Rev. 17 Effective Date 12-1-98

ANNUNCIATOR RESPONSE AR-702 FLORIDA POWER CORPORATION CRYSTAL RIVER UNIT 3

SSF Q ANNUNCIATOR RESPONSE

APPROVED BY: Procedure Owner

Michael Winship (SIGNATURE ON FILE)

12-1-98 DATE:

PROCEDURE WRITER Ernest R. Humphries

RESPONSIBLE DEPARTMENT: Operations Support

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Engineering managers are required by NEP-121 to determine if new, revised, or temporary changes to procedures affect job functions of their personnel. Managers will communicate change information appropriately and provide documentation of any training conducted to the Engineering Training Coordinator.

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16 **REV 17 TO BE ISSUED TODAY** 0 0 1



MSTR

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Engineering managers are required by NEP-121 to determine if new, revised, or temporary changes to procedures affect job functions of their personnel. Managers will communicate change information appropriately and provide documentation of any training conducted to the Engineering Training Coordinator.

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NA1C

Florida Power Corporation Document Control, NA1C Crystal River Energy Complex 15760 W. Power Line St. Crystal River, FL 34428-6708

Signature of Addressee:

Date: \_\_\_

### 1.0 PURPOSE

- 1.1 Establish a reference document for each Annunciator Window on the SSF-A2 Lampbox.
- Establish operator actions for valid Annunciator alarms on the SSF-A2 Lampbox.
- 1.3 Establish a reference to other procedures which address operator actions for valid Annunciator alarms on the SSF-A2 Lampbox.

### 2.0 REFERENCES

### 2.1 IMPLEMENTING REFERENCES

- 2.1.1 AP-770, Emergency Diesel Generator Actuation
- 2.1.2 OP-703, Plant Distribution System

### 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-224-049

### 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 SSF-A2 Lampbox as indicated on Enclosure 1, Annunciator Response.

### 5.0 FOLLOW-UP-ACTIONS

None

ENCLOSURE 1 (Page 1 of 111)

SSF	ANNUNCIA	TOR	RESPONSE	




BUS PARALLELED

# **EVENT POINT 0540**

INDICATED CONDITION:

o "A" 6900V RX AUX BUS BREAKERS 3101 AND 3103 CLOSED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O BREAKER POSITION INDICATION FOR BREAKERS 3101 AND 3103.

OPERATOR ACTIONS FOR A VALID ALARM:

DISCUSSION:

THIS IS A NORMAL ALARM WHILE TRANSFERRING BUSSES TO ALTERNATE SUPPLIES WHEN MORE THAN ONE SUPPLY BREAKER IS CLOSED.

REFERENCES: DRAWING 208-040 MT-03

SENSING ELEMENT: 3101/52A CONTACT AND 3103/52A CONTACT (6900V BREAKERS)

ENCLOSURE 1 (Page 2 of 111)

SSF ANNUNCIATOR RESPONSE S	SF-A2-01-10	Q-01-10	
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BUS PAPALLELED

# **EVENT POINT 0543**

INDICATED CONDITION:

o "B" 6900V RX AUX BUS BREAKERS 3102 AND 3104 CLOSED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

BREAKER POSITION INDICATION FOR BREAKERS 3102 AND 3104.

OPERATOR ACTIONS FOR A VALID ALARM:

DISCUSSION:

THIS IS A NORMAL ALARM WHILE TRANSFERRING BUSSES TO ALTERNATE SUPPLIES WHEN MORE THAN ONE SUPPLY BREAKER IS CLOSED.

REFERENCES: DRAWING 208-040 MT-04

SENSING ELEMENT: 3102/52A CONTACT AND 3104/52A CONTACT (6900V BREAKERS)

ENCLOSURE 1 (Page 3 of 111)

SSF ANNUNCIATOR RESPONSE SF-	A2-01-10 Q-01-10	
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BUS PARALLELED

# **EVENT POINT 0546**

INDICATED CONDITION:

o "A" 4160V UNIT BUS BREAKEPS 3201 AND 3203 CLOSED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

BREAKER POSITION INDICATION FOR BREAKERS 3201 AND 3203.

OPERATOR ACTIONS FOR A VALID ALARM:

DISCUSSION:

THIS IS A NORMAL ALARM WHILE TRANSFERRING BUSSES TO ALTERNATE SUPPLIES WHEN MORE THAN ONE SUPPLY BREAKER IS CLOSED.

REFERENCES: DRAWING 208-040 MT-05

SENSING ELEMENT: 3201/52A CONTACT AND 3203/52A CONTACT (4160V BREAKERS)

ENCLOSURE 1 (Page 4 of 111)

SSF ANNUNCIATOR R	RESPONSE	SF-A2-01-10	Q-01-10	

BUS PARALLELED

# **EVENT POINT 0549**

INDICATED CONDITION:

o "B" 4160V UNIT BUS BREAKERS 3202 AND 3204 CLOSED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

BREAKER POSITION INDICATION FOR BREAKERS 3202 AND 3204.

OPERATOR ACTIONS FOR A VALID ALARM:

DISCUSSION:

THIS IS A NORMAL ALARM WHILE TRANSFERRING BUSSES TO ALTERNATE SUPPLIES WHEN MORE THAN ONE SUPPLY BREAKER IS CLOSED.

REFERENCES: DRAWING 208-040 MT-06

SENSING ELEMENT: 3202/52A CONTACT AND 3204/52A CONTACT (4160V BREAKERS)

ENCLOSURE 1 (Page 5 of 111)

	SSF	ANNUNCIATOR	RESPONSE	SF-A2-01-10	Q-01-10	
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# **EVENT POINT 0556**

INDICATED CONDITION:

 ANY COMBINATION OF "A" ES 4160V BUS BREAKERS 3205, 3207, 3209, 3211 CLOSED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O BREAKER POSITION INDICATION FOR BREAKERS 3205, 3207, 3209, 3211.

OPERATOR ACTIONS FOR A VALID ALARM:

DISCUSSION:

THIS IS A NORMAL ALARM WHILE TRANSFERRING BUSSES TO ALTERNATE SUPPLIES WHEN MORE THAN ONE SUPPLY BREAKER IS CLOSED.

REFERENCES: DRAWING 208-040 MT-09

SENSING ELEMENT: 3205/52A, 3207/52A, 3209/52A, 3211/52A CONTACTS

ENCLOSURE 1 (Page 6 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-01-10	Q-01-10

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BUS
PARALLELED

# **EVENT POINT 0560**

INDICATED CONDITION:

 ANY COMBINATION OF "B" ES 4160V BUS BREAKERS 3206, 3208, 3210, 3212 CLOSED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O BREAKER POSITION INDICATION FOR BREAKERS 3206, 3208, 3210, 3212.

OPERATOR ACTIONS FOR A VALID ALARM:

DISCUSSION:

THIS IS A NORMAL ALARM WHILE TRANSFERRING BUSSES TO ALTERNATE SUPPLIES WHEN MORE THAN ONE SUPPLY BREAKER IS CLOSED.

REFERENCES: DRAWING 208-040 MT-10

SENSING ELEMENT: 3206/52A, 3208/52A, 3210/52A, 3212/52A CONTACTS

ENCLOSURE 1

(Page 7 of 111)

SSF ANNUNCIATOR RES	PONSE	SF-A2-02-01	Q-02-01
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4 KV ES BUS A DEAD

## **EVENT POINT 0649**

INDICATED CONDITION:

o "A" ES 4160V BUS UNDERVOLTAGE

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

> "A" ES 4160V VOLTAGE INDICATION.

OPERATOR ACTIONS FOR A VALID ALARM:

o REFER TO AP-770.

DISCUSSION:

THIS ALARM IS THE RESULT OF A 2 OUT OF 3 UNDERVOLTAGE (FLUR) RELAY LOGIC.

THE FLUR RELAYS ARE INTENDED TO PROVIDE ES 4150VAC UNDERVOLTAGE RESPONSE WHEN VOLTAGE DROPS INSTANTLY TO ZERO. THE SLUR RELAY WILL PROVIDE UNDERVOLTAGE RESPONSE WHEN THE VOLTAGE DROPS GRADUALLY BELOW THE SLUR SETPOINT.

REFERENCES: DRAWING 208-040 MT-65

SENSING ELEMENT: 27Y-3/32EA RELAY

ENCLOSURE 1 (Page 8 of 111)

SSF	ANNUNCIATOR	RESPONSE	SF-A2-02-02	Q-02-02	
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DIESEL GEN A BREAKER TRIP

# EVENPOINT 0315

INDICATED CONDITION:

O DIESEL GENERATOR "A" BKR 3209 LOCKOUT ACTUATED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- RED FLAG WITH A GREEN LIGHT IS ON, LOCATED ON BREAKER 3209 CONTROL STATION.
- O VERIFY 86B EDG BREAKER LOCKOUT RELAY OPEN.

OPERATOR ACTIONS FOR A VALID ALARM:

o REFER TO AP-770.

DISCUSSION: THE 86B EDG BREAKER LOCKOUT RELAY WILL TRIP AND PREVENT RECLOSURE OF THE EDG OUTPUT BREAKER FOR:

- o OVERCURRENT DEVICE (51V)
- NEGATIVE SEQUENCE (DEVICE 46)
- GENERATOR GROUND (DEVICE 64)

O ES BUS FEEDER BREAKER OVERCURRENT (DEVICE 51B, 51BN)

THE ACTUATION OF THE NEW 86B LOCKOUT WILL RESULT IN THE ENGINE REMAINING RUNNING WITH THE OUTPUT BREAKER OPEN. THIS WILL REQUIRE THE ENGINE SHUTDOWN WITHIN 2 HOURS.

REFERENCES: DRAWING 208-040 MT-13

SENSING ELEMENT: CS/SC, CS/O CS CONTACTS, 52H/A, 52S/B & 86B/3209 CONTACTS

ENCLOSURE 1 (Page 9 of 111)

Q-02-02

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DIESEL GEN A BREAKER TRIP

## EVENT POINT 0568

INDICATED CONDITION:

O DIESEL GENERATOR "A" BKR 3209 AUTO TRIP.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- RED FLAG WITH A GREEN LIGHT IS ON, LOCATED ON BREAKER 3209 CONTROL STATION.
- O VERIFY 86B EDG BREAKER LOCKOUT RELAY OPEN.

OPERATOR ACTIONS FOR A VALID ALARM:

o REFER TO AP-770.

DISCUSSION: THE 86B EDG BREAKER LOCKOUT RELAY WILL TRIP AND PREVENT RECLOSURE OF THE EDG OUTPUT BREAKER FOR:

- O OVERCURRENT DEVICE (51V)
- NEGATIVE SEQUENCE (DEVICE 46)
- o GENERATOR GROUND (DEVICE 64)
- O ES BUS FEEDER BREAKER OVERCURRENT (DEVICE 51B, 51BN)

THE ACTUATION OF THE NEW 86B LOCKOUT WILL RESULT IN THE ENGINE REMAINING RUNNING WITH THE OUTPUT BREAKER OPEN. THIS WILL REQUIRE THE ENGINE SHUTDOWN WITHIN 2 HOURS.

REFERENCES: DRAWING 208-040 MT-13

SENSING ELEMENT: CS/SC, CS/O CONTROL SWITCH CONTACTS, 52H/A, 52S/B CONTACTS

AR-702

Page 10

ENCLOSURE 1

(Page 10 of 111)

SSF ANNUNCIATOR RESPONSE

DIESEL GEN A BREAKER CLOSED

## **EVENT POINT 1182**

INDICATED CONDITION:

 "A" EMERGENCY DIESEL GENERATOR OUTPUT BREAKER CLOSED, WITH ES ACTUATION SIGNAL OR UNDERVOLTAGE SIGNAL PRESENT.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O RED LIGHT IS ON WITH A GREEN FLAG ON BREAKER 3209 CONTROL STATION.

OPERATOR ACTIONS FOR A VALID ALARM:

o REFER TO AP-770.

DISCUSSION:

REFERENCES: DRAWING 208-040 MT-129

SENSING ELEMENT: 86B/ESA

ENCLOSURE 1 (Page 11 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-02-04	Q-02-04
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4KV ES A CROSS-TIE BLOCKED

## **EVENT POINT 1183**

INDICATED CONDITION:

O BREAKERS 3209 AND 3210 CLOSED WITH EITHER 3206, 3208, OR 3212 CLOSED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

DIESEL GEN "A" CROSS-TIE LIGHT EXTINGUISHED.
IF 3206 CLOSED, THEN BLOCK CLOSING ACTUATED 3205 LIGHT IS ON.
IF 3208 CLOSED, THEN BLOCK CLOSING ACTUATED 3207 LIGHT IS ON.
IF 3212 CLOSED, THEN BLOCK CLOSING ACTUATED 3211 LIGHT IS ON.

OPERATOR ACTIONS FOR A VALID ALARM:

DISCUSSION:

REFERENCES: DRAWING 208-040 MT-129

SENSING ELEMENT: 3-52-1, 3-525 CONTACTS

ENCLOSURE 1 (Page 12 of 111

SSF ANNUNCIATOR RESPONSE	SF-A2-02-05	Q-02-05

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DIESEL GEN A
VOLTAGE ADJ
IN CONTROL RM

# **EVENT POINT 1177**

INDICATED CONDITION:

O DIESEL GENERATOR "A" VOLTAGE ADJUST SELECTED TO THE CONTROL ROOM.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 DIESEL GENERATOR A "EXC VOLT ADJ SELECT" SWITCH SELECTED TO "CONT RM" POSITION.

OPERATOR ACTIONS FOR A VALID ALARM:

DISCUSSION:

THIS SWITCH IS NORMALLY SELECTED TO THE "DG RM" POSITION.

