07.750.91

October 4, 1991

MEMORANDUM FOR: NMP-2 IIT Team Members

FROM: Richard J. Conte, Team Member

SUBJECT: **ANSWERS TO QUESTIONS ON CERTAIN FACTS AS DESCRIBED IN THE DRAFT IIT REPORT**

During the review of the subject report, I and other team members questioned some facts as documented in the report. Those questions were posed to Fred White of the Niagara-Mohawk training department; and, for record purposes, he provided answers as noted below.

QUESTION 1: When the STA function is separated out of the ASSS function at NMP-2, will the ASSS lead the EOPs thereby freeing up the SSS to be Emergency Director and better concentrate on "the big picture" during emergencies?

ANSWER TO 1: Yes, the ASSS will lead the EOPs when the STA function is taken out of the ASSS function.

QUESTION 2: After the event of August 13, 1991, could the simulator be programmed to dynamically run the scenario of events as known when the IIT was on site?

ANSWER TO 2: Partially yes. Prior to the event, programming was begun to simulate the loss of UPSs but the project was stopped. They dynamically did run the sequence with a load reject malfunction and loss of feedwater malfunction and with "remote functions" to lose annunciators. The lack of simulation occurred because of the loads off UPS were not completely known and therefore could not be simulated. Further, there has been no validation again because of the incomplete loads list.

If you have any comments or questions in this regard, please contact me. I don't believe the report needs to be changed as a result of this information, but if your responsible chapter contains this information, you should check it for accuracy.

Thank you for your attention on this matter.

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07-THG-911 Continued

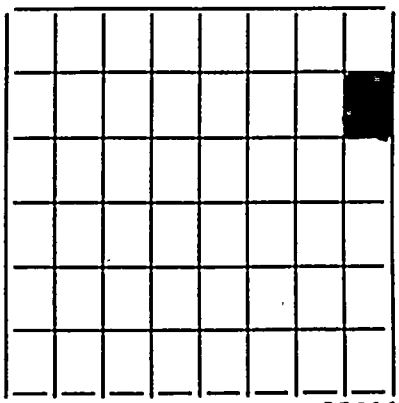
Safety Related

5.0 852116 Division I UPS 2A System Trouble

Reflash: No

DIVISION I
UPS 2A
SYSTEM
TROUBLE

852116



852116

5.1

Computer Point	Computer Printout	Source
VBABC03	UPS2A SYSTEM TROUBLE	UPS2A/A9-K51

NOTE: A9-K51 is initiated by any local alarm. This relay will stay de-energized as long as any local alarm exists. This annunciator will not reflash if another local alarm comes in.

TCN-13

10-7

Mike -

These are being prepared for 8x17" format.

Walt O.

5.2 Automatic Response

a. UPS may realign to power the vital bus from either backup D.C., or maintenance supply dependent on the local alarm.

5.3 Corrective Action

a. Check the UPS output voltage on Control Room panel 852 meter labelled "Vital bus 2VBS*UPS2A 125VAC Output," or computer point VBSVA100.

b. Send an operator to record meter readings and status light indications at the UPS.

NOTE: Consult Tech. Spec. 3.8.3.1 if the UPS is on maintenance power or if the local alarm response indicates that the UPS is inoperable and the plant is in Mode 1, 2 or 3.

c. Notify electrical maintenance for repair or adjustments to the UPS.

TCN-13

d. See Section H of this procedure for operation of the UPS with the loss of a source, or sources.

e. Take corrective action as required per following Table:

(NCTS) Local Alarm Description - Corrective Action

Alarm	Description	Corrective Action
Synch Loss	1. Maintenance AC frequency is out of tolerance	a. Initiate a WR
	or	
	2. Maintenance AC is not present	a. Restore maint. AC (if fuse is blown in the maintenance AC supply regulator, initiate a WR)
	or	
	3. UPS inverter output frequency is out of tolerance (60Hz±3Hz)	a. Verify on Frequency meter
		b. If valid declare INOP and if the plant is in Mode 1, 2 or 3 refer to Tech. Spec. 3.8.3.1
		c. Initiate a WR

Alarm	Description	Corrective Action
Battery Drain/Charge	Current being drawn from batteries caused by:	
	1. Loss of normal AC to UPS	a. Restore normal AC
	or	
	2. Voltage on DC switchgear higher than UPS internal DC voltage	a. If the charger is on equalize, notify Electrical to check charger equalize voltage
		b. If the charger is not on equalize, initiate a WR
	NOTE: Refer to Tech. Specs. 3.8.2.1 or 3.8.2.2	
Rectifier AC Loss	Loss of normal AC to UPS	a. If CB-51 has tripped, initiate a WR
		b. If CB-51 is closed, restore upstream normal AC supply
Reverse Transfer	Static switch is in maintenance position	a. Declare the UPS INOP and if the plant is in Mode 1, 2 or 3 refer to Tech. Spec. 3.8.3.1
		b. If other alarms are present; correct the other alarms prior to restoring the UPS to normal AC power
		c. If all other alarms clear, verify UPS AC output voltage present on AC voltmeter, then push "Forward" static switch pushbutton
Fan Fail	One or more fans have stopped	a. Visually check, if possible, to determine which fan is off
		b. Initiate a WR
	NOTE: This alarm may be concurrent with a Blown Fuse Alarm	

