING FAULT RESET ON THE DIAMOND CONTROL PANEL WILL RESET THE ELECTRONIC TRIPS AND CAUSE THE RED LIGHT TO GO DIM.

REFERENCES: CRD DRAWINGS

SENSING ELEMENT: BREAKER CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-06-01	J-06-01
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RPS  
CHANNEL B  
TRIP

EVENT POINT 0977

INDICATED CONDITION:

- o RPS PROTECTIVE SUBSYSTEM #2 AMBER LIGHT IS BRIGHT ON TOP OF ALL RPS CABINETS.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o RPS TRIP BISTABLE SETPOINT EXCEEDED.
- o RPS MODULE SWITCH NOT IN "OPERATE".
- o RPS MODULE REMOVED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF CHANNEL TRIP AND RESTORE AS REQUIRED.

DISCUSSION:

EXCEEDING THE SETPOINT FOR THE FOLLOWING MODULES WILL TRIP THE CHANNEL:

NUCLEAR OVERPOWER	HIGH RB PRESS.	HIGH That	HIGH RCS PRESS.
LOW RCS PRESS	PWR/IMB/FLOW	PRESS/TEMP	LOSS OF RC PUMPS

PLACING THE FOLLOWING MODULES OUT OF "OPERATE" WILL TRIP THE CHANNEL:

POWER RANGE TEST	CONTACT MONITOR TEST	TEMPERATURE TEST
FLOW CHANNEL TEST	RB HIGH PRESS TEST	PRESSURE TEST

REMOVING ANY OF THE FOLLOWING MODULES WILL TRIP THE CHANNEL:

CONTACT MONITOR	PWR/PUMPS BS	CONT MON AUX BS	LOOP A SQ RT EXT
PWR/IMB/FLOW BS	RB HI PRESS	TOT FLOW BUFFER	LOOP B SQ RT EXT
PWR ENG TEST CKT	LIN AMP TOP ION CH	PWR ENG DET P.S.	SUMMING AMP
FUNCTION GEN	LIN AMP BOT ION CH	LOW PRESS BS	BBD SIG CONVERT
OVERPOWER BS	PRESS/TEMP BS	DELTA FLUX	PRESS BUFFER AMP
HI TEMP BS	HI PRESS BS	LINEAR BRIDGE	SHUTDOWN BYP BS
	KEY SWITCH MOD	S/D BYP AUX RELAY	

REFERENCES: RPS AND " " DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-06-02	J-06-02
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RPS CHANNEL B  
S/D BYPASS  
ACTUATED

## EVENT POINT 0978

### INDICATED CONDITION:

- o RPS CHANNEL "B" IN SHUTDOWN BYPASS.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o SHUTDOWN BYPASS KEY SWITCH POSITIONED TO BYPASS.
- o SHUTDOWN BYPASS INDICATOR LIGHTS BRIGHT.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o ENSURE PLANT CONDITIONS ARE SUCH THAT SHUTDOWN BYPASS MODE IS REQUIRED.

### DISCUSSION:

WITH RPS CHANNEL IN SHUTDOWN BYPASS THE FOLLOWING TRIPS ARE BYPASSED:

PUMP POWER MONITOR    LOW RCS PRESSURE    VARIABLE LOW PRESSURE  
POWER IMBALANCE FLOW

EFIC ACTUATION ON LOSS OF BOTH MAIN FEED PUMPS IS BYPASSED WITH THE RPS IN SHUTDOWN BYPASS.

REFER TO STS FOR ADMINISTRATIVE REQUIREMENTS.

REFERENCES: RPS AND NNI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-06-03	J-06-03
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RPS  
CHANNEL B  
BYPASSED

EVENT POINT 0979

INDICATED CONDITION:

- o RPS CHANNEL "B" IN BYPASS.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o KEY BYPASS SWITCH IN RPS CABINET IN BYPASS.
- o RED MANUAL BY-PASS LIGHT IS BRIGHT, LOCATED ON OUTSIDE OF RPS CABINET.
- o RED CHANNEL BYPASS LIGHT IS BRIGHT, LOCATED ON CHANNEL BYPASS MODULE.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY RPS CHANNEL IS REQUIRED TO BE BYPASSED.

DISCUSSION:

WITH THE RPS CHANNEL IN BYPASS, THE CHANNEL WILL NOT INPUT TO THE CIRCUIT TO TRIP THE REACTOR.  
PLACING A RPS CHANNEL IN BYPASS IS INTERLOCKED WITH IT'S ASSOCIATED EFIC CHANNEL. IF ANOTHER EFIC CHANNEL IS IN A BYPASS CONDITION IT WILL AUTOMATICALLY BE REMOVED FROM BYPASSED REGARDLESS OF THE POSITION OF IT'S BYPASS KEY SWITCH.

REFERENCES: RPS AND NNI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS.

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-06-04	J-06-04
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RPS  
CHANNEL B  
TROUBLE

EVENT POINT 0980

INDICATED CONDITION:

- o NI-2 OR NI-6 DETECTOR POWER SUPPLY FAULT.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o VOLTAGE INDICATION ON POWER SUPPLIES IN RPS CABINET.
- o NUCLEAR INSTRUMENTS.