REFERENCES: DRAWING 208-027 EG-17

SENSING ELEMENT: SS/O, CB/SSF CONTACT

ENCLOSURE 1 (Page 13 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-02-07	Q-02-07
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480V ES BUS A DEAD

# **EVENT POINT 0653**

INDICATED CONDITION:

o "A" ES 480V BUS UNDERVOLTAGE.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

0 480V ES BUS "A" VOLTAGE INDICATES LESS THAN NORMAL.

OPERATOR ACTIONS FOR A VALID ALARM:

o REFER TO AP-770

DISCUSSION:

REFERENCES: DRAWING 208-040 MT-66

SENSING ELEMENT: 27Y-1/33EA

ENCLOSURE 1 (Page 14 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-02-08	Q-02-08
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# **EVENT POINT 0719**

INDICATED CONDITION:

O "A" ES 480V BUS UNDERVOLTAGE LOCK OUT RELAY ACTUATED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

o 4160V ES BUS "A" VOLTAGE INDICATES LESS THAN NORMAL.

0 480V ES BUS "A" VOLTAGE INDICATES LESS THAN NORMAL.

c BREAKER 3209 INDICATION.

ERATOR ACTIONS FOR A VALID ALARM:

o REFER TO AP-770

DISCUSSION:

THE 480V ES UNDERVOLTAGE LOCK OUT RELAY IS ACTUATED WHEN, EITHER THE "A" DIESEL OUTPUT BREAKER IS CLOSED, OR 4160V ES BUS A UNDERVOLTAGE OCCURS WITH AN ES ACTUATION.

REFERENCES: DRAWING 208-040 MT-77

SENSING ELEMENT: 86/27ESA

ENCLOSURE 1 (Page 15 of 111)

SSF ANNUNCIATOR RESPONSE SF-A2-02-10 Q-02-10
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POTENTIAL TRANSFORMER TROUBLE

# **EVENT POINT 0642**

INDICATED CONDITION:

 "A" 6900V REACTOR AUX BUS UNDERVOLTAGE ON "1 OUT OF 3" LOGIC OR A SINGLE POTENTIAL TRANSFORMER CIRCUIT HAS FAILED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O OBSERVE BUS VOLTAGE WITHIN NORMAL VALUES

DISCUSSION:

THIS ALARM MAY BE ONE OF THE FIRST ALARMS TO ACTUATE DURING A BUS UNDERVOLTAGE CONDITION. POTENTIAL TRANSFORMER TROUBLE USES A "1 OUT OF 3" UNDERVOLTAGE LOGIC. IF MORE THAN 1 UNDERVOLTAGE RELAY OR POTENTIAL TRANSFORMER IS INVOLVED THEN THE ALARM UPGRADES TO BUS UNDERVOLTAGE AND THE POTENTIAL TRANSFORMER ALARM IS DISABLED.

REFERENCES: DRAWING 208-040 MT-63

SENSING ELEMENT: 27Y-1/31RA 27Z/31RA RELAYS

ENCLOSURE 1

(Page 16 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-02-10	Q-02-10
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			Contraction of Contraction			

POTENTIAL TRANSFORMER TROUBLE

## **EVENT POINT 0644**

INDICATED CONDITION:

 "B" 6900V REACTOR AUX BUS UNDERVOLTAGE ON "1 OUT OF 3" LOGIC OR A SINGLE POTENTIAL TRANSFORMER CIRCUIT HAS FAILED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O OBSERVE BUS VOLTAGE WITHIN NORMAL VALUES

DISCUSSION:

THIS ALARM MAY BE ONE OF THE FIRST ALARMS TO ACTUATE DURING A BUS UNDERVOLTAGE CONDITION. POTENTIAL TRANSFORMER TROUBLE USES A '1 OUT OF 3" UNDERVOLTAGE LOGIC. IF MORE THAN 1 UNDERVOLTAGE RELAY OR POTENTIAL TRANSFORMER IS INVOLVED THEN THE ALARM UPGRADES TO BUS UNDERVOLTAGE AND THE POTENTIAL TRANSFORMER ALARM IS DISABLED.

REFERENCES: DRAWING 208-040 MT-63

SENSING ELEMENT: 27Y-1/31RB 27Z/31RB RELAYS

ENCLOSURE 1

(Page 17 of 111)

Q-02-10

SSF ANNUNCIATOR RESPONSE

SF-A2-02-10

POTENTIAL TRANSFORMER TROUBLE

# **EVENT POINT 0646**

INDICATED CONDITION:

o "A" 4160V UNIT BUS UNDERVOLTAGE ON "1 OUT OF 3" LOGIC OR A SINGLE POTENTIAL TRANSFORMER CIRCUIT HAS FAILED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O OBSERVE BUS VOLTAGE WITHIN NORMAL VALUES

DISCUSSION:

THIS ALARM MAY BE ONE OF THE FIRST ALARMS TO ACTUATE DURING A BUS UNDERVOLTAGE CONDITION. POTENTIAL TRANSFORMER TROUBLE USES A "1 OUT OF 3" UNDERVOLTAGE LOGIC. IF MORE THAN 1 UNDERVOLTAGE RELAY OR POTENTIAL TRANSFORMER IS INVOLVED THEN THE ALARM UPGRADES TO BUS UNDERVOLTAGE AND THE POTENTIAL TRANSFORMER ALARM IS DISABLED.

REFERENCES: DRAWING 208-040 MT-64

SENSING ELEMENT: 27Y-1/32UA 27Z/32UA RELAYS

ENCLOSURE 1 (Page 18 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-02-10	Q-02-10
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POTENTIAL TRANSFORMER TROUBLE

## **EVENT POINT 0648**

INDICATED CONDITION:

 "B" 4160V UNIT BUS 3B UNDERVOLTAGE ON "1 OUT OF 3" LOGIC OR A SINGLE POTENTIAL TRANSFORMER CIRCUIT HAS FAILED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O OBSERVE BUS VOLTAGE WITHIN NORMAL VALUES

DISCUSSION:

THIS ALARM MAY BE ONE OF THE FIRST ALARMS TO ACTUATE DURING A BUS UNDERVOLTAGE CONDITION. POTENTIAL TRANSFORMER TROUBLE USES A "1 OUT OF 3" UNDERVOLTAGE LOGIC. IF MORE THAN 1 UNDERVOLTAGE RELAY OR POTENTIAL TRANSFORMER IS INVOLVED THEN THE ALARM UPGRADES TO BUS UNDERVOLTAGE AND THE POTENTIAL TRANSFORMER ALARM IS DISABLED.

REFERENCES: DRAWING 208-040 MT-64

SENSING ELEMENT: 27Y-1/32UB 27Z/32UB RELAYS

ENCLOSURE 1 (Page 19 of 111)

SSF ANNUNCIATOR	RESPONSE	SF-A2-02-10	Q-02-10
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POTENTIAL TRANSFORMER TROUBLE

# **EVENT POINT 0650**

INDICATED CONDITION:

 "A" ES 4160V BUS UNDERVOLTAGE ON "1 OUT OF 3" LOGIC OR A SINGLE POTENTIAL TRANSFORMER CIRCUIT HAS FAILED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O OBSERVE BUS VOLTAGE WITHIN NORMAL VALUES

DISCUSSION:

THIS ALARM MAY BE ONE OF THE FIRST ALARMS TO ACTUATE DURING A BUS UNDERVOLTAGE CONDITION. POTENTIAL TRANSFORMER TROUBLE USES A "1 OUT OF 3" UNDERVOLTAGE LOGIC. IF MORE THAN 1 UNDERVOLTAGE RELAY OR POTENTIAL TRANSFORMER IS INVOLVED THEN THE ALARM UPGRADES TO BUS UNDERVOLTAGE AND THE POTENTIAL TRANSFORMER ALARM IS DISABLED.

REFERENCES: DRAWING 208-040 MT-65

SENSING ELEMENT: 27Y-1/32EA 27Z/32EA RELAYS

ENCLOSURE 1 (Page 20 of 111)

SSF ANNUNCIATOR	RESPONSE	SF-A2-02-10	Q-02-10

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	POTENTIAL
Т	RANSFORMER
	TROUBLE

# **EVENT POINT 0652**

INDICATED CONDITION:

 "B" ES 4160V BUS UNDERVOLTAGE ON "1 OUT OF 3" LOGIC OR A SINGLE POTENTIAL TRANSFORMER CIRCUIT HAS FAILED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O OBSERVE BUS VOLTAGE WITHIN NORMAL VALUES

DISCUSSION:

THIS ALARM MAY BE ONE OF THE FIRST ALARMS TO ACTUATE DURING A BUS UNDERVOLTAGE CONDITION. POTENTIAL TRANSFORMER TROUBLE USES A "1 OUT OF 3" UNDERVOLTAGE LOGIC. IF MORE THAN 1 UNDERVOLTAGE RELAY OR POTENTIAL TRANSFORMER IS INVOLVED THEN THE ALARM UPGRADES TO BUS UNDERVOLTAGE AND THE POTENTIAL TRANSFORMER ALARM IS DISABLED.

REFERENCES: DRAWING 208-040 MT-65

SENSING ELEMENT: 27Y-1/32EB 27Z/32EB RELAYS

ENCLOSURE 1 (Page 21 of 111)

Q-02-10

 SSF	ANNUNCIATOR	RESPONSE	SF-A2-02-10
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POTENTIAL TRANSFORMER TROUBLE

## **EVENT POINT 0654**

INDICATED CONDITION:

 "A" ES 480V BUS UNDERVOLTAGE ON "1 OUT OF 3" LOGIC OR A SINGLE POTENTIAL TRANSFORMER CIRCUIT HAS FAILED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O OBSERVE BUS VOLTAGE WITHIN NORMAL VALUES

DISCUSSION:

THIS ALARM MAY BE ONE OF THE FIRST ALARMS TO ACTUATE DURING A BUS UNDERVOLTAGE CONDITION. POTENTIAL TRANSFORMER TROUBLE USES A "1 OUT OF 3" UNDERVOLTAGE LOGIC. IF MORE THAN 1 UNDERVOLTAGE RELAY OR POTENTIAL TRANSFORMER IS INVOLVED THEN THE ALARM UPGRADES TO BUS UNDERVOLTAGE AND THE POTENTIAL TRANSFORMER ALARM IS DISABLED.

REFERENCES: DRAWING 208-040 MT-66

SENSING ELEMENT: 27Y-1/33EA 27Z/33EA RELAYS

ENCLOSURE 1 (Page 22 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-02-10	0-02-10
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POTENTIAL
TRANSFORMER
TROUBLE

## **EVENT POINT 0656**

INDICATED CONDITION:

 "B" ES 480V BUS UNDERVOLTAGE ON "1 OUT OF 3" LOGIC OR A INGLE POTENTIAL TRANSFORMER CIRCUIT HAS FAILED.

REDUNDANT INVICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O OBSERVE BUS VOLTAGE WITHIN NORMAL VALUES

DISCUSSION:

THIS ALARM MAY BE ONE OF THE FIRST ALARMS TO ACTUATE DURING A BUS UNDERVOLTAGE CONDITION. POTENTIAL TRANSFORMER TROUBLE USES A "1 OUT OF 3" UNDERVOLTAGE LOGIC. IF MORE THAN 1 UNDERVOLTAGE RELAY OR POTENTIAL TRANSFORMER IS INVOLVED THEN THE ALARM UPGRADES TO BUS UNDERVOLTAGE AND THE POTENTIAL TRANSFORMER ALARM IS DISABLED.

REFERENCES: DRAWING 208-040 MT-66

SENSING ELEMENT: 27Y-1/33EB 27Z/33EB RELAYS

ENCLOSURE 1 (Page 23 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-02-10	0-02-10
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POTENTIAL TRANSFORMER TROUBLE

## **EVENT POINT 0658**

INDICATED CONDITION:

 "A" 480V REACTOR AUX BUS UNDERVOLTAGE ON "1 OUT OF 3" LOGIC OR A SINGLE POTENTIAL TRANSFORMER CIRCUIT HAS FAILED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O OBSERVE BUS VOLTAGE WITHIN NORMAL VALUES

DISCUSSION:

THIS ALARM MAY BE ONE OF THE FIRST ALARMS TO ACTUATE DURING A BUS UNDERVOLTAGE CONDITION. POTENTIAL TRANSFORMER TROUBLE USES A "1 OUT OF 3" UNDERVOLTAGE LOGIC. IF MORE THAN 1 UNDERVOLTAGE RELAY OR POTENTIAL TRANSFORMER IS INVOLVED THEN THE ALARM UPGRADES TO BUS UNDERVOLTAGE AND THE POTENTIAL TRANSFORMER ALARM IS DISABLED.

REFERENCES: DRAWING 208-040 MT-67

SENSING ELEMENT: 27Y-1/33RA 27Z/33RA RELAYS

ENCLOSURE 1 (Page 24 of 111)

Q-02-10

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	POTENTIAL
٦	RANSFORMER
	TROUBLE

# **EVENT POINT 0660**

INDICATED CONDITION:

O "B" 480V REACTOR AUX BUS UNDERVOLTAGE ON "1 OUT OF 3" LOGIC OR A SINGLE POTENTIAL TRANSFORMER CIRCUIT HAS FAILED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O OBSERVE BUS VOLTAGE WITHIN NORMAL VALUES

DISCUSSION:

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THIS ALARM MAY BE ONE OF THE FIRST ALARMS TO ACTUATE DURING A BUS UNDERVOLTAGE CONDITION. POTENTIAL TRANSFORMER TROUBLE USES A "1 OUT OF 3" UNDERVOLTAGE LOGIC. IF MORE THAN 1 UNDERVOLTAGE RELAY OR POTENTIAL TRANSFORMER IS INVOLVED THEN THE ALARM UPGRADES TO BUS UNDERVOLTAGE AND THE POTENTIAL TRANSFORMER ALARM IS DISABLED.