TCN-13

Alarm	Description	Corrective Action
Low Inverter Voltage	UPS inverter output voltage is 15% low (~103 Vac)	a. Verify on AC voltmeter b. If valid declare INOP and if the plant is in Mode 1, 2 or 3 refer to Tech Spec. 3.8.3.1
Inverter Over Temp	Unit overheating	a. Initiate a WR
Fuse Blown	Fuse within UPS blown	a. Initiate a WR to replace fuses
	NOTE: This alarm alone does not INOP the UPS. The operability determination must be made based on other local alarms (eg. "Low Battery", "Reverse Transfer", etc.)	
Rectifier DC Grounded	UPS internal DC Bus grounded	a. Initiate a WR
Low DC Bus	UPS internal DC Bus voltage is low (DC Bus Low)	a. Initiate a WR for Repair/adjustment
Overload	UPS inverter supplying over 100% rating of unit (~165 Amps)	a. Check output ammeter i) If unit loaded, clear non-essential loads ii) If alarm false, initiate a WR
Low Battery	UPS-internal DC Bus voltage is below 110 volts (DC Bus Lo/Lo)	a. Place S-51, the DC voltmeter selector switch in "Battery" i) If battery voltage indicates ≤110 VDC declare the UPS INOP and if the plant is in Mode 1, 2 or 3 refer to Tech. Spec. 3.8.3.1 ii) If battery voltage indicates >110 VDC, notify Electrical Maintenance
	NOTE: With DC Bus below 105 VDC, CB-52 will trip	

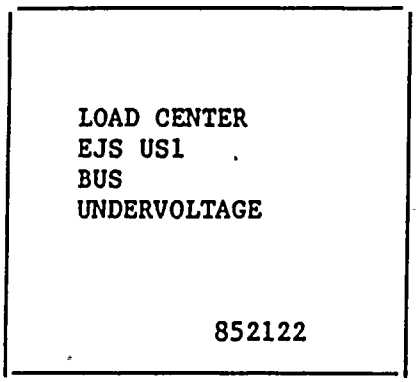
TCN-13

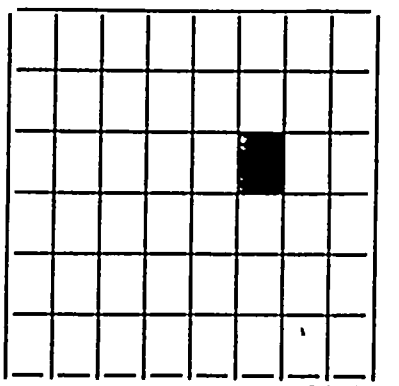
I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (Cont.)

6.0 852122 Load Center EJS*US1 Bus Undervoltage

Reflash: No

TCN-12





6.1	Computer Point	Computer Printout	Source
	a. EJSEC01	LCUS1 NORM SPLY BRKR UV	Undervoltage Relays 27A-2EJSA11 AND 27B-2EJSA11 Setpoint: 400V for 3 sec.

6.2 Automatic Response

a. Trip Reactor Bldg Recirc. Fan A, 2HVR*VC413A. Breaker 1-4C.

b. Trip Control Bldg Chiller Compressor, 2HVK*CHL1A. Breaker 1-4D.

6.3 Corrective Action

a. Verify auto-start of redundant units per N2-OP-52 for HVR*UC413A/B, and N2-OP-53A for HVK*CHL1A/B.

b. Check the voltage on the Div I 4160V bus, 2ENS*SWG101.

c. Check the voltage on the Div I Load center, 2EJS*US1.

NOTE: Loss of offsite power for 3 sec. will also bring in this annunciator.

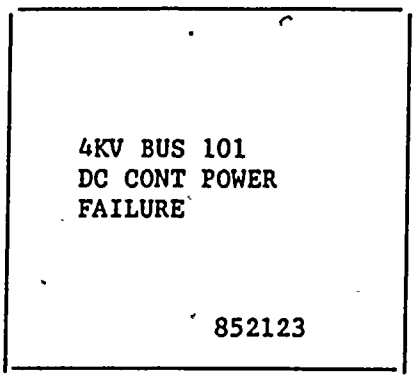
d. If the 4160 Div I bus is nominally 4160V; trip the load center incoming line breaker in service (bkr 1-3B, or 1-9B), and close the other feeder breaker (bkr 1-9B, or 1-3B).

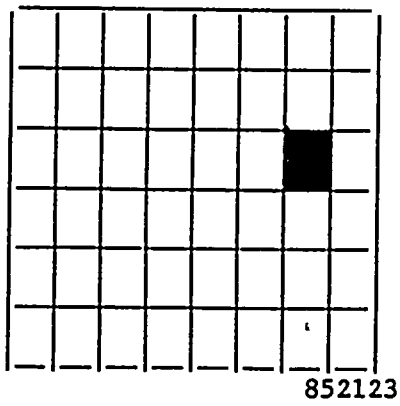
e. Notify elect. maint. of the event, and any tripped breakers.

7.0 852123 4KV BUS101 DC Control Power Failure

Reflash: Yes

TCN-12





7.1	Computer Point	Computer Printout	Source
	ENSBC11	125VDC CONT PWR DI BUS A	Loss of protective relaying power to trip 101-10,101-13, & 101-1 (offsite feeders, and Dies. Gen bkr) due to: phase overcurrent; Dies. Gen. gnd. overcurrent; bus gnd. overcurrent; incoming line XFMR neutral gnd. over-current. Emerg. SWGR DC bus A 74-2ENSX01
	ENSBC12	125VDC CONT PWR DI BUS B	Loss of protective relaying power to trip 101-10, 101-13, & 101-1 (offsite feeders, and. Dies. Gen. bkr) due to: phase overcurrent; Dies. Gen. gnd overcurrent; bus gnd overcurrent; incoming line XFMR neutral gnd over-overcurrent. Emer. SWGR DC bus B 74-2ENSX02.

7.1 (Cont'd)

Computer Point	Computer Printout	Source
ENSBC15	125VDC CONT PWR DI BUS B	Loss of protective relaying power to trip 101-10, 101-13, & 101-N1 (offsite feeders, and Dies. Gen neut. bkr) due to: Stub bus (SWG0014) gnd overcurrent; load center XFMR EJS*X1A phase overcurrent; load center XFMR EJS*X1B phase overcurrent. emer. SWGR DC bus B 74-2ENSX03.