OPERATOR ACTIONS FOR A VALID ALARM:

- o NOTIFY I&C SHOP

DISCUSSION:

NI-2 POWER SUPPLY IS OFF WHEN >10% REACTOR POWER.  
ADDRESS STS REQUIREMENTS CONCERNING THIS CONDITION.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

J-06-04

RPS  
CHANNEL B  
TROUBLE

EVENT POINT 0981

INDICATED CONDITION:

- o POSITIVE OR NEGATIVE 15V. POWER SUPPLIES FAULT.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o VOLTAGE INDICATION ON POWER SUPPLIES.
- o RED INDICATING LIGHT IS OFF, LOCATED ON POWER SUPPLY IN RPS CABINET.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY CABINET INPUT BREAKER CLOSED LOCATED IN TOP OF CABINET.
- o VERIFY POWER AVAILABLE FROM VBDB-4 BKR 17.
- o RESTORE POWER PER OP-507.
- o NOTIFY I&C SHOP.

DISCUSSION:

A LOSS OF POWER FROM THE VBDP WILL TOTALLY DEENERGIZE THE RPS CABINET. THIS WILL CAUSE THE RPS CHANNEL TO TRIP AND THE LOSS OF INDICATION AND CONTROL FROM ANY NUCLEAR INSTRUMENT LOCATED IN THAT CABINET.

ADDRESS STS REQUIREMENTS CONCERNING THIS CONDITION.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-06-04	J-06-04
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RPS  
CHANNEL B  
TROUBLE

EVENT POINT 0982

INDICATED CONDITION:

- o RPS CABINET "B" FAN FAILURE.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o "A" OR "B" CABINET COOLING FANS NOT RUNNING.
- o AMBER INDICATING LIGHT IS BRIGHT ON OUTSIDE OF RPS CABINET.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY FAN INPUT BREAKER CLOSED LOCATED IN TOP OF CABINET.
- o NOTIFY I&C SHOP.

DISCUSSION:

CONSIDERATION SHOULD BE GIVEN TO OPENING FRONT AND BACK RPS CABINET DOORS TO ALLOW THE CABINET TO STAY COOL DURING TIMES WHEN NO FANS ARE RUNNING. HOWEVER, WITH THE REDUCED SHIELDING OF THE OPEN DOOR, RADIO FREQUENCY INTERFERENCE CAN POTENTIALLY CAUSE UNDESIRABLE AND UNPREDICTABLE EFFECTS ON THE SYSTEM OPERATION.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-06-04	J-06-04
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RPS  
CHANNEL B  
TROUBLE

EVENT POINT 0983

INDICATED CONDITION:

- o RPS CABINET "B" HIGH FLUX BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR POWER EXCEEDS THE SETPOINT OF THE HIGH FLUX BISTABLE AS INDICATED ON NI-6 TOTAL FLUX.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.2 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "B" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

TRIP SETPOINTS ARE SPECIFIED BY STS BASED ON RCP COMBINATION AND OTHER CONDITIONS WHERE MORE RESTRICTIVE LIMITS APPLY.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-06-04	J-06-04
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[illegible]

RPS  
CHANNEL B  
TROUBLE

EVENT POINT 0984

INDICATED CONDITION:

- 0 RPS CABINET "B" FLUX/FLOW/IMBALANCE BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o FLUX/FLOW/IMBALANCE IS OUTSIDE THE LIMITS OF THE GENERATED BARN CURVE.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.2 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "B" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

### DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

TRIP SETPOINTS ARE SPECIFIED BY STS BASED ON RCP COMBINATION AND OTHER CONDITIONS WHERE MORE RESTRICTIVE LIMITS APPLY.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-06-04	J-06-04
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RPS  
CHANNEL B  
TROUBLE

EVENT POINT 0985

INDICATED CONDITION:

- o RPS CABINET "B" PUMP POWER BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o TWO OR MORE REACTOR COOLANT PUMPS INDICATE <1152 KW OR >14,400 KW FROM THE REACTOR COOLANT PUMP POWER MONITOR.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o TWO OR MORE WHITE PUMP POWER MONITOR INDICATOR LIGHTS ARE BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No. 2 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "B" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-06-04	J-06-04
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RPS  
CHANNEL B  
TROUBLE

EVENT POINT 0986

INDICATED CONDITION:

- o RPS CABINET "B" REACTOR COOLANT HIGH PRESSURE BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR COOLANT PRESSURE IS >2355 PSIG.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER RPS PROTECTIVE SUBSYSTEM TRIP No.2 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "B" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

·TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.  
IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-06-04	J-06-04
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RPS  
CHANNEL B  
TROUBLE

EVENT POINT 0987

INDICATED CONDITION:

- o RPS CABINET "B" REACTOR COOLANT LOW PRESSURE BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR COOLANT PRESSURE IS <1800 PSIG.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.2 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "B" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-06-04	J-06-04
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[illegible]

RPS  
CHANNEL B  
TROUBLE

EVENT POINT 0988

INDICATED CONDITION:

- 0 RPS CABINET "B" REACTOR COOLANT VARIABLE LOW PRESSURE BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR COOLANT PRESSURE IS  $< (11.59 \times Thot - 5037.8)$  PSIG.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.2 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "B" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-06-04	J-06-04
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RPS  
CHANNEL B  
TROUBLE

EVENT POINT 0989

INDICATED CONDITION:

- o RPS CABINET "B" REACTOR COOLANT HIGH TEMPERATURE BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR COOLANT That IS  $>618^{\circ}$  F.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.2 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "B" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-06-04	J-06-04
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[illegible]