REFERENCES: DRAWING 208-040 MT-67

SENSING ELEMENT: 27Y-1/33RB 27Z/33RB RELAYS

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ENCLOSURE 1 (Page 25 of 111)

Q-02-10

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# **EVENT POINT 0662**

INDICATED CONDITION:

O "A" 480V TURBINE AUX BUS UNDERVOLTAGE ON "1 OUT OF 3" LOGIC OR A SINGLE POTENTIAL TRANSFORMER CIRCUIT HAS FAILED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O OBSERVE BUS VOLTAGE WITHIN NORMAL VALUES

DISCUSSION:

THIS ALARM MAY BE ONE OF THE FIRST ALARMS TO ACTUATE DURING A BUS UNDERVOLTAGE CONDITION. POTENTIAL TRANSFORMER TROUBLE USES A "1 OUT OF 3" UNDERVOLTAGE LOGIC. IF MORE THAN 1 UNDERVOLTAGE RELAY OR POTENTIAL TRANSFORMER IS INVOLVED THEN THE ALARM UPGRADES TO BUS UNDERVOLTAGE AND THE POTENTIAL TRANSFORMER ALARM IS DISABLED.

REFERENCES: DRAWING 208-040 MT-68

SENSING ELEMENT: 27Y-1/33TA 27Z/33TA RELAYS

AR-702

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ENCLOSURE 1 (Page 26 of 111)

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SSF ANNUNCIATOR RESPONSE	
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POTENTIAL TRANSFORMER TROUBLE

# **EVENT POINT 0664**

INDICATED CONDITION:

 "B" 480V TURBINE AUX BUS UNDERVOLTAGE ON "1 OUT OF 3" LOGIC OR A SINGLE POTENTIAL TRANSFORMER CIRCUIT HAS FAILED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O OBSERVE BUS VOLTAGE WITHIN NORMAL VALUES

DISCUSSION:

THIS ALARM MAY BE ONE OF THE FIRST ALARMS TO ACTUATE DURING A BUS UNDERVOLTAGE CONDITION. POTENTIAL TRANSFORMER TROUBLE USES A "1 OUT OF 3" UNDERVOLTAGE LOGIC. IF MORE THAN 1 UNDERVOLTAGE RELAY OR POTENTIAL TRANSFORMER IS INVOLVED THEN THE ALARM UPGRADES TO BUS UNDERVOLTAGE AND THE POTENTIAL TRANSFORMER ALARM IS DISABLED.

REFERENCES: DRAWING 208-040 MT-68

SENSING ELEMENT: 27Y-1/33TB 27Z/33TB RELAYS

ENCLOSURE 1 (Page 27 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-02-10	0-02-10	

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POTENTIAL TRANSFORMER TROUBLE

## EVENT POINT 0666

INDICATED CONDITION:

O "A" 480V INTAKE AUX BUS UNDERVOLTAGE ON "1 OUT OF 3" LOGIC OR A SINGLE POTENTIAL TRANSFORMER CIRCUIT HAS FAILED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O OBSERVE BUS VOLTAGE WITHIN NORMAL VALUES

DISCUSSION:

THIS ALARM MAY BE ONE OF THE FIRST ALARMS TO ACTUATE DURING A BUS UNDERVOLTAGE CONDITION. POTENTIAL TRANSFORMER TROUBLE USES A "1 OUT OF 3" UNDERVOLTAGE LOGIC. IF MORE THAN 1 UNDERVOLTAGE RELAY OR POTENTIAL TRANSFORMER IS INVOLVED THEN THE ALARM UPGRADES TO BUS UNDERVOLTAGE AND THE POTENTIAL TRANSFORMER ALARM IS DISABLED.

REFERENCES: DRAWING 208-040 MT-69

SENSING ELEMENT: 27Y-1/33IA 27Z/33IA RELAYS

ENCLOSURE 1 (Page 28 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-02-10	Q-02-10	
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POTENTIAL
TRANSFORMER
TROUBLE

## **EVENT POINT 0668**

INDICATED CONDITION:

 "B" 480V INTAKE AUX BUS UNDERVOLTAGE ON "1 OUT OF 3" LOGIC OR A SINGLE POTENTIAL TRANSFORMER CIRCUIT HAS FAILED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O OBSERVE BUS VOLTAGE WITHIN NORMAL VALUES

DISCUSSION:

THIS ALARM MAY BE ONE OF THE FIRST ALARMS TO ACTUATE DURING A BUS UNDERVOLTAGE CONDITION. POTENTIAL TRANSFORMER TROUBLE USES A "1 OUT OF 3" UNDERVOLTAGE LOGIC. IF MORE THAN 1 UNDERVOLTAGE RELAY OR POTENTIAL TRANSFORMER IS INVOLVED THEN THE ALARM UPGRADES TO BUS UNDERVOLTAGE AND THE POTENTIAL TRANSFORMER ALARM IS DISABLED.

REFERENCES: DRAWING 208-040 MT-69

SENSING ELEMENT: 27Y-1/33IB 27Z/33IB RELAYS

ENCLOSURE 1 (Page 29 of 111)

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POTENTIAL
TRANSFORMER
TROUBLE

# **EVENT POINT 0670**

INDICATED CONDITION:

o 480V PLANT AUX BUS UNDERVOLTAGE ON "1 OUT OF 3" LOGIC OR A SINGLE POTENTIAL TRANSFORMER CIRCUIT HAS FAILED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O OBSERVE BUS VOLTAGE WITHIN NORMAL VALUES

DISCUSSION:

THIS ALARM MAY BE ONE OF THE FIRST ALARMS TO ACTUATE DURING A BUS UNDERVOLTAGE CONDITION. POTENTIAL TRANSFORMER TROUBLE USES A "1 OUT OF 3" UNDERVOLTAGE LOGIC. IF MORE THAN 1 UNDERVOLTAGE RELAY OR POTENTIAL TRANSFORMER IS INVOLVED THEN THE ALARM UPGRADES TO BUS UNDERVOLTAGE AND THE POTENTIAL TRANSFORMER ALARM IS DISABLED.

REFERENCES: DRAWING 208-040 MT-70

SENSING ELEMENT: 27Y-1/33P 27Z/33P RELAYS

ENCLOSURE 1 (Page 30 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-02-10	0-02-10
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POTENTIAL TRANSFORMER TROUBLE

# **EVENT POINT 0672**

INDICATED CONDITION:

 480V HEATING AUX BUS UNDERVOLTAGE ON "1 OUT OF 3" LOGIC OR A SINGLE POTENTIAL TRANSFORMER CIRCUIT HAS FAILED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O OBSERVE BUS VOLTAGE WITHIN NORMAL VALUES

DISCUSSION:

THIS ALARM MAY BE ONE OF THE FIRST ALARMS TO ACTUATE DURING A BUS UNDERVOLTAGE CONDITION. POTENTIAL TRANSFORMER TROUBLE USES A "1 OUT OF 3" UNDERVOLTAGE LOGIC. IF MORE THAN 1 UNDERVOLTAGE RELAY OR POTENTIAL TRANSFORMER IS INVOLVED THEN THE ALARM UPGRADES TO BUS UNDERVOLTAGE AND THE POTENTIAL TRANSFORMER ALARM IS DISABLED.

REFERENCES: DRAWING 208-040 MT-70

SENSING ELEMENT: 27Y-1/33H 27Z/33H RELAYS

ENCLOSURE 1 (Page 31 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-02-10	0-02-10
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POTENTIAL TRANSFORMER TROUBLE

# **EVENT POINT 1991**

INDICATED CONDITION:

 4160V REACTOR AUX BUS UNDERVOLTAGE ON "1 OUT OF 3" LOGIC OR A SINGLE POTENTIAL TRANSFORMER CIRCUIT HAS FAILED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O OBSERVE BUS VOLTAGE WITHIN NORMAL VALUES

DISCUSSION:

THIS ALARM MAY BE ONE OF THE FIRST ALARMS TO ACTUATE DURING A BUS UNDERVOLTAGE CONDITION. POTENTIAL TRANSFORMER TROUBLE USES A "1 OUT OF 3" UNDERVOLTAGE LOGIC. IF MORE THAN 1 UNDERVOLTAGE RELAY OR POTENTIAL TRANSFORMER IS INVOLVED THEN THE ALARM UPGRADES TO BUS UNDERVOLTAGE AND THE POTENTIAL TRANSFORMER ALARM IS DISABLED.

REFERENCES: DRAWING 208-040 MT-136

SENSING ELEMENT: 32RA

ENCLOSURE 1 (Page 32 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-03-01	Q-03-01
	JI-46-03-01	Q-03-01

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DIESEL GEN A IN THE 30 MIN LIMIT

### **EVENT POINT 1590**

INDICATED CONDITION:

. . . .

O DIESEL GENERATOR "A" OVER 3250 KW.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O DIESEL GENERATOR "A" KW INDICATION.

 DIESEL GENERATOR "A" "EDG-3A ELAPSED TIME IN 30 MIN RATING." TIMER IS OPERATING.

OPERATOR ACTIONS FOR A VALID ALARM:

REFER TO AP-770.REDUCE LOAD IF SURVEILLANCE TESTING.

DISCUSSION:

THIS ALARM IS INSTANTANEOUS WHEN DIESEL LOAD EXCEEDS 3250 KW

REFERENCES: DRAWING 208-027 EG-22

SENSING ELEMENT: 62BX

ENCLOSURE 1 (Page 33 of 111)

SSF ANNUNCIATOR	RESPONSE	SF-A2-03-04	Q-03-04	

4KV ES A UNDERVOLTAGE TRIP BLOCKED

# **EVENT POINT 0823**

INDICATED CONDITION:

O "A" ES 4160V BUS UNDERVOLTAGE PROTECTION DISABLED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

TRIP BLOCK SWITCHES, TBS1 AND TBS2, LOCATED IN MTCP-1A IN THE 4160V ES "A" SWITCHGEAR ROOM ARE IN OPEN POSITION.

OPERATOR ACTIONS FOR A VALID ALARM:

O MONITOR "A" ES BUS VOLTAGES DURING UNDERVOLTAGE RELAY TESTING.

DISCUSSION:

THIS ALARM WILL OCCUR WHEN TESTING THE BUS UNDERVOLTAGE RELAYS. NO UNDERVOLTAGE PROTECTION IS AVAILABLE DURING TESTING.

REFERENCES: DRAWING 208-040 MT-65B

SENSING ELEMENT: TBS1, TBS2

ENCLOSURE 1 (Page 34 of 111)

SSF ANNUNCIATOR RESPONSE SF-A2-04-02 Q-04-02

4KV ES BUS DEGRADED VOLT TRIP

### **EVENT POINT 1747**

INDICATED CONDITION:

o "A" ES 4160V BUS VOLTAGE <3952 VOLTS FOR >5 SECONDS.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

o "A" ES 4160V BUS VOLTAGE METER INDICATING < 3952 VAC</p>

OPERATOR ACTIONS FOR A VALID ALARM:

o REFER TO AP-770.

DISCUSSION:

THIS ALARM WILL OCCUR WHEN ANY OF THREE VOLTAGE SENSE RELAYS DETECT LESS THAN 3952 VOLTS FOR GREATER THAN 5 SECONDS. A DIESEL GENERATOR START SIGNAL IS INITIATED IF ALL THREE VOLTAGE RELAYS SENSE THIS CONDITION.

REFERENCES: DRAWING 208-040 MT-131

SENSING ELEMENT: 27B-A/32EA, 27B-B/32EA, 27B-C/32EA

ENCLOSURE 1 (Page 35 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-02	Q-04-02
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4KV ES BUS DEGRADED VOLT TRIP

## **EVENT POINT 1818**

INDICATED CONDITION:

o "B" ES 4160V BUS VOLTAGE <3952 VOLTS FOR >5 SECONDS.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

"B" ES 4160V BUS VOLTAGE METER INDICATING < 3952 VAC</li>

OPERATOR ACTIONS FOR A VALID ALARM:

o REFER TO AP-770.

DISCUSSION:

THIS ALARM WILL OCCUR WHEN ANY OF THREE VOLTAGE SENSE RELAYS DETECT LESS THAN 3952 VOLTS FOR GREATER THAN 5 SECONDS. A DIESEL GENERATOR START SLONAL IS INITIATED IF ALL THREE VOLTAGE RELAYS SENSE THIS CONDITION.

REFERENCES: DRAWING 208-040 MT-132

SENSING ELEMENT: 27B-A/32EB, 27B-B/32EB, 27B-C/32EB

ENCLOSURE 1 (Page 36 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-03	Q-04-03
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CROSS-TIE BLOCKED LOSS OF DC

### **EVENT POINT 1184**

INDICATED CONDITION:

o "A" ES 4160V BUS CROSS TIE LOCKOUT RELAY LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5A FUSE #6. FUSES ARE LOCATED INSIDE THE MCB FOR THIS CIRCUIT.

REFERENCES: DRAWING 208-040 MT-129, MT-127

ENCLOSURE 1 (Page 37 of 111)

SSF ANNUNCIATOR RESPONSE

CROSS-TIE BLOCKED LOSS OF DC

### **EVENT POINT 1185**

INDICATED CONDITION:

o "A" ES 4160V BUS CROSS TIE CIRCUIT LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5A FUSE #6. ADDITIONAL FUSES BEHIND THE CONTROL BOARD ARE ALSO INVOLVED.

REFERENCES: DRAWING 208-040 MT-129, MT-127

ENCLOSURE 1 (Page 38 of 111)

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CROSS-TIE BLOCKED LOSS OF DC

## **EVENT POINT 1188**

INDICATED CONDITION:

O "B" ES 4160V BUS CROSS TIE LOCKOUT RELAY LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5B FUSE #6. FUSES ARE LOCATED INSIDE THE MCB FOR THIS CIRCUIT.