7.2 Automatic Response

NONE

7.3 Corrective Action

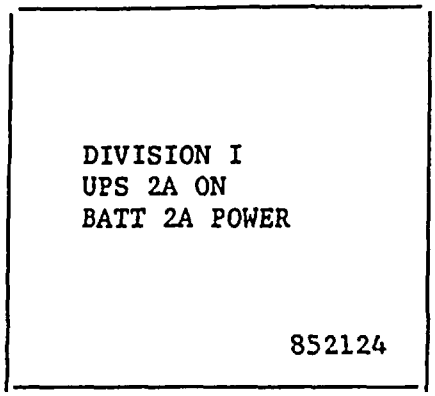
a. Send an operator to the Div I swgr to check the D.C. bus fuses in cubicle 101-2.

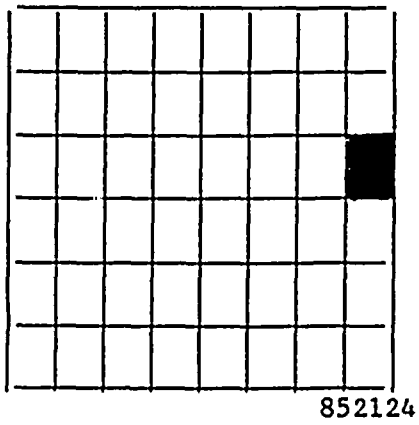
b. If both D.C. buses are alarming, check the D.C. switchgear 2BYS*SWG002A cubicle 2D.

c. Notify elect. maint. of the event, the relay number, and any tripped breakers.

8.0 852124 Division I UPS 2A On Battery 2A Power

Reflash: No





8.1

Computer Point	Computer Printout	Source
a. VBABC03	DIV I UPS2A ON BATT PWR	UPS2A/A9-K52

NOTE: UPS2A/A9-K52 is initiated by local alarm "Battery Drain/ Charge".

8.2 Automatic Response

NONE

8.3 Corrective Action

a. Notify the SSS.

b. IF required by Tech Specs 3.8.2.1 or 3.8.2.2, place the second battery charger in service per OP-74 Sect H.4. TCN 13

c. Check the UPS output voltage on cont. rm. panel 852 "Vital Bus 2VBS*UPS2A 125VAC Output," or computer point VBSVA100.

d. Dispatch operator to UPS2A (in the Div I swgr room) to record parameters on front panel of UPS.

e. Check corrective action for annunciator 852116, local alarm "Battery Drain/Charge".

f. Check for tripped feeder, panel 2EJS*PNL100A bkr #7.

g. Check UPS front panel breaker #CB-51 is closed. TCN 13

h. Check the 125VDC switchgear for proper voltage and current. There should be no battery current if the charger is operating within its load range.

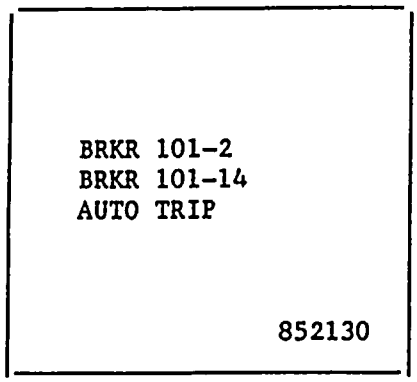
i. Refer to Section H of this procedure to align the UPS for Off Normal operation.

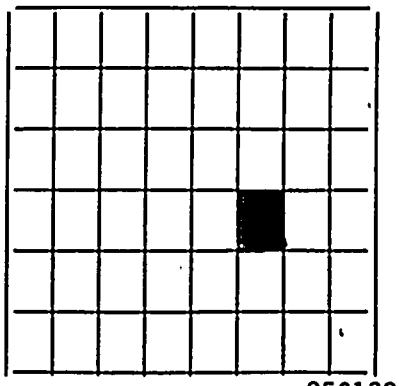
j. If necessary contact Electrical Maintenance to align, or repair UPS.

9.0 852130 Breaker 101-2 or Breaker 101-14 Auto Trip

Reflash: Yes

TCN-12





9.1	Computer Point	Computer Printout	Source
a.	EJSUC05	XFMR1A BRKR 101-14 AUTO TRP	52-2EJSX03 4160V bkr to load center 2EJS*US1
b.	EJSUC06	XFMR1B BRKR 101-2 AUTO TRP	52-2EJSX04 4160V bkr to load center 2EJS*US1

9.2 Automatic Response

None

9.3 Corrective Action

a. At control room panel 852, close the alternate feeder breaker to load center 2EJS*US1.

This is:
load center breaker 1-9B if breaker 101-14 tripped, or
load center breaker 1-3B if breaker 101-2 tripped.

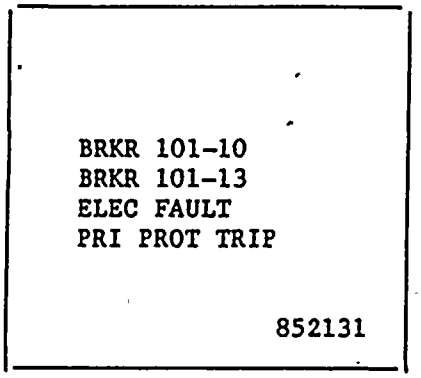
b. Notify elect. maint. of the event, and any breakers tripped.

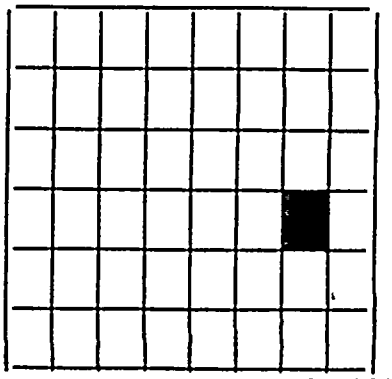
c. Refer to tech. specs. if unable to maintain feed to the load center.