RPS  
CHANNEL B  
TROUBLE

EVENT POINT 0990

INDICATED CONDITION:

- 0 RPS CABINET "B" REACTOR BUILDING 4 PSIG PRESSURE HIGH BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR BUILDING PRESSURE IS >4 PSIG.
- o RED BISTABLE TRIP LIGHT IS ON.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.2 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "B" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-07-01	J-07-01
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RPS  
CHANNEL C  
TRIP

## EVENT POINT 0991

### INDICATED CONDITION:

- o RPS PROTECTIVE SUBSYSTEM No.3 AMBER LIGHT IS BRIGHT ON TOP OF ALL RPS CABINETS.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o RPS TRIP BISTABLE SETPOINT, EXCEEDED.
- o RPS MODULE SWITCH NOT IN "OPERATE".
- o RPS MODULE REMOVED.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF CHANNEL TRIP AND RESTORE AS REQUIRED.

### DISCUSSION:

#### EXCEEDING THE SETPOINT FOR THE FOLLOWING MODULES WILL TRIP THE CHANNEL:

NUCLEAR OVERPOWER	HIGH RB PRESS.	HIGH Thot	HIGH RCS PRESS.
LOW RCS PRESS	PWR/IMB/FLOW	PRESS/TEMP	LOSS OF RC PUMPS

#### PLACING THE FOLLOWING MODULES OUT OF "OPERATE" WILL TRIP THE CHANNEL:

POWER RANGE TEST	CONTACT MONITOR TEST	TEMPERATURE TEST
FLOW CHANNEL TEST	RB HIGH PRESS TEST	PRESSURE TEST

#### REMOVING ANY OF THE FOLLOWING MODULES WILL TRIP THE CHANNEL:

CONTACT MONITOR	PWR/PUMPS BS	CONT MON AUX BS	LOOP A SQ RT EXT
PWR/IMB/FLOW BS	RB HI PRESS	TOT FLOW BUFFER	LOOP B SQ RT EXT
PWR ENG TEST CKT	LIN AMP TOP ION CH	PWR ENG DET P.S.	SUMMING AMP
FUNCTION GEN	LIN AMP BOT ION CH	LOW PRESS BS	BBD SIG CONVERT
OVERPOWER BS	PRESS/TEMP BS	DELTA FLUX	PRESS BUFFER AMP
HI TEMP BS	HI PRESS BS	LINEAR BRIDGE	SHUTDOWN BYP BS
	KEY SWITCH MOD	S/D BYP AUX RELAY	

REFERENCES: RPS AND NNI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-07-02	J-07-02
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RPS CHANNEL C  
S/D BYPASS  
ACTUATED

## EVENT POINT 0992

### INDICATED CONDITION:

- o RPS CHANNEL "C" IN SHUTDOWN BYPASS.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o SHUTDOWN BYPASS KEY SWITCH POSITIONED TO BYPASS.
- o SHUTDOWN BYPASS INDICATOR LIGHTS BRIGHT.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o ENSURE PLANT CONDITIONS ARE SUCH THAT SHUTDOWN BYPASS MODE IS REQUIRED.

### DISCUSSION:

WITH RPS CHANNEL IN SHUTDOWN BYPASS THE FOLLOWING TRIPS ARE BYPASSED:

PUMP POWER MONITOR    LOW RCS PRESSURE    VARIABLE LOW PRESSURE  
POWER IMBALANCE FLOW

EFIC ACTUATION ON LOSS OF BOTH MAIN FEED PUMPS IS BYPASSED WITH THE RPS IN SHUTDOWN BYPASS.

REFER TO STS FOR ADMINISTRATIVE REQUIREMENTS.

REFERENCES: RPS AND NNI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-07-03	J-07-03
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RPS  
CHANNEL C  
BYPASSED

EVENT POINT 0993

INDICATED CONDITION:

- o RPS CHANNEL "C" IN BYPASS.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o KEY BYPASS SWITCH IN RPS CABINET IN BYPASS.
- o RED MANUAL BY-PASS LIGHT IS BRIGHT, LOCATED ON OUTSIDE OF RPS CABINET.
- o RED CHANNEL BYPASS LIGHT IS BRIGHT, LOCATED ON CHANNEL BYPASS MODULE.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY RPS CHANNEL IS REQUIRED TO BE BYPASSED.

DISCUSSION:

PLACING THIS CHANNEL IN BYPASS REMOVES IT'S INPUT TO THE REACTOR TRIP CIRCUIT, AND THEREFORE PLACES RPS IN A TWO OUT OF THREE LOGIC TO TRIP THE REACTOR. THIS RESULTS IN LESS RELIABILITY.

PLACING A RPS CHANNEL IN BYPASS IS INTERLOCKED WITH IT'S ASSOCIATED EFIC CHANNEL. IF ANOTHER EFIC CHANNEL IS IN A BYPASS CONDITION IT WILL AUTOMATICALLY BE REMOVED FROM BYPASSED REGARDLESS OF THE POSITION OF IT'S BYPASS KEY SWITCH.

REFERENCES: RPS AND NM'I DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS.

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-07-04	J-07-04
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[illegible]

RPS  
CHANNEL C  
TROUBLE

EVENT POINT 0994

INDICATED CONDITION:

- o NI-3 OR NI-7 DETECTOR POWER SUPPLY FAULT.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o VOLTAGE INDICATION ON POWER SUPPLIES IN RPS CABINET.
- o NUCLEAR INSTRUMENTS.