REFERENCES: DRAWING 208-040 MT-129, MT-128

ENCLOSURE 1 (Page 39 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-03	Q-04-03
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CROSS-TIE BLOCKED LOSS OF DC

## **EVENT POINT 1189**

INDICATED CONDITION:

O "B" ES 4160V BUS CROSS TIE CIRCUIT LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5B FUSE #6. ADDITIONAL FUSES BEHIND THE CONTROL BOARD ARE ALSO INVOLVED.

REFERENCES: DRAWING 208-040 MT-129, MT-128

ENCLOSURE 1

(Page 40 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-04	Q-04-04

ES BKR DC POWER LOSS

## **EVENT POINT 0555**

INDICATED CONDITION:

O "A" ES 4160V BUS SUPPLY BREAKER 3205 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 NO INDICATING LIGHTS ARE ON, LOCATED ON THE BREAKER 3205 CONTROL STATION.

OPERATOR ACTIONS FOR A VALID ALARM:

INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.
 REFER TO OP-703.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5A FUSE #10.

REFERENCES: DRAWING 208-040 MT-9

ENCLOSURE 1 (Page 41 of 111)

Q-04-04

SSF ANNUNCIATOR RESPONSE	SF-A2-04-04 Q-
	ES BKR
	DC POWER LOSS

## **EVENT POINT 0559**

INDICATED CONDITION:

O "B" ES 4160V BUS SUPPLY BREAKER 3206 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 NO INDICATING LIGHTS ARE ON, LOCATED ON THE BREAKER 3206 CONTROL STATION.

OPERATOR ACTIONS FOR A VALID ALARM:

INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.
 REFER TO OP-703.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5B FUSE #10.

REFERENCES: DRAWING 208-040 MT-10

ENCLOSURE 1 (Page 42 of 111)

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ES BKR DC POWER LOSS

## **EVENT POINT 0563**

INDICATED CONDITION:

o "A" ES 4160V BUS SUPPLY BREAKER 3207 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 NO INDICATING LIGHTS ARE ON, LOCATED ON THE BREAKER 3207 CONTROL STATION.

OPERATOR ACTIONS FOR A VALID ALARM:

INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.
 REFER TO OP-703.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5A FUSE #10.

REFERENCES: DRAWING 208-040 MT-11

ENCLOSURE 1 (Page 43 of 111)

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SF-A2-04-04

## **EVENT POINT 0566**

INDICATED CONDITION:

O "B" ES 4160V BUS SUPPLY BREAKER 3208 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 NO INDICATING LIGHTS ARE ON, LOCATED ON THE BREAKER 3208 CONTROL STATION.

OPERATOR ACTIONS FOR A VALID ALARM:

INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.
 REFER TO OP-703.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5B FUSE #10.

REFERENCES: DRAWING 208-040 MT-12

ENCLOSURE 1 (Page 44 of 111)



ES BKR DC POWER LOSS

## **EVENT POINT 0569**

INDICATED CONDITION:

O "A" ES 4160V BUS SUPPLY BREAKER 3209 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 NO INDICATING LIGHTS ARE ON, LOCATED ON THE BREAKER 3209 CONTROL STATION.

OPERATOR ACTIONS FOR A VALID ALARM:

INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.
 REFER TO OP-703.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5A FUSE #10.

REFERENCES: DRAWING 208-040 MT-13

ENCLOSURE 1 (Page 45 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-04	Q-04-04	
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# **EVENT POINT 0572**

INDICATED CONDITION:

O "B" ES 4160V BUS SUPPLY BREAKER 3210 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 NO INDICATING LIGHTS ARE ON, LOCATED ON THE BREAKER 3210 CONTROL STATION.

OPERATOR ACTIONS FOR A VALID ALARM:

INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.
 REFER TO OP-703.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5B FUSE #10.

REFERENCES: DRAWING 208-040 MT-14

ENCLOSURE 1 (Page 46 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-04	Q-04-04
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ES BKR DC POWER LOSS

## **EVENT POINT 0575**

INDICATED CONDITION:

O "A" ES 4160V BUS SUPPLY BREAKER 3211 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 NO INDICATING LIGHTS ARE ON, LOCATED ON THE BREAKER 3211 CONTROL STATION.

OPERATOR ACTIONS FOR A VALID ALARM:

INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.
 REFER TO OP-703.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5A FUSE #10.

REFERENCES: DRAWING 208-040 MT-15

ENCLOSURE 1 (Page 47 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-04	Q-04-04	
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ES BKR DC POWER LOSS

### **EVENT POINT 0578**

INDICATED CONDITION:

O "B" ES 4160V BUS SUPPLY BREAKER 3212 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 NO INDICATING LIGHTS ARE ON, LOCATED ON THE BREAKER 3212 CONTROL STATION.

OPERATOR ACTIONS FOR A VALID ALARM:

INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.
 REFER TO OP-703.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5B FUSE #10.

REFERENCES: DRAWING 208-040 MT-16

ENCLOSURE 1 (Page 48 of 111

SSF ANNUNCIATOR RESPONSE	SF-A2-04-04	Q-04-04	
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ES BKR DC POWER LOSS

## **EVENT POINT 0588**

INDICATED CONDITION:

 "B" ES 480V BUS TRANSFORMER SUPPLY BREAKER 3220 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 NO INDICATING LIGHTS ARE ON, LOCATED ON THE BREAKER 3220 CONTROL STATION.

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5B FUSE #10.

REFERENCES: DRAWING 208-040 MT-24

ENCLOSURE 1 (Page 49 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-04	Q-04-04	

ES BKR DC POWER LOSS

## **EVENT POINT 0590**

INDICATED CONDITION:

 "A" ES 480V BUS TRANSFORMER SUPPLY BREAKER 3221 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 NO INDICATING LIGHTS ARE ON, LOCATED ON THE BREAKER 3221 CONTROL STATION.

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

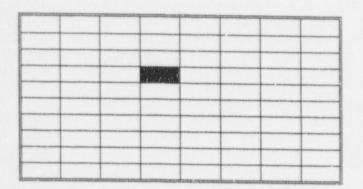
DC CONTROL POWER IS SUPPLIED FROM DPDP-5A FUSE #10.

REFERENCES: DRAWING 208-040 MT-25

#### ENCLOSURE 1

(Page 50 of 111)

SSF ANNUNCIATOR	RESPONSE	SF-A2-04-04	Q-04-04
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## **EVENT POINT 0592**

INDICATED CONDITION:

 480V PLANT AUX BUS TRANSFORMER SUPPLY BREAKER 3222 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 NO INDICATING LIGHTS ARE ON, LOCATED ON THE BREAKER 3222 CONTROL STATION.

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM D'DP-5B FUSE #10.

REFERENCES: DRAWING 208-040 MT-26

ENCLOSURE 1 (Page 51 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-04	Q-04-04	

ES BKR DC POWER LOSS

## **EVENT POINT 0609**

INDICATED CONDITION:

O "B" ES 480V BUS SUPPLY BREAKER 3310 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 NO INDICATING LIGHTS ARE ON, LOCATED ON THE BREAKER 3310 CONTROL STATION.

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

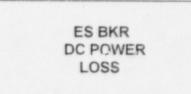
DC CONTROL POWER IS SUPPLIED FROM DPDP-5B FUSE #9.

REFERENCES: DRAWING 208-040 MT-34

#### ENCLOSURE 1 (Page 52 of 111)

Q-04-04

Γ	Γ	ES BK
		DC POV LOSS



## **EVENT POINT 0612**

INDICATED CONDITION:

O "A" ES 480V BUS SUPPLY BREAKER 3311 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O NO INDICATING LIGHTS ARE ON, LOCATED ON THE BREAKER 3311 CONTROL STATION.

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5A FUSE #9.

REFERENCES: DRAWING 208-040 MT-35

SENSING ELEMENT: 27C/3311

AR-702

ENCLOSURE 1 (Page 53 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-04	Q-04-(
		2010
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	ES B	KR

DC POWER LOSS

## **EVENT POINT 0616**

INDICATED CONDITION:

O "B" ES 480V BUS CROSS-TIE BREAKER 3390 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 NO INDICATING LIGHTS ARE ON, LOCATED ON THE BREAKER 3390 CONTROL STATION.

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5B FUSE #9.

REFERENCES: DRAWING 208-040 MT-37

SENSING ELEMENT: 27C/3390

AR-702

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ENCLOSURE 1 (Page 54 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-04	Q-04-04
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ES BKR DC POWER LOSS

## **EVENT POINT 0618**

INDICATED CONDITION:

O "A" ES 480V BUS CROSS-TIE BREAKER 3391 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 NO INDICATING LIGHTS ARE ON, LOCATED ON THE BREAKER 3391 CONTROL STATION.

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5A FUSE #9.

REFERENCES: DRAWING 208-040 MT-38

ENCLOSURE 1 (Page 55 of 111)

SSF	ANNUNCIATOR	RESPONSE	SF-A2-04-04	Q-04-04
		and a second	the second s	and the second

ES BKR DC POWER LOSS

# **EVENT POINT 0673**

INDICATED CONDITION:

0 480V ES MCC 3B1 SUPPLY BREAKER 3340 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5B FUSE #9.

REFERENCES: DRAWING 208-040 MT-47

ENCLOSURE 1 (Page 56 of 111)

Q-04-04

SSF ANNUNCIATOR RESPONSE

ES BKR DC POWER LOSS

SF-A2-04-04

### **EVENT POINT 0674**

INDICATED CONDITION:

0 480V ES MCC 3A1 SUPPLY BREAKER 3341 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5A FUSE #9.

REFERENCES: DRAWING 208-040 MT-54

ENCLOSURE 1 (Page 57 of 111)

A2-04-04	Q-04-04	
Ì	AZ-04-04	A2-04-04 Q-04-04

ES BKR DC POWER LOSS

### **EVENT POINT 0677**

INDICATED CONDITION:

O 480V ES MCC 3AB CROSS-TIE BREAKER 3361 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5A FUSE #9.

REFERENCES: DRAWING 208-040 MT-89

ENCLOSURE 1 (Page 58 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-04	Q-04-04
	and the same and an and a second s	

ES BKR DC POWER LOSS

## **EVENT POINT 0679**

INDICATED CONDITION:

0 480V ES MCC 3AB CROSS-TIE BREAKER 3360 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5B FUSE #9.

REFERENCES: DRAWING 208-040 MT-88

ENCLOSURE 1 (Page 59 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-04	Q-04-04	
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ES BKR DC POWER LOSS

# **EVENT POINT 0681**

INDICATED CONDITION:

0 480V ES MCC 3A2 SUPPLY BREAKER 3351 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5A FUSE #9.

REFERENCES: DRAWING 208-040 MT-46

ENCLOSURE 1 (Page 60 of 111)

SSF ANNUNCIATOR F	RESPONSE	SF-A2-04-04
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ES BKR DC POWER LOSS

## **EVENT POINT 0765**

INDICATED CONDITION:

0 480V ES MCC 3B3 SUPPLY BREAKER 3330 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5B FUSE #9.

REFERENCES: DRAWING 208-040 MT-116

ENCLOSURE 1 (Page 61 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-04	Q-04-0
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ES BKR DC POWER LOSS

## **EVENT POINT 0766**

INDICATED CONDITION:

0 480V ES MCC 3A3 SUPPLY BREAKER 3331 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

DC CONTROL POWER IS SUPPLIED FROM DPDP-5A FUSE #9.

REFERENCES: DRAWING 208-040 MT-113

ENCLOSURE 1 (Page 62 of 111)

Q-04-04

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ES BKR DC POWER LOSS

## **EVENT POINT 1152**

INDICATED CONDITION:

0 480V ES MCC 3B2 SUPPLY BREAKER 3350 LOSS OF DC CONTROL POWER.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE OF LOSS OF DC CONTROL POWER.

DISCUSSION:

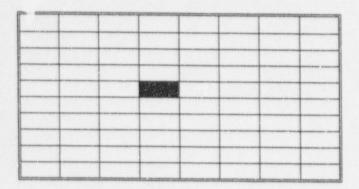
DC CONTROL POWER IS SUPPLIED FROM DPDP-5B FUSE #9.

REFERENCES: DRAWING 208-040 MT

## ENCLOSURE 1

(Page 63 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-05	Q-04-05	
		2	



ES BREAKER WITHDRAWN

# **EVENT POINT 0573**

INDICATED CONDITION:

o UNIT #3 DUMMY BREAKER WITHDRAWN.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE THE CAUSE FOR BREAKER BEING RACKED OUT.

DISCUSSION:

THIS BREAKER IS LOCATED IN THE "B" ES 4160V BUS SWITCHGEAR. THIS IS AN EXPECTED ALARM WHEN THE BREAKER IS IN THE TEST POSITION. TO RACK THIS BREAKER IN/OUT THE BACKUP ES TRANSFORMER AND ES 4160VAC BUSSES MUST BE DEENERGIZED.

THE DUMMY BREAKER HAS NO AUTOMATIC TRIP FUNCTIONS, IT ACTS TO CONNECT THE BACKUP ES TRANSFORMER FEED TO BREAKERS 3205 AND 3206 FOR THE ES 4160VAC BUSSES.

REFERENCES: DRAWING 208-040 MT-90 206-011

SENSING ELEMENT: 52H/B CONTACT FOR DUMMY BREAKER.