10.0 852131 Breaker 101-10 or 101-13 Electrical Fault or Primary Protection Trip

Reflash: Yes

TCN-1





10.1

Computer Point	Computer Printout	Source
a. ENSUC09	EM SWGR ACB 101-13 LO RLY	50/51-2ENSA01 Emer. bus feeder overcurrent
b. ENSUC10	EM SWGR ACB 101-10 LO RLY	50/51-2ENSA02 Emer. bus feeder overcurrent

10.2 Automatic Response

ENSUC09 Trips and locks out ACB101-13 (Normal bus feeder), locks out ACB101-10 (alternate bus feeder) and locks out auto closing of ACB 101-1 (Diesel Gen. Bkr.).

ENSUC10 Trips and locks out ACB101-10 (alternate bus feeder), locks out ACB101-13 (Normal bus feeder) and locks out auto closing of ACB 101-1 (Diesel Gen. Bkr.).

Both Category II service water separates from Category I.

10.3 Corrective Action

a. Restart the switchgear per Section E1.0. | 3

b. Notify elect. maint. of the trip and any breakers remaining tripped. | 3

c. See N2-OP-71 Section H15.0, or H16.0 to place the switchgear on alternate feed. | 3

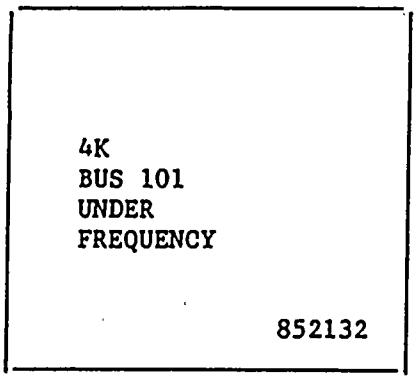
d. Refer to tech. specs. for possible LCO due to loss of Div I power. | 3

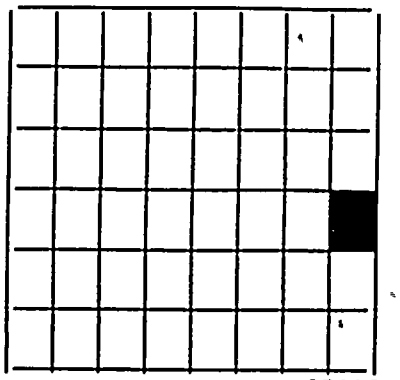
I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (Cont.)

11.0 852132 4KV BUS 101 Underfrequency

Reflash: No

TCN-1 c





11.1	Computer Point	Computer Printout	Source
	a. ENSBC17	4KV EM BUS 101 UNDER FREQ	81-2ENSA24 Mtr and relay cubicle at swgr.

11.2 Automatic Response

a. Trips ACB 101-10 and 101-13 (offsite feeder breakers).

b. Auto starts Diesel Generator 2EGS*EG1.

c. Load shed trips all loads except the load center.

d. Auto load sequence commences.

e. Category II service water separates from Category I.

f. Manual loading of the bus is blocked for aprox. 1 min.

11.3 Corrective Action

a. Verify auto station response.

b. Refer to N2-OP-71 Section H15.0 or H16.0 to place the bus on alternate offsite feed.

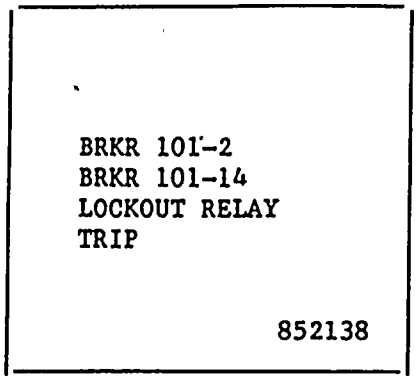
c. Notify elect. maint. of the trip.

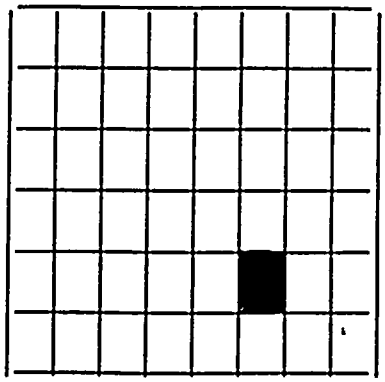
d. Refer to tech. specs. for possible LCO.

12.0 852138 Breaker 101-2 or 101-14 Lockout Relay Trip

Reflash: Yes

| TCN-1





852138

12.1	Computer Point	Computer Printout	Source
a.	EJSUC01	EM LC XFMR1A LOCKOUT RLY	50G-2EJSA03 or 50/51-2EJSA02 Gnd or phase overcurrent on the 4160V side of load center transformer
b.	EJSUC02	EM LC XFMR1B LOCKOUT RLY	50G-2EJSA06 or 50/51-2EJSA05 Gnd or phase overcurrent on the 4160V side of load center transformer
c.	EJSUC13	EMLC XFMR1A FDR FAULT-BU	51-2EJSA01 backup overcurrent on the 4160V side of load center transformer
d.	EJSUC14	EMLC XFMR1B FDR FAULT-BU	51-2EJSA04 backup overcurrent on the 4160V side of load center transformer

12.2 Automatic Response | 3

EJSUC01 Trips & Locks Out US1-3B and ACB101-14. Isolates the load center transformer.