OPERATOR ACTIONS FOR A VALID ALARM:

- o NOTIFY I&C SHOP

### DISCUSSION:

ADDRESS STS REQUIREMENTS CONCERNING THIS CONDITION.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-07-04	J-07-04
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RPS  
CHANNEL C  
TROUBLE

EVENT POINT 0995

INDICATED CONDITION:

- o POSITIVE OR NEGATIVE 15V POWER SUPPLIES FAULT.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o VOLTAGE INDICATION ON POWER SUPPLIES IN RPS CABINET.
- o RED INDICATING LIGHT IS OFF, LOCATED ON THE POWER SUPPLY.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY CABINET INPUT BREAKER CLOSED LOCATED IN TOP OF CABINET.
- o VERIFY POWER AVAILABLE FROM VBDP-5 BKR 17.
- o NOTIFY I&C SHOP.

DISCUSSION:

A LOSS OF POWER FROM THE VBDP WILL TOTALLY DEENERGIZE THE RPS CABINET. THIS WILL CAUSE THE RPS CHANNEL TO TRIP AND THE LOSS OF INDICATION AND CONTROL FROM ANY NUCLEAR INSTRUMENT LOCATED IN THAT CABINET.

ADDRESS STS REQUIREMENTS CONCERNING THIS CONDITION.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-07-04	J-07-04
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RPS  
CHANNEL C  
TROUBLE

## EVENT POINT 0996

### INDICATED CONDITION:

- o RPS CABINET "C" FAN FAILURE.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o "A" OR "B" CABINET COOLING FANS NOT RUNNING.
- o AMBER INDICATING LIGHT IS BRIGHT ON OUTSIDE OF RPS CABINET.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY FAN INPUT BREAKER CLOSED LOCATED IN TOP OF CABINET.
- o NOTIFY I&C SHOP.

### DISCUSSION:

CONSIDERATION SHOULD BE GIVEN TO OPENING FRONT AND BACK RPS CABINET DOORS TO ALLOW THE CABINET TO STAY COOL DURING TIMES WHEN NO FANS ARE RUNNING. HOWEVER, WITH THE REDUCED SHIELDING OF THE OPEN DOOR, RADIO FREQUENCY INTERFERENCE CAN POTENTIALLY CAUSE UNDESIRABLE AND UNPREDICTABLE EFFECTS ON THE SYSTEM OPERATION.

REFERENCES: RPS AND N<sup>T</sup> DRAWINGS

SENSING ELEMENT: VARIOUS SPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-07-04	J-07-04
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RPS  
CHANNEL C  
TROUBLE

EVENT POINT 0997

INDICATED CONDITION:

- o RPS CABINET "C" HIGH FLUX BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR POWER EXCEEDS THE SETPOINT OF THE HIGH FLUX BISTABLE AS INDICATED ON NI-7 TOTAL FLUX.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.3 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "C" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

TRIP SETPOINTS ARE SPECIFIED BY STS BASED ON RCP COMBINATION, AND OTHER CONDITIONS WHERE MORE RESTRICTIVE LIMITS APPLY.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-07-04	J-07-04
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RPS  
CHANNEL C  
TROUBLE

EVENT POINT 0998

INDICATED CONDITION:

- o RPS CABINET "C" FLUX/FLOW/IMBALANCE BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o FLUX/FLOW/IMBALANCE IS OUTSIDE THE LIMITS OF THE GENERATED BARN CURVE.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.3 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "C" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

TRIP SETPOINTS ARE SPECIFIED BY STS BASED ON RCP COMBINATION AND OTHER CONDITIONS WHERE MORE RESTRICTIVE LIMITS APPLY.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-07-04	J-07-04
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[illegible]

RPS  
CHANNEL C  
TROUBLE

EVENT POINT 0999

INDICATED CONDITION:

- 0 RPS CABINET "C" PUMP POWER BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o TWO OR MORE REACTOR COOLANT PUMPS INDICATE <1152 KW OR >14,400 KW FROM THE REACTOR COOLANT PUMP POWER MONITOR.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o TWO OR MORE WHITE PUMP POWER MONITOR INDICATOR LIGHTS ARE BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.3 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "C" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-50%.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-07-04	J-07-04
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RPS  
CHANNEL C  
TROUBLE

EVENT POINT 1000

INDICATED CONDITION:

- o RPS CABINET "C" REACTOR COOLANT HIGH PRESSURE BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR COOLANT PRESSURE IS >2355 PSIG.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.3 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "C" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.  
IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-07-04	J-07-04
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RPS  
CHANNEL C  
TROUBLE

## EVENT POINT 1001

### INDICATED CONDITION:

- o RPS CABINET "C" REACTOR COOLANT LOW PRESSURE BISTABLE HAS TRIPPED.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR COOLANT PRESSURE IS <1800 PSIG.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.3 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "C" RPS IS TRIPPED.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

### DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-07-04	J-07-04
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RPS  
CHANNEL C  
TROUBLE

## EVENT POINT 1002

### INDICATED CONDITION:

- o RPS CABINET "C" REACTOR COOLANT VARIABLE LOW PRESSURE BISTABLE HAS TRIPPED.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR COOLANT PRESSURE IS  $< (11.59 \times T_{hot} - 5037.8)$  PSIG.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.3 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "C" RPS IS TRIPPED.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

### DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-07-04	J-07-04
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RPS  
CHANNEL C  
TROUBLE

### EVENT POINT 1003

#### INDICATED CONDITION:

- o RPS CABINET "C" REACTOR COOLANT HIGH TEMPERATURE BISTABLE HAS TRIPPED.

#### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR COOLANT TEMPERATURE IS  $>618^{\circ}$  F.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.3 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "C" RPS IS TRIPPED.

#### OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

#### DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-07-04	J-07-04
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RPS  
CHANNEL C  
TROUBLE

## EVENT POINT 1004

### INDICATED CONDITION:

- o RPS CABINET "C" REACTOR BUILDING 4 PSIG PRESSURE HIGH BISTABLE HAS TRIPPED.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR BUILDING PRESSURE IS >4 PSIG.
- o RED BISTABLE TRIP LIGHT IS ON.
- o AMBER RPS "C" CHANNEL TRIP INDICATOR AT TOP OF EACH RPS CHANNEL IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.3 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "C" RPS IS TRIPPED.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

### DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-07-05	J-07-05
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[illegible]

TURBINE  
TRIP  
BYPASS

### EVENT POINT 1975

INDICATED CONDITION:

- o REACTOR TRIP FROM TURBINE TRIP CIRCUITRY IS BYPASSED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o TURBINE TRIP BYPASSED BISTABLES WHITE TRIP INDICATOR LIGHT IS BRIGHT - INSIDE ANY RPS CHANNEL CABINET.
- o REACTOR POWER IS LESS THAN 45% BY NUCLEAR INSTRUMENTATION.

OPERATOR ACTIONS FOR A VALID ALARM:

- o ENSURE REACTOR POWER IS LESS THAN 45% RTP.

DISCUSSION:

THIS ALARM IS ACTIVATED WHEN THE FIRST CHANNEL OF RPS TURBINE TRIP BYPASS BISTABLE TRIPS. THE ALARM WILL NOT REFLASH AS OTHER CHANNEL'S BISTABLE TRIPS.

PRIOR TO TRIPPING THE TURBINE ENSURE ALL TURBINE TRIP BYPASS BISTABLES ARE IN THE TRIP STATE.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-01	J-08-01
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RPS  
CHANNEL D  
TRIP

## EVENT POINT 1005

### INDICATED CONDITION:

- o RPS PROTECTIVE SUBSYSTEM No.4 AMBER LIGHT IS BRIGHT ON TOP OF ALL RPS CABINETS.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o RPS TRIP BISTABLE SETPOINT EXCEEDED.
- o RPS MODULE SWITCH NOT IN "OPERATE".
- o RPS MODULE REMOVED.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF CHANNEL TRIP AND RESTORE AS REQUIRED.

### DISCUSSION:

#### EXCEEDING THE SETPOINT FOR THE FOLLOWING MODULES WILL TRIP THE CHANNEL:

NUCLEAR OVERPOWER	HIGH RB PRESS.	HIGH Thot	HIGH RCS PRESS.
LOW RCS PRESS	PWR/IMB/FLOW	PRESS/TEMP	LOSS OF RC PUMPS

#### PLACING THE FOLLOWING MODULES OUT OF "OPERATE" WILL TRIP THE CHANNEL:

POWER RANGE TEST	CONTACT MONITOR TEST	TEMPERATURE TEST
FLOW CHANNEL TEST	RB HIGH PRESS TEST	PRESSURE TEST

#### REMOVING ANY OF THE FOLLOWING MODULES WILL TRIP THE CHANNEL:

CONTACT MONITOR	PWR/PUMPS BS	CONT MON AUX BS	LOOP A SQ RT EXT
PWR/IMB/FLOW BS	RB HI PRESS	TOT FLOW BUFFER	LOOP B SQ RT EXT
PWR ENG TEST CKT	LIN AMP TOP ION CH	PWR ENG DET P.S.	SUMMING AMP
FUNCTION GEN	LIN AMP BOT ION CH	LOW PRESS BS	BBO SIG CONVERT
OVERPOWER BS	PRESS/TEMP BS	DELTA FLUX	PRESS BUFFER AMP
HI TEMP BS	HI PRESS BS	LINEAR BRIDGE	SHUTDOWN BYP BS
	KEY SWITCH MOD	S/D BYP AUX RELAY	

### REFERENCES: RPS AND NNI DRAWINGS

### SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-02	J-08-02
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RPS CHANNEL D  
S/D BYPASS  
ACTUATED

## EVENT POINT 1006

### INDICATED CONDITION:

- o RPS CHANNEL "D" IN SHUTDOWN BYPASS.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o SHUTDOWN BYPASS KEY SWITCH POSITIONED TO BYPASS.
- o SHUTDOWN BYPASS INDICATOR LIGHTS BRIGHT.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o ENSURE PLANT CONDITIONS ARE SUCH THAT SHUTDOWN BYPASS MODE IS REQUIRED.

### DISCUSSION:

WITH RPS CHANNEL IN SHUTDOWN BYPASS THE FOLLOWING TRIPS ARE BYPASSED:

PUMP POWER MONITOR      LOW RCS PRESSURE      VARIABLE LOW PRESSURE  
POWER IMBALANCE FLOW

EFIC ACTUATION ON LOSS OF BOTH MAIN FEED PUMPS IS BYPASSED WITH THE RPS IN SHUTDOWN BYPASS.