ENCLOSURE 1 (Page 64 of 111)

SSF ANNUNCIATOR	RESPONSE	SF-A2-04-05	Q-04-05	

ES BREAKER WITHDRAWN

## **EVENT POINT 0698**

INDICATED CONDITION:

O "B" ES 480V BUS TRANSFORMER SUPPLY BREAKER 3220 NOT RACKED IN.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 NEITHER RED NOR GREEN LIGHTS ARE ON, LOCATED ON BREAKER 3220 CONTROL STATION

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE THE CAUSE FOR BREAKER BEING RACKED OUT.

DISCUSSION:

THIS IS AN EXPECTED ALARM WHEN THE BREAKER IS IN THE TEST POSITION.

REFERENCES: DRAWING 208-040 MT-24

SENSING ELEMENT: 52H/B CONTACT FOR BREAKER 3220.

ENCLOSURE 1 (Page 65 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-05	Q-04-05
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ES BREAKER WITHDRAWN

# **EVENT POINT 0699**

INDICATED CONDITION:

O "A" ES 480V BUS TRANSFORMER SUPPLY BREAKER 3221 NOT RACKED IN.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 NEITHER RED NOR GREEN LIGHTS ARE ON, LOCATED ON BREAKER 3221 CONTROL STATION

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE THE CAUSE FOR BREAKER BEING RACKED OUT.

DISCUSSION:

THIS IS AN EXPECTED ALARM WHEN THE BREAKER IS IN THE TEST POSITION.

REFERENCES: DRAWING 208-040 MT-25

SENSING ELEMENT: 52H/B CONTACT FOR BREAKER 3221.

ENCLOSURE 1 (Page 66 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-05	0-04-05
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ES BREAKER WITHDRAWN

## **EVENT POINT 0707**

INDICATED CONDITION:

O "B" ES 480V BUS SUPPLY BREAKER 3310 NOT RACKED IN.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 NEITHER RED NOR GREEN LIGHTS ARE ON, LOCATED ON BREAKER 3310 CONTROL STATION

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE THE CAUSE FOR BREAKER BEING RACKED OUT.

DISCUSSION:

THIS IS AN EXPECTED ALARM WHEN THE BREAKER IS IN THE TEST POSITION.

REFERENCES: DRAWING 208-040 MT-34

SENSING ELEMENT: 52H/B CONTACT FOR BREAKER 3310.

ENCLOSURE 1 (Page 67 of 111)

Q-04-05

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ES BREAKER WITHDRAWN

## **EVENT POINT 0709**

INDICATED CONDITION:

O "A" ES 480V BUS SUPPLY BREAKER 3311 NOT RACKED IN.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 NEITHER RED NOR GREEN LIGHTS ARE ON, LOCATED ON BREAKER 3311 CONTROL STATION

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE THE CAUSE FOR BREAKER BEING RACKED OUT.

DISCUSSION:

THIS IS AN EXPECTED ALARM WHEN THE BREAKER IS IN THE TEST POSITION.

REFERENCES: DRAWING 208-040 MT-35

SENSING ELEMENT: 52H/B CONTACT FOR BREAKER 3311.

ENCLOSURE 1 (Page 68 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-05	Q-04-05
	JI 16 04 0J	U-04-03

ES BREAKER WITHDRAWN

## **EVENT POINT 0712**

INDICATED CONDITION:

0 480V ES MCC 3AB CROSS-TIE BREAKERS 3360 AND 3361 NOT RACKED IN.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE THE CAUSE FOR BOTH BREAKERS BEING RACKED OUT.

DISCUSSION:

REFERENCES: DRAWING 208-040 MT-88, MT-89

SENSING ELEMENT: 52H/B CONT ACTS FOR BREAKERS 3360 AND 3361.

ENCLOSURE 1 (Page 69 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-07	Q-04-07	
	ST-A2-04-07	Q-04-07	

ES MCC 3AB DEAD

#### **EVENT POINT 0697**

INDICATED CONDITION:

O 480V ES MCC 3AB LOSS OF VOLTAGE AS SENSED BY THE AR RELAY.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

- o REFER TO OP-700B
- INVESTIGATE CAUSE FOR MCC 3AB LOSS OF VOLTAGE.
- DEPRESS PUSH-BUTTON LABELED "TRANSFER TO 480V AC ES SWGR 3A/3B" TO RESTORE POUER TO MCC.

DISCUSSION:

WHEN TRANSFER OF POWER IS COMPLETE, THE INDICATOR LIGHT ON MCB LABELED "LOAD TO MCC 3AB" WILL ILLUMINATE.

REFERENCES: DRAWING 208-040 MT-125

SENSING ELEMENT: AR RELAY.

ENCLOSURE 1 (Page 70 of 111)

SSF ANNU	NCIATOR RESPONSE	SF-A2-04-08	Q-04-08	

ES MCC 3AB BREAKER OPEN

## **EVENT POINT 0678**

INDICATED CONDITION:

0 480V ES MCC 3AB CROSS-TIE BREAKER 3361 OPEN.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE FOR MCC 3AB BREAKER 3361 OPEN.

DISCUSSION:

REFERENCES: DRAWING 208-040 MT-89

SENSING ELEMENT: R/B SWITCHGEAR CONTACT FOR BREAKER 3361

ENCLOSURE 1 (Page 71 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-04-08	Q-04-08
	and the second	and the second s

ES MCC 3AB BREAKER OPEN

# **EVENT POINT 0680**

INDICATED CONDITION:

o 480V ES MCC 3AB CROSS-TIE BREAKER 3360 OPEN.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O INVESTIGATE CAUSE FOR MCC 3AB BREAKER 3360 OPEN.

DISCUSSION:

REFERENCES: DRAWING 208-040 MT-88

SENSING ELEMENT: R/B SWITCHGEAR CONTACT FOR BREAKER 3360

ENCLOSURE 1 (Page 72 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-05-01	Q-05-01
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4KV ES BUS B DEAD

#### **EVENT POINT 0651**

INDICATED CONDITION:

"B" ES 4160V BUS UNDERVOLTAGE

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

o 4160V ES BUS 3B VOLTAGE INDICATION.

OPERATOR ACTIONS FOR A VALID ALARM:

o REFER TO AP-770.

DISCUSSION:

THIS ALARM IS THE RESULT OF A 2 OUT OF 3 UNDERVOLTAGE (FLUR) RELAY LOGIC.

THE FLUR RELAYS ARE INTENDED TO PROVIDE ES 4160VAC UNDERVOLTAGE RESPONSE WHEN VOLTAGE DROPS INSTANTLY TO ZERO. THE SLUR RELAY WILL PROVIDE UNDERVOLTAGE RESPONSE WHEN THE VOLTAGE DROPS GRADUALLY BELOW THE SLUR SETPOINT.

REFERENCES: DRAWING 208-040 MT-65

SENSING ELEMENT: 27Y-3/32EA RELAY

ENCLOSURE 1 (Page 73 of 111)

SSF ANNUNCIATOR RESPONSE

DIESEL GEN B BREAKER TRIP

#### **EVENT POINT 0336**

INDICATED CONDITION:

DIESEL GENERATOR "B" BKR 3210 LOCKOUT ACTUATED

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

GREEN LIGHT IS ON WITH A RED FLAG ON THE BREAKER 3210 CONTROL STATION.
 VERIFY 86B EDG BREAKER LOCKOUT RELAY OPEN

OPERATOR ACTIONS FOR A VALID ALARM:

O REFER TO AP-770.

DISCUSSION: THE 86B EDG BREAKER LOCKOUT RELAY WILL TRIP AND PREVENT RECLOSURE OF THE EDG OUTPUT BREAKER FOR:

- O OVERCURRENT (DEVICE 51V)
- o NEGATIVE SEQUENCE (DEVICE 46)
- o GENERATOR GROUND (DEVICE 64)
- o ES BUS FEEDER BREAKER OVERCURRENT (DEVICE 51B, 51 BN)

THE ACTUATION OF THE NEW 86B LOCKOUT WILL RESULT IN THE ENGINE REMAINING RUNNING WITH THE OUTPUT BREAKER OPEN. THIS WILL REQUIRE THE ENGINE SHUTDOWN WITHIN 2 HOURS

REFERENCES: DRAWING 208-040 MT-14

SENSING ELEMENT: CS/SC, CS/O CS CONTACTS, 52H/A, 52S/B & 86B/3210 CONTACTS

ENCLOSURE 1 (Page 74 of 111)

SSF ANNUNCIATOR	RESPONSE	SF-A2-05-02	Q-05-02
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DIESEL GEN B BREAKER TRIP

#### **EVENT POINT 0571**

INDICATED CONDITION:

O DIESEL GENERATOR "B" BKR 3210 AUTO TRIP

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

GREEN LIGHT IS ON WITH A RED FLAG ON THE BREAKER 3210 CONTROL STATION.
 VERIFY 86B EDG BREAKER LOCKOUT RELAY OPEN

OPERATOR ACTIONS FOR A VALID ALARM:

o REFER TO AP-770.

DISCUSSION: THE 86B EDG BREAKER LOCKOUT RELAY WILL TRIP AND PREVENT RECLOSURE OF THE EDG OUTPUT BREAKER FOR:

- OVERCURRENT (DEVICE 51V)
- o NEGATIVE SEQUENCE (DEVICE 46)
- o GENERATOR GROUND (DEVICE 64)
- O ES BUS FEEDER BREAKER OVERCURRENT (DEVICE 51B, 51 BN)

THE ACTUATION OF THE NEW 86B LOCKOUT WILL RESULT IN THE ENGINE REMAINING RUNNING WITH THE OUTPUT BREAKER OPEN. THIS WILL REQUIRE THE ENGINE SHUTDOWN WITHIN 2 HOURS

REFERENCES: DRAWING 208-040 MT-14

SENSING ELEMENT: CS/SC, CS/O CONTROL SWITCH CONTACTS, 52H/A, 52S/B CONTACTS

ENCLOSURE 1 (Page 75 of 111)

SSF ANNUNCIATOR RES	PONSE	SF-A2-05-03	Q-05-03
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DIESEL GEN B
BREAKER
CLOSED

## **EVENT POINT 1186**

INDICATED CONDITION:

 "B" ES 4160V BUS DIESEL OUTPUT BREAKER 3210 IS CLOSED, WITH EITHER AN ES ACTUATION SIGNAL OR BUS UNDERVOLTAGE SIGNAL PRESENT

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O RED LIGHT IS ON WITH A GREEN FLAG ON BREAKER 3210 CONTROL STATION.

OPERATOR ACTIONS FOR A VALID ALARM:

o REFER TO AP-770.

DISCUSSION:

REFERENCES: DRAWING 208-040 MT-128, MT-129

SENSING ELEMENT: 86B/ESB

ENCLOSURE 1 (Page 76 of 111)

SSF ANNUNCIATOR	RESPONSE	SF-A2-05-04	Q-05-04

4KV ES B CROSS-TIE BLOCKED

#### **EVENT POINT 1187**

INDICATED. CONDITION:

O BREAKERS 3209 AND 3210 CLOSED WITH EITHER 3205, 3207, OR 3211 CLOSED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

DIESEL GEN "A" CROSS-TIE LIGHT EXTINGUISHED.
IF 3205 CLOSED THEN, BLOCK CLOSING ACTUATED 3206 LIGHT IS ON.
IF 3207 CLOSED THEN, BLOCK CLOSING ACTUATED 3208 LIGHT IS ON.
IF 3211 CLOSED THEN, BLOCK CLOSING ACTUATED 3212 LIGHT IS ON.

OPERATOR ACTIONS FOR A VALID ALARM:

DISCUSSION:

REFERENCES: DRAWING 208-040 MT-127, MT-129

SENSING ELEMENT: 3-52-2, 3-525 CONTACTS

ENCLOSURE 1 (Page 77 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-05-05	Q-05-05
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DIESEL GEN B VOLTAGE ADJ IN CONTROL RM

## **EVENT POINT 1178**

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INDICATED CONDITION:

O DIESEL GENERATOR "B" VOLTAGE ADJUST SELECTED TO THE CONTROL ROOM.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 DIESEL GENERATOR B "EXC VOLT ADJ SELECT" SWITCH SELECTED TO "CONT RM" POSITION.

OPERATOR ACTIONS FOR A VALID ALARM:

DISCUSSION:

THIS SWITCH IS NORMALLY SELECTED TO THE "DG RM" POSITION.

REFERENCES: DRAWING 208-027 EG-18

SENSING ELEMENT: SS/O, CB/SSF CONTACT

ENCLOSURE 1 (Page 78 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-05-07	Q-05-07
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480V ES BUS B DEAD

### **EVENT POINT 0655**

INDICATED CONDITION:

o "B" 480, BUS UNDERVOLTAGE.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

o 480V ES BUS "B" VOLTAGE INDICATES LESS THAN NORMAL.

OPERATOR ACTIONS FOR A VALID ALARM:

O REFER TO AP-770

DISCUSSION:

REFERENCES: DRAWING 208-040 MT-66

SENSING ELEMENT: 27Y-1/33EB

ENCLOSURE 1 (Page 79 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-05-08	0-05-08	
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480V ES BUS B UV LOCKOUT ACT

#### **EVENT POINT 0722**

INDICATED CONDITION:

O "B" ES 480V BUS UNDERVOLTAGE LOCK OUT RELAY ACTUATED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

o 4160V ES BUS B VOLTAGE INDICATES LESS THAN NORMAL.
 o 480V ES BUS B VOLTAGE INDICATES LESS THAN NORMAL.
 o BREAKER 3210 INDICATION.

OPERATOR ACTIONS FOR A VALID ALARM:

o REFER TO AP-770

DISCUSSION:

THE 480V ES UNDERVOLTAGE LOCK OUT RELAY IS ACTUATED WHEN, EITHER THE 'B' DIESEL OUTPUT BREAKER IS CLOSED, OR 4160V ES BUS B UNDERVOLTAGE OCCURS WITH AN ES ACTUATION.