EJSUC02 Trips & Locks Out US1-9B and ACB101-2. Isolates the load center transformer. | 3

EJSUC13 Trips & Locks Out ACB 101-13 and 101-10 and prevents auto closing of ACB101-1. Diesel Gen. auto starts and the Div I 4160V bus remains de-energized. Loss of voltage load sheds the bus. Category II service water separates from Category I. | 3

EJSUC14 Trips & Locks Out ACB-101-13 and 101-10 and prevents auto closing of ACB 101-1. Diesel Gen. auto starts and the Div I 4160V bus remains de-energized. Loss of voltage load sheds the bus. Category II service water separates from Category I. | 3

12.3 Corrective Action

EJSUC01
EJSUC02

a. Verify the trips by checking computer points: EJSUC05 for 101-14 and EJSUC09 for US1-3B | 3
OR
EJSUC06 for 101-2 and EJSUC10 for US1-9B

b. Close the alternate load center incoming line breaker, at control room panel 852. US1-3B, or US1-9B.

c. Notify elect. maint. of the trip, and any breakers remaining tripped.

NOTE: Refer to tech. specs. if unable to maintain feed to the load center.

NOTE: The load center powers MOV's associated with pumps which may remain running on the 4160V bus.

EJSUC13
EJSUC14

aa. Trip the 4160V breakers feeding the load center. Breaker 101-14, and 101-2.

bb. At control room panel 852, place the diesel generator breaker 101-1 control switch in pull-to-lock.

cc. At Div I switchgear, reset lockout relays: 86-2-2EGPX02 (101-1); 86C-2ENSX01 (101-N2); 86C-2ENSX02 (101-N2).

12.3 (Cont'd)

dd. Close the offsite feeder breaker to the Div I 4160V bus, breaker 101-10, or 101-13. 3

ee. Close the alternate 4160V breaker to the load center, breaker 101-14, or 101-2.

ff. Close the 600V incoming line breaker to the load center, breaker US1-3B, or US1-9B.

gg. At control room panel 852, remove the Div I diesel generator breaker (101-1) control switch from pull-to-lock.

hh. Close in selected loads on the Div I 4160V bus.

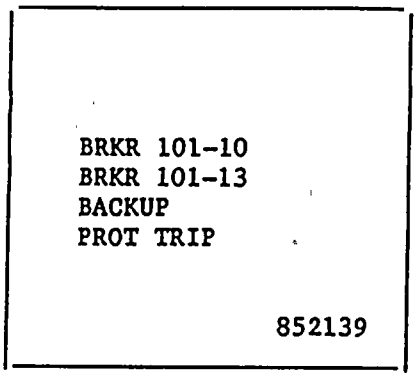
ii. Place the diesel generator in stand-by per N2-OP-100A.

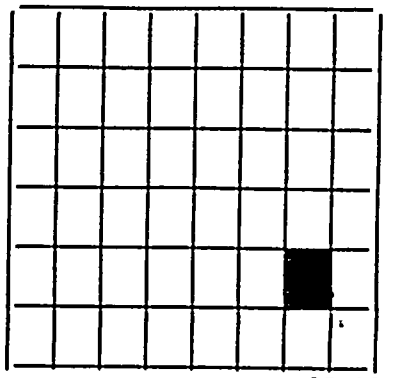
jj. Notify Electrical Maintenance of the trip, and any breakers remaining tripped.

13.0 852139 Breaker 101-10 or 101-13 Backup Protection Trip

Reflash: Yes

| TCN-1 2





13.1	Computer Point	Computer Printout	Source
	a. ENSUC17	EM SWGR ACB 101-13 LO RLY	67N1-2ENSA05 Diesel Gen. gnd directional overcurrent
	b. ENSUC18	EM SWGR ACB 101-10 LO RLY	67N3-2ENSA05 Diesel Gen. gnd directional overcurrent

13.2 Automatic Response

ENSUC17 Trips and locks out ACB101-13
ENSUC18 Trips and locks out ACB101-10

a. Load shed trips all loads except loadcenter.

b. Div I diesel gen. auto starts.

c. Auto load sequence commences.

d. Category II service water separates from Category I.

13.3 Corrective Action

a. Verify the trip by checking computer point ENSUC08 for 101-10, or ENSUC05 for 101-13.

b. Trip breakers 101-1 and 101-N1.

c. Reset lockout relays 86C-2ENSX01, and 86C-2ENSX02, at switchgear 101-N2.

d. Close the offsite feeder breaker, 101-10, or 101-13.

e. Notify elect. maint. of the trip.

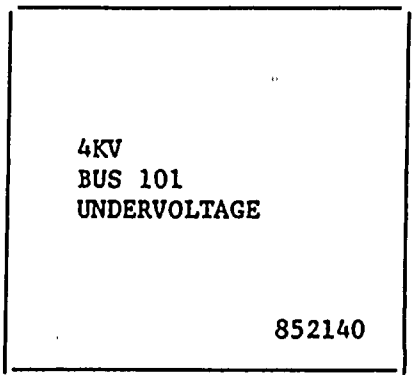
f. Refer to tech. specs. if unable to maintain feed to the Div I bus.

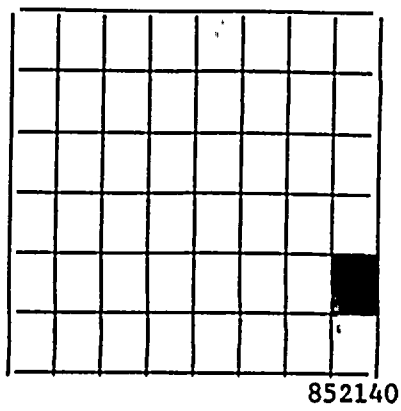
I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (Cont.)

14.0 852140 4KV Bus 101 Undervoltage

Reflash: Yes

TCN-12





14.1	Computer Point	Computer Printout	Source
	a. ENSEC01	BUS ENS 101 UNDV	27AA, AB, AC Phase to ground undervoltage relays.
	b. ENSEC03	BUS 101 DEGRADED VOLT	27BA, BB, BC Phase to ground undervoltage relays.

14.2 Automatic Response

a. For one device on either computer point, NONE.

b. For two devices on either computer point, loss of offsite power.