REFER TO STS FOR ADMINISTRATIVE REQUIREMENTS.

REFERENCES: RPS AND NNI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-03	J-08-03
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[illegible]

RPS  
CHANNEL D  
BYPASSED

EVENT POINT 1007

INDICATED CONDITION:

- o RPS CHANNEL "D" IN BYPASS.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o KEY BYPASS SWITCH IN RPS CABINET IN BYPASS.
- o RED MANUAL BY-PASS LIGHT IS BRIGHT, LOCATED ON OUTSIDE OF RPS CABINET.
- o RED CHANNEL BYPASS LIGHT IS BRIGHT, LOCATED ON CHANNEL BYPASS MODULE.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY RPS CHANNEL IS REQUIRED TO BE BYPASSED.

DISCUSSION:

PLACING THIS CHANNEL IN BYPASS REMOVES IT'S INPUT TO THE REACTOR TRIP CIRCUIT, AND THEREFORE PLACES RPS IN A TWO OUT OF THREE LOGIC TO TRIP THE REACTOR. THIS RESULTS IN LESS RELIABILITY.

PLACING A RPS CHANNEL IN BYPASS IS INTERLOCKED WITH IT'S ASSOCIATED EFIC CHANNEL. IF ANOTHER EFIC CHANNEL IS IN A BYPASS CONDITION IT WILL AUTOMATICALLY BE REMOVED FROM BYPASSED REGARDLESS OF THE POSITION OF IT'S BYPASS KEY SWITCH.

REFERENCES: RPS AND NNI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS.

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-04	J-08-04
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RPS  
CHANNEL D  
TROUBLE

## EVENT POINT 1008

### INDICATED CONDITION:

- o NI-4 OR NI-8 DETECTOR POWER SUPPLY FAULT.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o VOLTAGE INDICATION ON POWER SUPPLIES IN RPS CABINET.
- o NUCLEAR INSTRUMENTS.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o NOTIFY I&C SHOP

### DISCUSSION:

ADDRESS STS REQUIREMENTS CONCERNING THIS CONDITION.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS PPC CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-04	J-08-04
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[illegible]

RPS  
CHANNEL D  
TROUBLE

EVENT POINT 1009

INDICATED CONDITION:

- o POSITIVE OR NEGATIVE 15V POWER SUPPLIES FAULT.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o VOLTAGE INDICATION ON POWER SUPPLIES.
- o RED INDICATING LIGHT ON POWER SUPPLIES OFF.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY CABINET INPUT BREAKER CLOSED LOCATED IN TOP OF CABINET.
- o VERIFY POWER AVAILABLE FROM VBDP-6 BKR 17.
- o RESTORE POWER PER OP-507.
- o NOTIFY I&C SHOP.

### DISCUSSION:

A LOSS OF POWER FROM THE VBDP WILL TOTALLY DEENERGIZE THE RPS CABINET. THIS WILL CAUSE THE RPS CHANNEL TO TRIP AND THE LOSS OF INDICATION AND CONTROL FROM ANY NUCLEAR INSTRUMENT LOCATED IN THAT CABINET.

ADDRESS STS REQUIREMENTS CONCERNING THIS CONDITION.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-04	J-08-04
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[illegible]

RPS  
CHANNEL D  
TROUBLE

EVENT POINT 1010

INDICATED CONDITION:

- o RPS CABINET "D" FAN FAILURE.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o "A" OR "B" CABINET COOLING FANS NOT RUNNING.
- o AMBER INDICATING LIGHT IS BRIGHT ON OUTSIDE OF RPS CABINET.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY FAN INPUT BREAKER CLOSED LOCATED IN TOP OF CABINET.  
o NOTIFY I&C SHOP.

### DISCUSSION:

CONSIDERATION SHOULD BE GIVEN TO OPENING FRONT AND BACK RPS CABINET DOORS TO ALLOW THE CABINET TO STAY COOL DURING TIMES WHEN NO FANS ARE RUNNING. HOWEVER, WITH THE REDUCED SHIELDING OF THE OPEN DOOR, RADIO FREQUENCY INTERFERENCE CAN POTENTIALLY CAUSE UNDESIRABLE AND UNPREDICTABLE EFFECTS ON THE SYSTEM OPERATION.

REFERENCES: RPS AND NI DRAWINGS

SELECTION ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-04	J-08-04
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RPS  
CHANNEL D  
TROUBLE

## EVENT POINT 1011

### INDICATED CONDITION:

- o RPS CABINET "D" HIGH FLUX BISTABLE HAS TRIPPED.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR POWER EXCEEDS THE SETPOINT OF THE HIGH FLUX BISTABLE AS INDICATED ON NI-8 TOTAL FLUX.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.4 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "D" RPS IS TRIPPED.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

### DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

TRIP SETPOINTS ARE SPECIFIED BY STS BASED ON RCP COMBINATION, AND OTHER CONDITIONS WHERE MORE RESTRICTIVE LIMITS APPLY.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-04	J-08-04
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RPS  
CHANNEL D  
TROUBLE

## EVENT POINT 1012

### INDICATED CONDITION:

- o RPS CABINET "D" FLUX/FLOW/IMBALANCE BISTABLE HAS TRIPPED.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o FLUX/FLOW/IMBALANCE IS OUTSIDE THE LIMITS OF THE GENERATED BARN CURVE.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.4 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "D" RPS IS TRIPPED.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

### DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

TRIP SETPOINTS ARE SPECIFIED BY STS BASED ON RCP COMBINATION AND OTHER CONDITIONS WHERE MORE RESTRICTIVE LIMITS APPLY.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-04	J-08-04
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[illegible]

RPS  
CHANNEL D  
TROUBLE

EVENT POINT 1013

INDICATED CONDITION:

- o RPS CABINET "D" PUMP POWER BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o TWO OR MORE REACTOR COOLANT PUMPS INDICATE <1152 KW OR >14,400 KW FROM THE REACTOR COOLANT PUMP POWER MONITOR.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o TWO OR MORE WHITE PUMP POWER MONITOR INDICATOR LIGHTS ARE BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.4 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "D" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

### DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-04	J-08-04
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RPS  
CHANNEL D  
TROUBLE

EVENT POINT 1014

INDICATED CONDITION:

- o RPS CABINET "D" REACTOR COOLANT HIGH PRESSURE BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR COOLANT PRESSURE IS >2355 PSIG.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.4 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "D" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-04	J-08-04
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[illegible]

# RPS CHANNEL D TROUBLE

EVENT POINT 1015

INDICATED CONDITION:

- 0 RPS CABINET "D" REACTOR COOLANT LOW PRESSURE BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR COOLANT PRESSURE IS <1800 PSIG.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.4 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "D" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

### DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS. AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-04	J-08-04
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RPS  
CHANNEL D  
TROUBLE

## EVENT POINT 1016

### INDICATED CONDITION:

- o RPS CABINET "D" REACTOR COOLANT VARIABLE LOW PRESSURE BISTABLE HAS TRIPPED.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR COOLANT PRESSURE IS  $< (11.59 \times T_{hot} - 5037.8)$  PSIG.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.4 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "D" RPS IS TRIPPED.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

### DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.  
IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-04	J-08-04
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RPS  
CHANNEL D  
TROUBLE

## EVENT POINT 1017

### INDICATED CONDITION:

- o RPS CABINET "D" REACTOR COOLANT HIGH TEMPERATURE BISTABLE HAS TRIPPED.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR COOLANT That IS  $>618^{\circ}$  F.
- o WHITE BISTABLE TRIP LIGHT IS BRIGHT.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.4 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "D" RPS IS TRIPPED.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

### DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

J-08-04

RPS  
CHANNEL D  
TROUBLE

EVENT POINT 1018

INDICATED CONDITION:

- o RPS CABINET "D" REACTOR BUILDING 4 PSIG HIGH PRESSURE BISTABLE HAS TRIPPED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o REACTOR BUILDING PRESSURE IS >4 PSIG.
- o RED BISTABLE TRIP LIGHT IS ON.
- o AMBER PROTECTIVE SUBSYSTEM TRIP No.4 ON OUTSIDE OF EACH RPS CABINET IS BRIGHT INDICATING "D" RPS IS TRIPPED.

OPERATOR ACTIONS FOR A VALID ALARM:

- o DETERMINE CAUSE OF BISTABLE TRIP AND RESTORE CHANNEL AS NECESSARY.
- o REFER TO OP-507.

DISCUSSION:

TRIPPING THIS BISTABLE WILL TRIP THE RPS CHANNEL.

IF TWO OR MORE RPS CHANNELS TRIP THE REACTOR WILL TRIP.

REFERENCES: RPS AND NI DRAWINGS

SENSING ELEMENT: VARIOUS RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-05	J-08-05
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[illegible]

RC PUMP  
MONITOR  
IN BYPASS

EVENT POINT 1962

INDICATED CONDITION:

- 0 RC PUMP POWER MONITOR BYPASSED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o KEY SWITCH FOR RCP-1A ON RCPPM-1 IN "BYPASS" POSITION (RCPPM-1 IS LOCATED IN "A" ES 4160V SWITCHGEAR ROOM)
- o RED BYPASSED LIGHT IS ON ON RCPPM-1.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY BYPASSING OF RC PUMP POWER MONITOR IS REQUIRED.
- o RETURN KEY SWITCH TO NORMAL.

DISCUSSION:

THIS ALARM INDICATES THE RC PUMP POWER MONITOR INPUT TO RPS IS BYPASSED.

REFERENCES: RC PUMP POWER MONITOR DRAWING

SENSING ELEMENT: RPS CONTACTS

J-08-05

RC PUMP  
MONITOR  
IN BYPASS

EVENT POINT 1963

INDICATED CONDITION:

- o RC PUMP POWER MONITOR BYPASSED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o KEY SWITCH FOR RCP-1A ON RCPPM-2 IN "BYPASS" POSITION (RCPPM-2 IS LOCATED IN "B" ES 4160V SWITCHGEAR ROOM).
- o RED BYPASSED LIGHT IS ON ON RCPPM-2.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY BYPASSING OF RC PUMP POWER MONITOR IS REQUIRED.
- o RETURN KEY SWITCH TO NORMAL.

DISCUSSION:

THIS ALARM INDICATES THE RC PUMP POWER MONITOR INPUT TO RPS IS BYPASSED.

REFERENCES: RC PUMP POWER MONITOR DRAWING

SENSING ELEMENT: RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-05	J-08-05
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RC PUMP  
MONITOR  
IN BYPASS

## EVENT POINT 1964

### INDICATED CONDITION:

- o RC PUMP POWER MONITOR BYPASSED.

### REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o KEY SWITCH FOR RCP-1B ON RCPPM-1 IN "BYPASS" POSITION  
(RCPPM-1 IS LOCATED IN "A" ES 4160V SWITCHGEAR ROOM)
- o RED BYPASSED LIGHT IS ON ON RCPPM-1.

### OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY BYPASSING OF RC PUMP POWER MONITOR IS REQUIRED.
- o RETURN KEY SWITCH TO NORMAL.

### DISCUSSION:

THIS ALARM INDICATES THE RC PUMP POWER MONITOR INPUT TO RPS IS BYPASSED.

REFERENCES: RC PUMP POWER MONITOR DRAWING

SENSING ELEMENT: RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-05	J-08-05
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RC PUMP  
MONITOR  
IN BYPASS

EVENT POINT 1965

INDICATED CONDITION:

- o RC PUMP POWER MONITOR BYPASSED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o KEY SWITCH FOR RCP-1B ON RCPPM-2 IN "BYPASS" POSITION (RCPPM-2 IS LOCATED IN "B" ES 4160V SWITCHGEAR ROOM).
- o RED BYPASSED LIGHT IS ON ON RCPPM-2.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY BYPASSING OF RC PUMP POWER MONITOR IS REQUIRED.
- o RETURN KEY SWITCH TO NORMAL.

### DISCUSSION:

THIS ALARM INDICATES THE RC PUMP POWER MONITOR INPUT TO RPS IS BYPASSED.

REFERENCES: RC PUMP POWER MONITOR DRAWING

SENSING ELEMENT: RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-05	J-08-05
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[illegible]

RC PUMP  
MONITOR  
IN BYPASS

EVENT POINT 1966

INDICATED CONDITION:

- o RC PUMP POWER MONITOR BYPASSED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o KEY SWITCH FOR RCP-1C ON RCPPM-1 IN "BYPASS" POSITION (RCPPM-1 IS LOCATED IN "A" ES 4160V SWITCHGEAR ROOM).
- o RED BYPASSED LIGHT IS ON ON RCPPM-1.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY BYPASSING OF RC PUMP POWER MONITOR IS REQUIRED.
- o RETURN KEY SWITCH TO NORMAL.

DISCUSSION:

THIS ALARM INDICATES THE RC PUMP POWER MONITOR INPUT TO RPS IS BYPASSED.

REFERENCES: RC PUMP POWER MONITOR DRAWING

SENSING ELEMENT: RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-05	J-08-05
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[illegible]

RC PUMP  
MONITOR  
IN BYPASS

EVENT POINT 1967

INDICATED CONDITION:

- 0 RC PUMP POWER MONITOR BYPASSED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o KEY SWITCH FOR RCP-1C ON RCPPM-2 IN "BYPASS" POSITION (RCPPM-2 IS LOCATED IN "B" ES 4160V SWITCHGEAR ROOM).
- o RED BYPASSED LIGHT IS ON ON RCPPM-2.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY BYPASSING OF RC PUMP POWER MONITOR IS REQUIRED.
- o RETURN KEY SWITCH TO NORMAL.

DISCUSSION:

THIS ALARM INDICATES THE RC PUMP POWER MONITOR INPUT TO RPS IS BYPASSED.

REFERENCES: RC PUMP POWER MONITOR DRAWING

SENSING ELEMENT: RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-05	J-08-05
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[illegible]

RC PUMP  
MONITOR  
IN BYPASS

EVENT POINT 1968

INDICATED CONDITION:

- o RC PUMP POWER MONITOR BYPASSED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o KEY SWITCH FOR RCP-1D ON RCPPM-1 IN "BYPASS" POSITION (RCPPM-1 IS LOCATED IN "A" ES 4160V SWITCHGEAR ROOM).
- o RED BYPASSED LIGHT IS ON ON RCPPM-1.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY BYPASSING OF RC PUMP POWER MONITOR IS REQUIRED.
- o RETURN KEY SWITCH TO NORMAL.

DISCUSSION:

THIS ALARM INDICATES THE RC PUMP POWER MONITOR INPUT TO RPS IS BYPASSED.

REFERENCES:.. RC PUMP POWER MONITOR DRAWING

SENSING ELEMENT: RPS CONTACTS

ICS-J ANNUNCIATOR RESPONSE	ICS-CY2-08-05	J-08-05
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[illegible]

RC PUMP  
MONITOR  
IN BYPASS

EVENT POINT 1969

INDICATED CONDITION:

- o RC PUMP POWER MONITOR BYPASSED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- o KEY SWITCH FOR RCP-1D ON RCPPM-2 IN "BYPASS" POSITION (RCPPM-2 IS LOCATED IN "B" ES 4160V SWITCHGEAR ROOM).
- o RED BYPASSED LIGHT IS ON ON RCPPM-2.

OPERATOR ACTIONS FOR A VALID ALARM:

- o VERIFY BYPASSING OF RC PUMP POWER MONITOR IS REQUIRED.
- o RETURN KEY SWITCH TO NORMAL.

DISCUSSION:

THIS ALARM INDICATES THE RC PUMP POWER MONITOR INPUT TO RPS IS BYPASSED.

REFERENCES: RC PUMP POWER MONITOR DRAWING

SENSING ELEMENT: RPS CONTACTS