REFERENCES: DRAWING 208-040 MT-79

SENSING ELEMENT: 86/27ESB

ENCLOSURE 1 (Page 80 of 111)

X

SSF ANNUNCIATOR RESPONSE	SF-A2-06-01	Q-06-0
	DIESEL IN THE 30 M	GEN B

#### **EVENT POINT 1996**

INDICATED CONDITION:

O DIESEL GENERATOR "B" OVER 3250 KW.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

DIESEL GENERATOR "B" KW INDICATION.

 DIESEL GENERATOR "B" "EDG-3B ELAPSED TIME IN 30 MIN RATING." TIMER OPERATING.

OPERATOR ACTIONS FOR A VALID ALARM:

REFER TO AP-770.REDUCE LOAD IF SURVEILLANCE TESTING.

DISCUSSION:

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THIS ALARM IS INSTANTANEOUS WHEN DIESEL LOAD EXCEEDS 3250 K

REFERENCES: DRAWING 208-027 EG-21

SENSING ELEMENT: 620X

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ENCLOSURE 1 (Page 81 of 111)

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4KV E UNDERV TRIP BL						

# **EVENT POINT 0824**

INDICATED CONDITION:

o "B" ES 4160V BUS UNDERVOLTAGE PROTECTION DISABLED.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

TRIP BLOCK SWITCHES, TBS1 AND TBS2, LOCATED IN MTCP-1B IN THE 4160V ES "B" SWITCHGEAR ROOM ARE IN OPEN POSITION.

OPERATOR ACTIONS FOR A VALID ALARM:

O MONITOR "B" ES BUS VOLTAGES DURING UNDERVOLTAGE RELAY TESTING.

DISCUSSION:

THIS ALARM WILL OCCUR WHEN TESTING THE BUS UNDERVOLTAGE RELAYS. NO UNDER-VOLTAGE PROTECTION IS AVAILABLE DURING TESTING.

REFERENCES: DRAWING 208-040 MT-65B

SENSING ELEMENT: TBS1, TBS2

ENCLOSURE 1

(Page 82 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-07-01	Q-07-01

B/U ES XFMR FAULT

## **EVENT POINT 0727**

#### INDICATED CONDITION:

- O BACKUP ES TRANSFORMER PRIMARY PROTECTION ALARM

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 THE FOLLOWING BREAKERS WILL AUTOMATICALLY TRIP AND LOCKOUT BREAKER 3103 BREAKER 3203 BREAKER 3205 BREAKER 1691 BREAKER 3104 BREAKER 3204 BREAKER 3206 BREAKER 1692

OPERATOR ACTIONS FOR A VALID ALARM:

 NOTIFY SYSTEM DISPATCHER
 VERIFY FOLLOWING BREAKERS OPEN BREAKER 3103 BREAKER 3203 BREAKER 3205 BREAKER 1691 BREAKER 3104 BREAKER 3204 BREAKER 3206 BREAKER 1692

#### DISCUSSION:

THIS IS AN INDICATION OF A PHASE IMBALANCE ON THE BACKUP ES TRANSFORMER. THE LOCK-OUT RELAY ACTUATES TO STRIP THE POWER FEED AND THE LOADS OFF OF THE TRANSFORMER, AND TO PREVENT CLOSING IN A BREAKER ON A FAULTED TRANSFORMER.

REFERENCES: DRAWING 208-040 MT-139

SENSING ELEMENT: 86TBEST-1, 87TBEST-\$A, 87TBEST-\$B, 87TBEST-\$C

ENCLOSURE 1 (Page 83 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-07-01	Q-07-01
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B/U ES XFMR FAULT

#### **EVENT POINT 0728**

INDICATED CONDITION:

 BACKUP ES TRANSFORMER SUDDEN PRESSURE RELAY, 86SPBEST-1 AND/OR NEUTRAL GROUND & GROUND DIFFERENTIAL RELAY, 86TNGDBEST-1 HAVE ACTUATED

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

 THE FOLLOWING BREAKERS WILL AUTOMATICALLY TRIP AND LOCKOUT BREAKER 3103 BREAKER 3203 BREAKER 3205 BREAKER 1691 BREAKER 3104 BREAKER 3204 BREAKER 3206 BREAKER 1692

OPERATOR ACTIONS FOR A VALID ALARM:

 NOTIFY SYSTEM DISPATCHER
 VERIFY FOLLOWING BREAKERS OPEN BREAKER 3103 BREAKER 3203 BREAKER 3205 BREAKER 1691 BREAKER 3104 BREAKER 3204 BREAKER 3206 BREAKER 1692

#### DISCUSSION:

THIS IS INDICATION OF A FLASH OVER OR AN INTERNAL GROUND ON THE BACKUP ES TRANSFORMER. THE LOCKOUT RELAY ACTUATES TO STRIP THE POWER FEED AND THE LOADS OFF OF THE TRANSFORMER, AND TO PREVENT CLOSING IN A BREAKER ON A FAULTED TRANSFORMER.

REFERENCES: DRAWING 208-040 MT-137, 138

SENSING ELEMENT: 27C/86TNGDBEST-1, 86SPBEST-1, 51TN, 87GN, 63FPX

ENCLOSURE 1 (Page 84 of 111)

SSF ANNUNCIATOR RESPONSE

BREAKER 1691/1692 OPEN

#### **EVENT POINT 0855**

INDICATED CONDITION:

O BREAKER 1692 IS OPEN

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O GREEN LIGHT IS ON, LOCATED ON THE BREAKER 1692 CONTROL STATION

OPERATOR ACTIONS FOR A VALID ALARM:

CONTACT UNITS 1 & 2
CONTACT SYSTEM DISPATCHER

DISCUSSION:

THIS IS A NORMAL ALARM WHEN THE BREAKER IS NOT CLOSED. ONE OF THE FEEDER BREAKERS BEING OPENED ON THE START-UP TRANSFORMERS MAY PRESENT AN OFFSITE POWER AVAILABILITY CONCERN REFER TO TS FOR ADMINISTRATIVE REQUIREMENTS.

REFERENCES: DRAWING 229-102

SENSING ELEMENT: AUXILIARY CONTACT 52a 5/5c

ENCLOSURE 1 (Page 85 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-07-02	Q-07-02
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BREAKER 1691/1692 OPEN

#### **EVENT POINT 0860**

INDICATED CONDITION:

 BREAKER 1692 GROUND FAULT LOCK-OUT RELAY 86FDM HAS ACTUATED, DUE TO CURRENT ON THE NEUTRAL/GROUND SENSED BY RELAY 50G/M

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O THE FOLLOWING BREAKERS WILL AUTOMATICALLY TRIP AND LOCK-OUT

BREAKER	3103	BREAKER	3104	BREAKER	3203	BREAKER	3204
BREAKER	3205	BREAKER	3206	BREAKER	1691	BREAKER	1692

OPERATOR ACTIONS FOR A VALID ALARM:

O ENSURE BREAKER 1691 HAS OPENED

O VERIFY THE OPERATION OF THE FULLOWING LOCK-OUT RELAYS:

- 86/FDM 86/PL4 86/BBB
- VERIFY ALL FEEDER BREAKERS FROM STARTUP TRANSFORMER ARE OPEN.
   BREAKER 3103 BREAKER 3104 BREAKER 3203
  - BREAKER 3204 BREAKER 3205 BREAKER 3206

DISCUSSION:

THIS IS INDICATION OF A GROUND ON THE NEUTRAL FOR BREAKER 1692. THE LOCK-OUT RELAY ACTUATES TO STRIP THE POWER FEED AND THE LOADS OFF OF THE TRANSFORMER, AND TO PREVENT CLOSING IN A BREAKER ON A FAULTED TRANSFORMER.

REFERENCES: DRAWING 229-103

SENSING ELEMENT: 50G/M, 86/FDM

ENCLOSURE 1 (Page 86 of 111)

SSF ANNUNCIATOR RESPONSE SF-/	A2-07-02 Q-07-02	1
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BREAKER 1691/1692 OPEN

#### **EVENT POINT 0861**

INDICATED CONDITION:

O BREAKER 1691 IS OPEN

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O GREEN LIGHT IS ON, LOCATED ON THE BREAKER 1691 CONTROL STATION.

OPERATOR ACTIONS FOR A VALID ALARM:

CONTACT UNITS 1 & 2
 CONTACT SYSTEM DISPATCHER

DISCUSSION:

THIS IS A NORMAL ALARM WHEN THE BREAKER IS NOT CLOSED. ONE OF THE FEEDER BREAKERS BEING OPENED ON THE START-UP TRANSFORMERS MAY PRESENT AN OFFSITE POWER AVAILABILITY CONCERN.

REFER TO TS FOR ADMINISTRATIVE REQUIREMENTS.

REFERENCES: DRAWING 104

SENSING ELEMENT: AUXILIARY CONTACT 52a 5/5c

ENCLOSURE 1 (Page 87 of 111)

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BACKUP ES XFMR MAJOR ALARM

## **EVENT POINT 0631**

INDICATED CONDITION:

O BACKUP ES TRANSFORMER PRESSURE RELIEF DEVICE HAS ACTUATED DUE TO A PRESSURE >10 PSIG AS SENSED BY DEVICE 63 PR

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O LOCAL PRESSURE INDICATOR

OPERATOR ACTIONS FOR A VALID ALARM:

O NOT FY SYSTEM DISPATCHER

- · VERIFY ALL BEST TRANSFORMER OIL PUMPS AND FANS ARE OPERATING
- VERIFY TRANSFORMER TEMPERATURES ARE NORMAL
- O CONSIDERATION SHOULD BE GIVEN TO REDUCE ELECTRICAL LOAD

DISCUSSION:

THIS ALARM IS INDICATIVE OF A FAULT INTERNAL TO THE TRANSFORMER, THE LOAD ON THE TRANSFORMER SHOULD BE REDUCED AS MUCH AS POSSIBLE

REFERENCES: DRAWING 208-040 MT-140, MT-138

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SENSING ELEMENT: 63PR, 86SPBEST-1

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ENCLOSURE 1

(Page 88 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-07-03	Q-07-03
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BACKUP ES XFMR MAJOR ALARM

## **EVENT POINT 0857**

INDICATED CONDITION:

O BACKUP ES TRANSFORMER OIL LEVEL LOW

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

o LOCAL LEVEL INDICATION

OPERATOR ACTIONS FOR A VALID ALARM:

NOTIFY SYSTEM DISPATCHERCHECK TRANSFORMER FOR OIL LEAKAGE

DISCUSSION:

REFERENCES: DRAWING 208-040 MT-140

SENSING ELEMENT: 71Q

ENCLOSURE 1

(Page 89 of 111)

Q-07-03

SSF ANNUNCIATOR RESPONSE	SF-A2-07-03
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BACKUP ES XFMR MAJOR ALARM

## **EVENT POINT 1813**

INDICATED CONDITION:

○ BACKUP ES TRANSFORMER TEMPERATURE HIGH DUE TO EITHER OIL TEMPERATURE >90°C AS SENSED BY DEVICE 26Q OR WINDING TEMPERATURE >105°C AS SENSED BY DEVICE 49

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O LOCAL INDICATING GAGES FOR OIL TEMPERATURE AND WINDING TEMPERATURE

OPERATOR ACTIONS FOR A VALID ALARM:

o NOTIFY SYSTEM DISPATCHER

- O VERIFY ALL BACKUP ES TRANSFORMER OIL PUMPS AND FANS OPERATING
- O CONSIDERATION SHOULD BE GIVEN TO REDUCE ELECTRICAL LOAD

DISCUSSION:

THIS IS INDICATIVE OF A PROBLEM WITH THE TRANSFORMER COOLING SYSTEM CONSIDERATION SHOULD BE GIVEN TO REDUCING THE LOAD ON THE TRANSFORMER.

REFERENCES: DRAWING 208-40 MT-140

SENSING ELEMENT: 26Q

ENCLOSURE 1 (Page 90 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-07-04	Q-07-04
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BACKUP ES XFMR MINOR ALARM

## **EVENT POINT 1151**

INDICATED CONDITION:

O BACKUP ES TRANSFORMER LOSS OF COOLING/GAS CONTROL

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O LOCAL FLOW INDICATION

OPERATOR ACTIONS FOR A VALID ALARM:

NOTIFY SYSTEM DISPATCHER
 VERIFY BEST TRANSFORMER OIL PUMP & FANS OPERATING

DISCUSSION:

REFERENCES: DRAWING 208-040 MT-140

SENSING ELEMENT: 74TDOE, 63C, 63PG, 63LG

ENCLOSURE 1

(Page 91 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-07-04	Q-07-04	
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BACKUP ES XFMR MINOR ALARM

## **EVENT POINT 1153**

INDICATED CONDITION:

O BACKUP ES TRANSFORMER LOSS OF AUXILIARY AC POWER

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

o NOTIFY SYSTEM DISPATCHER

DISCUSSION:

THE TRANSFORMER SHOULD CONTINUE TO BE FUNCTIONAL ON THE NORMAL POWER SUPPLY

REFERENCES: DRAWING 208-040 MT-140

SENSING ELEMENT: 27-1, 27-2, 27-3

ENCLOSURE 1 (Page 92 of 111)

SS	F ANNUNCIATOR	RESPONSE	SF-A2-07-05	Q-07-05	
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BREAKER 1692 TROUBLE

#### **EVENT POINT 0856**

INDICATED CONDITION.

O BREAKER 1692 LP AIR SYSTEM PRESSURE IS LOW

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O NOTIFY SYSTEM DISPATCHER

DISCUSSION:

BREAKER 1692 IS A 230KV AIR OPERATED (ATB) TYPE OF BREAKER.