1. Offsite supply breaker ACB101-10 or 101-13 is tripped.

2. Emergency diesel generator EGS*EG1 starts.

3. Manual loading is blocked for approx. 1 min.

4. Load shed trips all loads except the load center.

5. Auto load sequence commences.

6. Category II service water separates from Category I.

14.3 Corrective Action

a. Refer to N2-OP-71 Section H15.0, or H16.0 to place the bus on alternate offsite power.

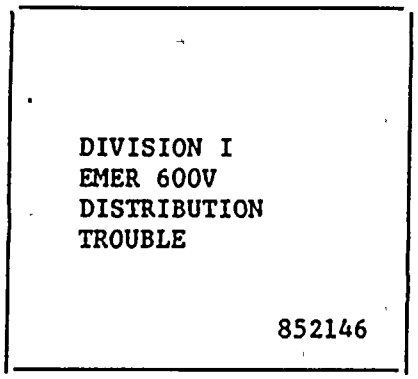
b. Notify elect. maint. of the trip.

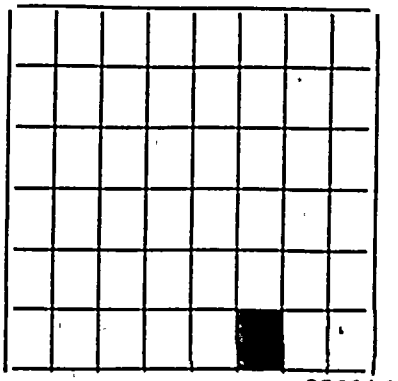
NOTE: Refer to tech. specs. for conditions associated with loss of offsite power.

15.0 852146 Division I emergency 600V distribution trouble

Reflash: Yes.

TCN- 1 2





15.1

Computer Point	Computer Printout	Source
EJSBC19	LC US1 SPLY BRKR 1-3C	Breaker Overcurrent
EJSBC20	LC US1 SPLY BRKR 1-4B	Breaker Overcurrent
EJSBC21	LC US1 SPLY BRKR 1-5D	Breaker Overcurrent
EJSBC22	LC US1 SPLY BRKR 1-7D	Breaker Overcurrent
EJSBC23	LC US1 SPLY BRKR 1-8C	Breaker Overcurrent
EJSBC24	LC US1 SPLY BRKR 1-9C	Breaker Overcurrent
EJSBC31	LC US1 SPLY BRKR 1-6D	Breaker Overcurrent
EJSBC32	LC US1 SPLY BRKR 1-7C	Breaker Overcurrent

15.2 Automatic Response

Trip and lockout the switchgear breaker

15.3 Corrective Action

a. Verify the automatic response. At MCC's observe the voltmeter, for power distribution panels, check the load center breaker.

b. At MCC's trip the breaker shown in the "LOAD" column (incoming line breaker).

c. Remove the interlock key, and energize the MCC from the alternate feed breaker.

d. For power distribution panels:

1. Trip the panel main breaker.

2. Reset and close the load center breaker.

3. If the load center breaker stays closed, trip the panel branch breakers, and close the panel main breaker.

4. If the main breaker, and load center breaker remain closed, close in branch breakers.

e. Notify electrical maint. of the event, and any breakers tripped and/or unable to reclose.

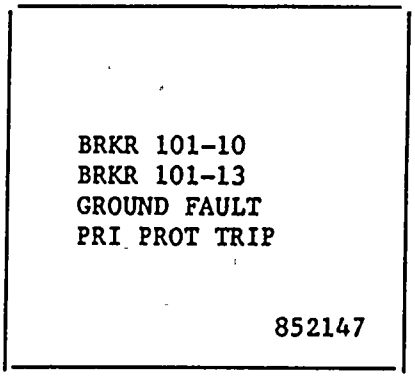
f. Refer to tech. specs. for possible LCO's due to loss of power to an emergency load.

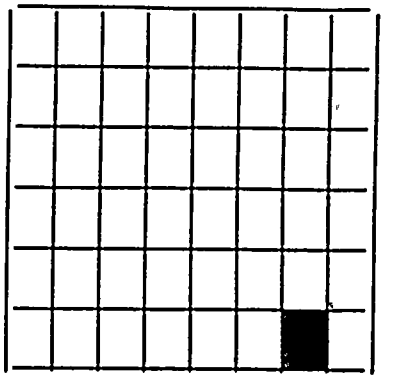
Computer Point	Load	Location	Alternate Feed
EJSBC19	2EHS*MCC102 Bus A Cub 1A	Aux Bay North EL 240	Tie breaker 13A
EJSBC20	2EHS*MCC101 Cub 1A	Screenwell Bldg	Breaker 10A
EJSBC21	2EHS*MCC103 Bus A Cub 1A	Cntl Bldg West St-by Swgr Rm	Tie breaker 16A
EJSBC22	2EHS*MCC103 Bus C Cub 27A	Cntl Bldg West St-by Swgr Rm	Tie breaker 16A
EJSBC23	2EHS*MCC102 Bus C Cub 22A	Aux Bay North EL 240	Tie breaker 13A
EJSBC24	2EHS*MCC101 Cub 10A	Screenwell Bldg	Breaker 1A
EJSBC31	2EJS*PNL100A	Cntl Bldg West St-by Swgr Rm	No alternate feed
EJSBC32	2LAC*PNL100A	Cntl Bldg West St-by Swgr Rm	No alternate feed

16.0 852147 Breaker 101-10 or Breaker 101-13 Ground Fault Primary Protection Trip

Reflash: Yes

TCN-1





16.1	Computer Point	Computer Printout	Source
a.	ENSUC13	EM SWGR ACB 101-13 LO RLY	Switchgear 2NNS-SWG016 (16-2) Neutral directional overcurrent (67N2-2ENSA09) (load side) OR Switchgear 2ENS*SWG101 (101-13 Lineside) gnd overcurrent (50G-2ENSA32)
b.	ENSUC14	EM SWG ACB 101-10 LO RLY	Switchgear 2NNS-SWG018 (18-2 loadside) Neutral directional overcurrent (67N4-2ENSA10) OR Switchgear 2ENS*SWG101 Feeder (101-10 lineside) gnd overcurrent (50G-2ENSA33)

16.2 Automatic Response

ENSUC13 Trips and locks out ACB 101-13, and locks out ACB 101-10
ENSUC14 Trips and locks out ACB 101-10, and locks out ACB 101-13

a. Diesel generator 2EGS*EG1 Auto Starts.

b. Load shed trips all loads except the load center.

c. Diesel generator breaker (101-1) closes.

d. Load sequencing commences.

e. Manual loading of the bus is blocked for approx. 1 minute.

f. Category II service water separates from Category I.

16.3 Corrective Action

NOTE: Refer to tech. specs. for operating conditions associated with loss of offsite power.

a. Notify elect. maint. of the trip.

b. Refer to N2-OP-71 Section H15.0, or 16.0 to place the bus on alternate offsite feed.

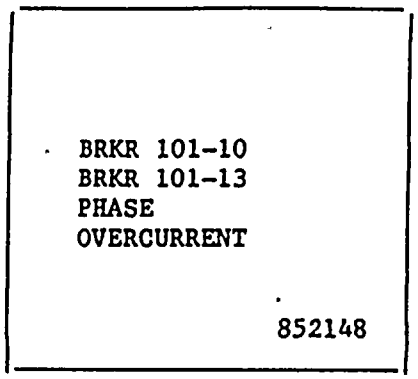
c. Reset the lockout relays: 86B-2ENSX01 (at switchgear 101-13), and 86B-2ENSX02 (at switchgear 101-10).

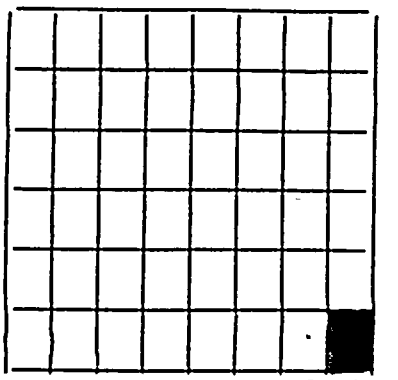
I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (Cont.)

17.0 852148 Breaker 101-10 or 101-13 Phase Overcurrent

Reflash: Yes

TCN-1 2




852148

17.1	Computer Point	Computer Printout	Source
	a. ENSIC01	RTX-XSR1A OC ACB 101-13	67-1-2ENSA25 Directional overcurrent interlock to stub bus
	b. ENSIC04	XFMR ABS-X1 OC ACB 101-10	67-2-2ENSA26 Directional overcurrent interlock to stub bus

17.2 Automatic Response

ENSIC01 Any one device trips ACB 101-13
ENSIC04 Any one device trips ACB 101-10

a. Load shed trips all loads except the load center.

b. Div I diesel generator auto starts.

c. Diesel generator breaker 101-1 closes on the bus.

d. Manual loading on the bus is blocked for approx. 1 minute.

e. Auto load sequence commences.

f. Category II service water separates from Category I.

17.3 Corrective Action

a. Verify the automatic response.

b. Sync the offsite breaker to the bus.

c. Open the diesel generator breaker, 101-1.

d. Notify elect. maint. of the trip, and of the device that caused the trip.

e. See N2-OP-100A to return the diesel generator to stand-by after offsite power is restored.

NOTE: See N2-OP-71 Section H15.0 or H16.0 to place the bus on alternate offsite feed.

NOTE: Refer to tech. specs. if unable to maintain offsite feed to the bus.

NOTE: Refer to Section H2.0 before closing the stub bus breaker.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (Cont.)

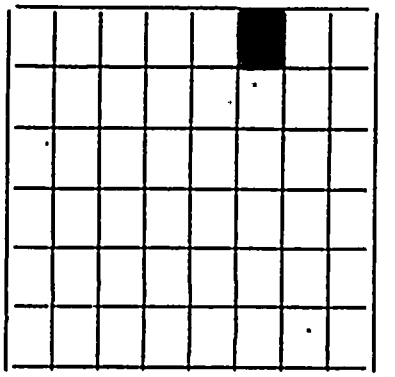
18.0 852206 Division II Load Center EJS System Inoperable

Reflash: No

TCN-12

DIVISION II
LOAD CENTER
EJS SYSTEM
INOPERABLE

852206



852206

18.1	Computer Point	Computer Printout		Source
	a. EJSBC16	DIV 2 LD CTR EJS SYS		1)EMER US3 NORM FEED ACB 3-3B
			AND	2)EMER US3 ALT FEED ACB 3-9B
			OR	3)EMER SWGR XFMR FDR ACB 103-1
			AND	4)EMER SWGR XFMR FDR ACB 103-13
			OR	5)EMER US3 MAN OUT OF SER

18.2 Corrective Action

a. Refer to the following INOP windows for response.

18.2 (Cont'd)

Window	Source	Automatic Action
1. EMER US3 NORM FEED ACB3-3B	(74-2EJSY05) a)Loss of DC Control Power	ANNUN. for any event in both inop windows
2. EMER US3 ALT FEED ACB 3-9B	b)Control Room Fire disconnect	
	c)Control Room switch PTL	
	d)Breaker racked out (74-2EJSY06)	

Corrective Action

a. For loss of 125VDC control power check fuses in cubicle 3-3A, and breaker 4C in 2BYS*SWG002B, D.C. switchgear.

b. For control room fire, return switch 2CESB20 to normal in control room fire disconnect panel 2CES*PNL416.

c. For control room panel 852 control switches in pull-to-lock, remove one, or both switches from pull-to-lock.

d. For breakers not in operate Position, rack in breaker 3-3B and/or 3-9B.