THIS ALARM INDICATES THE BREAKER 1692 AIR OPERATING SYSTEM LP AIR PRESSURE IS BELOW NORMAL, AND THEREFORE LARGE AIR LEAKS, OR COMPRESSOR/COMPRESSOR CONTROL FAILURES ARE PROBABLE.

OPERATING BREAKER 1692 SEVERAL TIMES IN A BRIEF PERIOD OF TIME CAN USE MORE AIR THAN THE RATE AT WHICH THE COMPRESSOR CAN MAINTAIN.

REFERENCES: DRAWING 229-102; DRAWING S171 (SUBSTATION)

SENSING ELEMENT: 63AL

ENCLOSURE 1 (Page 93 of 111)

SSF	ANNUNCIATOR	RESPONSE	SF-A2-07-05	Q-07-05	

BREAKER 1692 TROUBLE

## **EVENT POINT 0859**

INDICATED CONDITION:

O BREAKER 1692 HP AIR SYSTEM PRESSURE IS LOW

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O NOTIFY SYSTEM DISPATCHER

DISCUSSION:

BREAKER 1692 IS A 230KV AIR OPERATED (ATB) TYPE OF BREAKER.

THIS ALARM INDICATES THE BREAKER 1692 AIR OPERATING SYSTEM LP AIR PRESSURE IS BELOW NORMAL, AND THEREFORE LARGE AIR LEAKS, OR COMPRESSOR/COMPRESSOR CONTROL FAILURES ARE PROBABLE.

OPERATING BREAKER 1692 SEVERAL TIMES IN A BRIEF PERIOD OF TIME CAN USE MORE AIR THAN THE RATE AT WHICH THE COMPRESSOR CAN MAINTAIN.

REFERENCES: DRAWING 229-102; DRAWING S171 (SUBSTATION)

SENSING ELEMENT: 63AH

ENCLOSURE 1 (Page 94 of 111)

SSF ANNUNCIATOR R	ESPONSE	SF-A2-07-05	Q-07-05	
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BREAKER
1692
TROUBLE

# **EVENT POINT 0866**

INDICATED CONDITION:

O BREAKER 1692 AIR COMPRESSOR RUN TIME EXCESSIVE

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

o NOTIFY SYSTEM DISPATCHER

DISCUSSION:

BREAKER 1692 IS A 230KV AIR OPERATED (ATB) TYPE OF BREAKER.

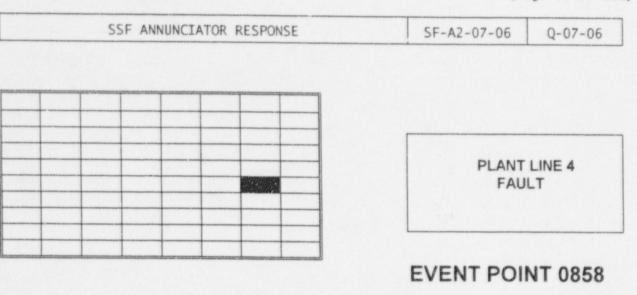
THIS ALARM INDICATES THE BREAKER 1692 AIR OPERATING SYSTEM AIR COMPRESSOR HAS BEEN RUNNING LONGER THAN NORMAL, AND THEREFORE LARGE AIR LEAKS OR FAILURES ARE PROBABLE. THE COMPRESSOR IS USED FOR MAINTAINING THE HIGH PRESSURE RESERVOIR ABOVE THE HP AIR MINIMUM PRESSURE SETPOINT.

OPERATING BREAKER 1692 SEVERAL TIMES IN A BRIEF PERIOD OF TIME CAN USE MORE AIR THAN THE RATE AT WHICH THE COMPRESSOR CAN MAINTAIN.

REFERENCES: DRAWING 229-102; DRAWING S171 (SUBSTATION)

SENSING ELEMENT: COMPRESSOR CONTROLLER

ENCLOSURE 1 (Page 95 of 111)



INDICATED CONDITION:

 PLANT LINE 4 PRIMARY DIFFERENTIAL LOCK-OUT RELAY 86/PL4 HAS ACTUATED, DUE TO CURRENT DIFFERENTIAL ON THE PRIMARY SIDE OF THE STARTUP AND BEST TRANSFORMER AS SENSED BY 87PL4¢A, 87PL4¢B, OR 87PL4¢C

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

o THE FOLLOWING BREAKERS WILL AUTOMATICALLY TRIP AND LOCK-OUT

BREAKER 3103	BREAKER 3104	BREAKER 3203	BREAKER 3204
BREAKER 3205	BREAKER 3206	BREAKER 1691	BREAKER 1692

OPERATOR ACTIONS FOR A VALID ALARM:

 VERIFY THE OPERATION OF THE LOCK OUT RELAYS 86/PL4, 86X/PL4
 ENSURE THAT ALL FEEDER BREAKERS FROM THE STARTUP AND 'BEST' TRANSFORMERS ARE OPEN.

#### DISCUSSION:

THIS IS INDICATION OF A FAULT ON THE INCOMING 230KV LINE TO THE STARTUP AND BEST TRANSFORMERS. THE LOCK-OUT RELAY ACTUATES TO STRIP THE POWER FEED AND THE LOADS OFF OF THE TRANSFORMERS, AND TO PREVENT CLOSING IN A BREAKER ON A FAULTED TRANSFORMER.

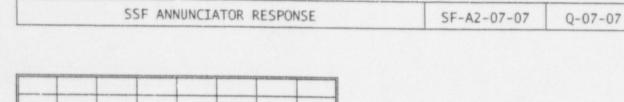
REFERENCES: DRAWING 207-012, 229-107

SENSING ELEMENT: RELAY 86BU/PL4-1, 86BU/PL4-2, 87AUX-0A, 87AUX-0B, 87AUX-0C

ENCLOSURE 1 (Page 96 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-07-06	Q-07-06
	i at	
	PLANT FAU	LINE 4 ILT
	EVENT POI	NT 0862
<ul> <li>PLANT LINE 4 BACK-UP DIFFERENTIAL LOCK-O DUE TO AN OVER CURRENT ON THE PRIMARY SI TRANSFORMERS AS SENSED BY 87AUX¢A, 87AUX¢</li> <li>REDUNDANT INDICATION WHICH WILL VERIFY ALARM</li> <li><u>THE FOLLOWING BREAKERS WILL AUTOMATICALL</u> BREAKER 3103 BREAKER 3104 BREAKER 3205 BREAKER 3206 BREAKER</li> </ul>	DE OF THE STARTUP AND B, OR 8AUX46C A: <u>Y TRIP AND LOCK-OUT</u> AKER 3203 BREAKE	R 3204
OPERATOR ACTIONS FOR A VALID ALARM: O VERIFY THE OPERATION OF THE LOCK OUT REL O ENSURE THAT ALL FEEDER BREAKERS FROM THE ARE OPEN.	AYS 86BU/PL4, 86BU/PL	.4
DISCUSSION: THIS IS INDICATION OF A FAULT ON THE INCOM AND BEST TRANSFORMER. THE LOCK-OUT RELAY AND THE LOADS OFF OF THE TRANSFORMERS, AND ON A FAULTED TRANSFORMER.	ACTUATES TO STRIP THE	POWER FEE
REFERENCES: DRAWING 207-012, 229-107		

ENCLOSURE 1 (Page 97 of 111)



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230KV	
GRID	
DEGRADING	

### **EVENT POINT 0827**

INDICATED CONDITION:

o 4160V ES BUS 3A VOLTAGE IS < 4019 VAC FOR >2 SECS AS SENSED BY RELAY 27SLUA/32EA

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

o "A" ES 4160V BUS VOLTAGE METER INDICATING < 4019 VAC</p>

OPERATOR ACTIONS FOR A VALID ALARM:

O NOTIFY SYSTEM DISPATCHER TO INCREASE GRID VOLTAGE

DISCUSSION:

THIS ALARM IS INTENDED TO ALERT OPERATORS OF AN IMPENDING DEGRADED VOLTAGE (SLUR) CONDITION IN THE 230KV GRID. THIS CONDITION IS A PRECURSOR TO A DEGRADED VOLTAGE TRIP OF THE "A" ES 4160V BUS.

ALARM RESET SHOULD OCCUR BETWEEN 4038 AND 4058 VOLTS AC.

REFERENCES: DRAWING 208-040 SHEET MT-131

SENSING ELEMENT: RELAY 27SLUA/32EA

ENCLOSURE 1 (Page 98 of 111)

SSF ANNUNCIATOR RESPONSE
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230KV GRID DEGRADING

#### **EVENT POINT 0828**

INDICATED CONDITION:

o 4160V ES BUS 3B VOLTAGE IS < 4019 VAC FOR >2 SECS AS SENSED BY RELAY
27SLUB/32EB

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

o "B" ES 4160V BUS VOLTAGE METER INDICATING < 4019 VAC</p>

OPERATOR ACTIONS FOR A VALID ALARM:

O NOTIFY SYSTEM DISPATCHER TO INCREASE GRID VOLTAGE

DISCUSSION:

THIS ALARM IS INTENDED TO ALERT OPERATORS OF AN IMPENDING DEGRADED VOLTAGE (SLUR) CONDITION IN THE 230KV GRID. THIS CONDITION IS A PRECURSOR TO A DEGRADED VOLTAGE TRIP OF THE "B" ES 4160V BUS.

ALARM RESET SHOULD OCCUR BETWEEN 4038 AND 4058 VOLTS AC.

REFERENCES: DRAWING 208-040 SHEET MT-132

SENSING ELEMENT: RELAY 27SLUB/32EB

ENCLOSURE 1 (Page 99 of 111)

SST HUNCHERTON NESTONSE	31-WE-00-01 0-01
	OFFSITE PWR SOURCE XFMR FAULT
	EVENT POINT 0777
INDICATED CONDITION:	

SSE ANNUNCTATOR RESPONSE

O OFFSITE POWER TRANSFORMER GROUND FAULT LOCK-OUT RELAYS 71T9TD, 7BD9, 71T9TN HAS ACTUATED, DUE TO CURRENT ON THE NEUTRAL/GROUND SENSED BY RELAY 50N, 50AN, OR 50AM.

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

THE FOLLOWING BREAKERS WILL AUTOMATICALLY TRIP AND LOCK-OUT

BREAKER 4900 BREAKER 4902 BREAKER 3211 BREAKER 3212

OPERATOR ACTIONS FOR A VALID ALARM:

O ENSURE THAT FEEDER AND LOAD BREAKERS FROM OFFSITE POWER TRANSFORMER ARE OPEN. BREAKER 4900 BREAKER 4902 BREAKER 3211 BREAKER 3212

#### DISCUSSION:

THIS IS INDICATION OF AN INTERNAL GROUND ON THE OFFSITE POWER TRANSFORMER. THE LOCK-OUT RELAY ACTUATES TO STRIP THE POWER FEED AND THE LOADS OFF OF THE TRANSFORMER, AND TO PREVENT CLOSING IN A BREAKER ON A FAULTED TRANSFORMER.

REFERENCES: DRAWING 208-079 SHEET SB-18

SENSING ELEMENT: RELAYS 50N 50AN 50AM

ENCLOSURE 1 (Page 100 of 111)

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SSF ANNUNCIATOR RESPONSE	SF-A2-08-01	Q-08-01


**OFFSITE PWR** SOURCE XFMR FAULT

#### **EVENT POINT 2043**

INDICATED CONDITION:

O OFFSITE POWER TRANSFORMER LOCK-OUT RELAYS 71T9SP, 7BOC9 HAVE ACTUATED, DUE TO DETECTION OF A SUDDEN PRESSURE RISE, OR A PHASE DIFFERENTIAL AS SENSED BY DEVICE 50M, AND 50AD

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O THE FOLLOWING BREAKERS WILL AUTOMATICALLY TRIP AND LOCK-OUT

BREAKER 4900 BREAKER 4902 BREAKER 3211 BREAKER 3212

OPERATOR ACTIONS FOR A VALID ALARM:

O ENSURE THAT FEEDER AND LOAD BREAKERS FROM OFFSITE POWER TRANSFORMER ARE OPEN. BREAKER 4900 BREAKER 4902 BREAKER 3211 BREAKER 3212

#### DISCUSSION:

THIS IS INDICATION OF A FLASH OVER ON THE OFFSITE POWER TRANSFORMER. THE LOCK-OUT RELAY ACTUATES TO STRIP THE POWER FEED AND THE LOADS OFF OF THE TRANSFORMER, AND TO PREVENT CLOSING IN A BREAKER ON A FAULTED TRANSFORMER.

REFERENCES: DRAWING 208-079 SHEET SB-18

SENSING ELEMENT: RELAYS 50AD, 50M

ENCLOSURE 1 (Page 101 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-08-02	Q-08-02
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BREAKER
4900/4902
TRIP

# **EVENT POINT 1103**

INDIC	ATED CONDITION:
	FF SITE POWER TRANSFORMER PROTECTIVE LOCKOUT RELAY 7BDA-PRI, AND/OR BDA-BU HAVE ACTUATED
REDUN	NDANT INDICATION WHICH WILL VERIFY ALARM:
0 <u>T</u>	HE FOLLOWING BREAKERS WILL AUTOMATICALLY TRIP AND LOCK-OUT
В	REAKER 4900 BREAKER 4902 BREAKER 3211 BREAKER 3212
o R o V	ATOR ACTIONS FOR A VALID ALARM: EFER TO AP-770 ERIFY FEEDER AND LOAD BREAKERS FROM OFFSITE POWER TRANSFORMER OPEN OTIFY SYSTEM DISPATCHER
THI	USSION: S IS INDICATION OF A FAULT ON THE OFFSITE POWER TRANSFORMER. THE LOCK- RELAY ACTUATES TO STRIP THE POWER FEED AND THE LOADS OFF OF THE NSFORMER, AND TO PREVENT CLOSING IN A BREAKER ON A FAULTED TRANSFORMER.
REFE	RENCES: DRAWING 208-079 SHEET SB-18
SENS	ING ELEMENT: RELAY 49M/7BDA-PRI, 49N/7BDA-BU

ENCLOSURE 1 (Page 102 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-08-02	Q-08-02	

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BREAKER
4900/4902
TRIP

# **EVENT POINT 1104**

INDIC	CATED CONDITION:
	FF SITE POWER TRANSFORMER PROTECTIVE LOCKOUT RELAY 7BDB-PRI, AND/OR BDB-BU HAVE ACTUATED
REDUM	NDANT INDICATION WHICH WILL VERIFY ALARM:
οI	HE FOLLOWING BREAKERS WILL AUTOMATICALLY TRIP AND LOCK-OUT
В	REAKER 4900 BREAKER 4902 BREAKER 3211 BREAKER 3212
o R o V	ATOR ACTIONS FOR A VALID ALARM: REFER TO AP-770 /ERIFY FEEDER AND LOAD BREAKERS FROM OFFSITE POWER TRANSFORMER OPEN NOTIFY SYSTEM DISPATCHER
THI	USSION: S IS INDICATION OF A FAULT ON THE OFFSITE POWER TRANSFORMER. THE LOCK- RELAY ACTUATES TO STRIP THE POWER FEED AND THE LOADS OFF OF THE INSFORMER, AND TO PREVENT CLOSING IN A BREAKER ON A FAULTED TRANSFORMER.
REFE	RENCES: DRAWING 208-079 SHEET SB-18
_	

SENSING ELEMENT: RELAY 49AM/7BDB-PRI, 49AN/7BDB-BU

ENCLOSURE 1 (Page 103 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-08-02	Q-08-02
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BREAKER 4900/4902 TRIP

#### **EVENT POINT 1132**

INDICATED CONDITION:

O OFFSITE POWER TRANSFORMER BREAKER 4900 HAS AUTO TRIPPED

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O GREEN BREAKER STATUS LIGHT WILL BE ON

OPERATOR ACTIONS FOR A VALID ALARM:

O VERIFY BREAKER POSITION

- o REFER TO AP-770
- O NOTIFY SYSTEM DISPATCHER

#### DISCUSSION:

ONE OF THE FEEDER BREAKERS BEING OPEN ON THE OFFSITE POWER TRANSFORMER MAY PRESENT AN OFFSITE POWER AVAILABILITY CONCERN; REFER TO TS FOR ADMINISTRATIVE REQUIREMENTS.

REFERENCES: 229-109

SENSING ELEMENT: 52b/4900, CS/0, CS/SC

ENCLOSURE 1 (Page 104 of 111)

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### **EVENT POINT 1030**

INDICATED CONDITION:

O OFFSITE POWER TRANSFORMER BREAKER 4902 HAS AUTO TRIPPED

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O GREEN BREAKER STATUS LIGHT WILL BE ON

OPERATOR ACTIONS FOR A VALID ALARM:

O VERIFY BREAKER POSITION

- O REFER TO AP-770
- O NOTIFY SYSTEM DISPATCHER

#### DISCUSSION:

ONE OF THE FEEDER BREAKERS BEING OPEN ON THE OFFSITE POWER TRANSFORMER MAY PRESENT AN OFFSITE POWER AVAILABILITY CONCERN; REFER TO TS FOR ADMINISTRATIVE REQUIREMENTS.

REFERENCES: 229-110

SENSING ELEMENT: 52b/4902, CS/0, CS/SC

ENCLOSURE 1 (Page 105 of 111)

SSF	ANNUNCIATOR	RESPONSE	SF-A2-08-03	0-08-03	
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OFFSITE PWR SOURCE XFMR MAJOR ALARM

### **EVENT POINT 1337**

INDICATED CONDITION:

 OFFSITE POWER TRANSFORMER PRESS RELIEF DEVICE HAS ACTUATED, DUE TO A PRESSURE >10 PSIG AS SENSED BY DEVICE 63PR

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

o LOCAL PRESSURE INDICATOR

OPERATOR ACTIONS FOR A VALID ALARM:

NOTIFY SYSTEM DISPATCHER
 REFER TO OP-703

DISCUSSION:

THIS ALARM IS INDICATIVE OF A FAULT INSIDE THE TRANSFORMER, THE LOAD ON THE TRANSFORMER SHOULD BE REDUCED AS MUCH AS POSSIBLE.

REFERENCES: DRAWING 208-079 SHEET SB-018

SENSING ELEMENT: DEVICE 63PR

ENCLOSURE 1 (Page 106 of 111)

SSF	ANNUNCIATOR	RESPONSE	SF-A2-08-03	Q-08-03
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OFFSITE PWR SOURCE XFMR MAJOR ALARM

### **EVENT POINT 1423**

INDICATED CONDITION:

 OFFSITE POWER TRANSFORMER TEMPERATURE HIGH DUE TO EITHER OIL TEMPERATURE >90°C AS SENSED BY DEVICE 26Q OR WINDING TEMPERATURE >110°C AS SENSED BY DEVICE 49

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O LOCAL INSTRUMENTS FOR WINDING AND OIL TEMPERATURE

OPERATOR ACTIONS FOR A VALID ALARM:

o NOTIFY SYSTEM DISPATCHER

- O VERIFY ALL OFFSITE POWER TRANSFORMER OIL PUMPS AND FANS OPERATING
- O CONSIDERATION SHOULD BE GIVEN TO REDUCE ELECTRICAL LOAD
- o REFER TO OP-703

#### DISCUSSION:

THIS IS INDICATIVE OF A PROBLEM WITH THE TRANSFORMER COOLING SYSTEM CONSIDERATION SHOULD BE GIVEN TO REDUCING THE LOAD ON THE TRANSFORMER. THE FANS WILL AUTO START AT 70°C, THE FANS AND PUMP AUTO START AT 80°C.

REFERENCES: DRAWING 208-079 SHEET SB-018

SENSING ELEMENT: 26Q, 49

ENCLOSURE 1 (Page 107 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-08-03	0.08.02
SST ANONCLATOR RESPONSE	SF-A2-00-05	Q-08-03

OFFSITE POWER SOURCE XFMR MAJOR ALARM

## **EVENT POINT 1527**

INDICATED CONDITION:

O OFFSITE POWER SOURCE XFMR LOW OIL LEVEL

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

o LOCAL LEVEL INSTRUMENT

OPERATOR ACTIONS FOR A VALID ALARM:

NOTIFY SYSTEM DISPATCHERREFER TO OP-703

DISCUSSION:

 SEND OPERATOR TO SWITCHYARD TO CHECK FOR POSSIBLE LEAK & GET READINGS FROM LOCAL INSTRUMENTATION.

REFERENCES: 208-079 - SB-18

SENSING ELEMENT: T9AL(71Q)

ENCLOSURE 1 (Page 108 of 111)

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SSF ANNUNCIATOR RESPONSE	SF-A2-08-04 Q-08-0
	OFFSITE PWR
	SOURCE XFMR
	MINOR ALARM

## **EVENT POINT 0496**

INDICATED CONDITION:

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 OFFSITE POWER TRANSFORMER HAS EXPERIENCED A LOSS OF 480V AUXILIARY POWER AS SENSED BY T9AL(27) VOLTAGE RELAY

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O NOTIFY THE SYSTEM DISPATCHER

DISCUSSION:

THIS CONDITION SHOULD NOT CAUSE ANY CONCERN, AS THERE IS A BACK UP POWER SUPPLY AS WELL AS A NORMAL POWER SUPPLY. THE TRANSFORMER SHOULD CONTINUE TO BE FUNCTIONAL.

REFERENCES: DRAWING 208-079 SHEET SB-018

SENSING ELEMENT: T9AL(27)

ENCLOSURE 1 (Page 109 of 111)

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# **EVENT POINT 0797**

INDICATED CONDITION:

 OFFSITE POWER TRANSFORMER COOLING FANS, OR OIL PUMPS ARE NOT RUNNING AS REQUIRED BY THE TEMPERATURE SWITCHES. AS SENSED BY T9AL (74/TDOE)

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O LOCAL OBSERVATION OF COOLING FANS AND OIL PUMP

OPERATOR ACTIONS FOR A VALID ALARM:

o NOTIFY THE SYSTEM DISPATCHER

O REDUCE LOAD ON THE TRANSFORMER

- O START ALL PUMPS AND FANS IN MANUAL
- o REFER TO OP-703

#### DISCUSSION:

THIS CONDITION COULD CAUSE AN OVERHEATING PROBLEM WITH THE TRANSFORMER, CONSIDERATIONS SHOULD BE GIVING TO UNLOADING THE TRANSFORMER UNTIL THE PROBLEM IS CORRECTED.

REFERENCES: DRAWING 208-079 SHEET SB-018

SENSING ELEMENT: T9AL (74/TDOE)

AR-702

Page 110

ENCLOSURE 1 (Page 110 of 111)

 SSF ANNUNCIATOR RESPONSE		SF-A2-08-05	Q-08-0		
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# **EVENT POINT 0146**

INDICATED CONDITION:

O BREAKER 4900 FAILED TO TRIP OPEN

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

O BREAKER 4900 IS CLOSED

OPERATOR ACTIONS FOR A VALID ALARM:

OPEN BREAKER 4900
 NOTIFY SYSTEM DISPATCHER

DISCUSSION:

REFERENCES: DRAWING 208-079, SB-18

SENSING ELEMENT: BF4900

ENCLOSURE 1 (Page 111 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-08-05	Q-08-05
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BREAKER 4900/4902 TROUBLE

### **EVENT POINT 0147**

INDICATED CONDITION:

O BREAKER 4902 FAILED TO TRIP OPEN

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

o BREAKER 4902 IS CLOSED

OPERATOR ACTIONS FOR A VALID ALARM:

OPEN BREAKER 4902
 NOTIFY SYSTEM DISPATCHER

DISCUSSION:

REFERENCES: DRAWING 209-079, SB-18

SENSING ELEMENT: BF4902

ENCLOSURE 1 (Page 110 of 111)

SSF ANNUNCIATOR RESPONSE	SF-A2-08-05	Q-08-05
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BREAKER 4900/4902 TROUBLE

## **EVENT POINT 1883**

INDICATED CONDITION:

o BREAKER 4900 LOW GAS/SPRING CHARGE

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

o NOTIFY SYSTEM DISPATCHER

DISCUSSION:

REFERENCES: DRAWING 229-109

SENSING ELEMENT: 48EE, 48FF

ENCLOSURE 1 (Page 111 of 111)

SSF ANNUNCIATOR R	ESPONSE	SF-A2-08-05	Q-08-05
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BREAKER 4900/4902 TROUBLE

## **EVENT POINT 1891**

INDICATED CONDITION: .

O BREAKER 4902 LOW GAS/SPRING CHARGE

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

OPERATOR ACTIONS FOR A VALID ALARM:

O NOTIFY SYSTEM DISPATCHER

DISCUSSION:

REFERENCES: DRAWING 229-110

SENSING ELEMENT: 48KK, 48LL

#### PROCEDURE DEVELOPMENT AND REVISION RECORD

Procedure: AR0702

New Rev: 17

Title: SSF-Q ANNUNCIATOR RESPONSE

#### MINOR CHANGES

If Minor Changes are included, check the applicable box(es) and provide a list of affected steps. The following corrections are incorporated throughout:

-	Sentence Structure	-	Redundant words or phrases
-	Punctuation		Abbreviations
-	Capitalization	_	Obviously incorrect units of measure
-	Spelling		Inadvertently omitted symbols (#, %, etc.)
_	Organizational Changes: position titles,		Obvious step numbering discrepancies
department names, or telephone numbers	-	Format	

The following corrections are incorporated in the step(s) indicated: "Throughout" is used in lieu of Step# if a specific change affects a large number of steps.

Correcting equipment nomenclature that does not agree with field labels or balance of procedure

Changing information that is obviously incorrect and referenced correctly elsewhere

Misplaced decimals that are neither setpoint values nor tolerances

Reference to a procedure when an approved procedure has taken the place of another procedure

Fixing branching points when it is clear the branching steps were originally intended but were overlooked or incorrectly stated due to step number changes

Adding clarifying information such as NOTES and CAUTIONS

Adding words to clarify steps, NOTES, or CAUTIONS which clearly  $d \circ$  not change the methodology or intent of the steps



#### PROCEDURE DEVELOPMENT AND REVISION RECORD

Procedure: AR0702

02

New Rev: 17

Title: SSF-Q ANNUNCIATOR RESPONSE

#### MINOR CHANGES

If Minor Changes are included, check the applicable box(es) and provide a list of affected steps. The following corrections are incorporated throughout:

	Sentence Structure	-	Redundant words or phrases
-	Punctuation	-	Abbreviations
-	Capitalization	-	Obviously incorrect units of measure
-	Spelling	_	Inadvertently omitted symbols (#, %, etc.)
	Organizational Changes: position titles,		Obvious step numbering discrepancies
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Adding clarifying information such as NOTES and CAUTIONS

Adding words to clarify steps, NOTES, or CAUTIONS which clearly do not change the methodology or intent of the steps

### PROCEDURE DEVELOPMENT AND REVISION RECORD

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Procedure: AR0702

New Rev: 17

PRR#: 16119

Title: SSF-Q ANNUNCIATOR RESPONSE

#### NON-INTENT CHANGES

Changes are incorporated for the reasons provided. "Throughout" is used in lieu of Step # if a specific change affects a large number of steps. For new or cancelled procedures the reason is provided.

Event point 568

this event point was removed in error by the previous revision.

Event point 571

this event point was removed in error by the previous revision.