Window	Source	Automatic Action
3. EMER SWGR XFMR FDR ACB 103-1	(74-2EJSY03) a)Loss of DC Control Power	Annun. for any event in both inop windows
4. EMER SWGR XFMR FDR ACB 103-13	b)Control Room Fire Disconnect	
	c)Control Room Control switch PTL	
	d)Breaker racked out (74-2EJSY04)	

Corrective Action

a. For loss of 125VDC control power, check fuses in cubicle 103-13, and breaker 2D in 2BYS*SWG002B, D.C. switchgear.

b. For Control Room fire, return switches 2CESB15 and 2CESB16 to normal in Control Room Fire Disconnect Panel 2CES*PNL416.

c. For breakers not in operate position, rack in breaker 103-1 and/or 103-13.

d. For Control Room Panel 852 control switches in pull-to-lock, remove one switch, or both switches from pull-to-lock.

18.2 (Cont'd)

Window	Source	Automatic Action
5. EMER US3 MAN OUT OF SER	EMER US3 MAN OUT OF SER PUSHBUTTON	None

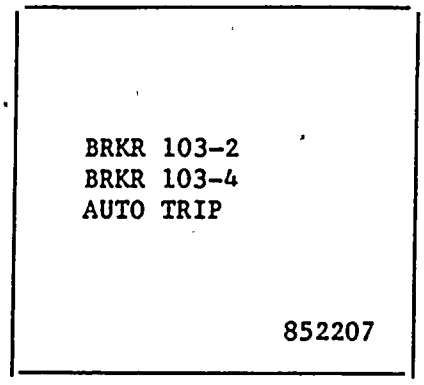
Corrective Action

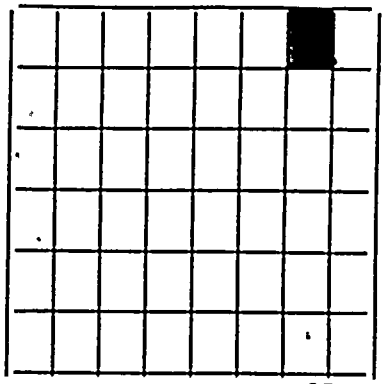
a. Restore the pushbutton to normal.

19.0 852207 Breaker 103-2 or 103-4 Auto Trip

Reflash: Yes

| TCN-1





19.1

	Computer Point	Computer Printout	Source
a.	ENSUC06	2ABS-XS1 ACB 103-2 TRIP	52-2ENSY11
	TRIP SIGNALS ORIGINATE FROM:		
	ENSBC04	FDR-XFMR ACB 103-2	52-2ENSY11
	ENSBC18	4KV EM BUS 103 UNDER FREQ	SEE 852232
	ENSBC33	LOSS OF BUS 103 VOLTAGE	62X-2ENSY05
	ENSBC34	DEGRADED BUS*103 UNDV	62Y-2ENSY06
	ENSBC35	LD SHED SIGNAL BUS 103	27X3-2ENSY04
	ENSEC02	BUS ENS*103 UNDV	SEE 852240
	ENSEC04	BUS 103 DEGRADED VOLT	SEE 852240
	ENSIC02	2ABS-X1 PH OC ACB 103-2	SEE 852248
	ENSUC12	EM SWGR ACB 103-2 LO RLY	SEE 852231
	ENSUC16	EM SWGR ACB 103-2 LO RLY	SEE 852247
	ENSUC20	EM SWGR ACB 103-2 LO RLY	SEE 852239
	NNSUC28	4KV BUS E18 LO RLY 2 TRIP	SEE 852558

19.1 (Cont'd)

Computer Point	Computer Printout	Source
b. ENSUC07	2RTX-XSR1B ACB 103-4 TRIP	52-2ENSY10
TRIP SIGNALS ORIGINATE FROM:		
ENSBC06	FDR XFMR ACB 103-4	52-2ENSY10
ENSBC18	4KV EM BUS 103 UNDER FREQ	SEE 852232
ENSBC33	LOSS OF BUS 103 VOLTAGE	62X-2ENSY05
ENSBC34	DEGRADED BUS*103 UNDV	62Y-2ENSY06
ENSBC35	LD SHED SIGNAL BUS 103	27X3-2ENSY04
ENSEC02	BUS ENS*103 UNDV	SEE 852240
ENSEC04	BUS 103 DEGRADED VOLT	SEE 852240
ENSIC03	RTX-XSRIB PH OC ACB 103-4	SEE 852248
ENSUC11	EM SWGR ACB 103-4 LO RLY	SEE 852231
ENSUC15	EM SWGR ACB 103-4 LO RLY	SEE 852247
ENSUC19	EM SWGR ACB 103-4 LO RLY	SEE 852239
NNSUC25	4KV BUS E17 LO RLY2 TRIP	SEE 852548

19.2 Automatic Response

a. Diesel Generator start.

b. Load shed all but load center breakers.

c. Auto load sequence commences.

d. Manual loading blocked for approx. 1 min.

e. Category II service water separates from Category I.

19.3 Corrective Action

a. See N2-OP-71 Section H17 and H18 to transfer feeders to the emergency bus.

b. Place the emergency bus on offsite power.

c. Notify elect. maint. of the event.

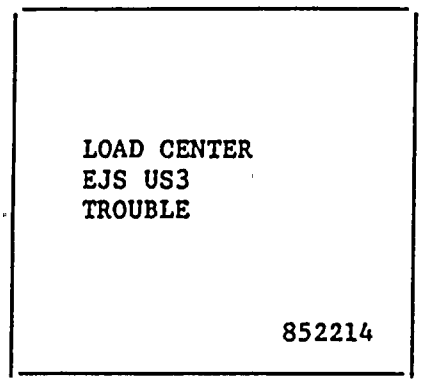
d. See N2-OP-100A to return the diesel generator to stand-by after offsite power is restored.

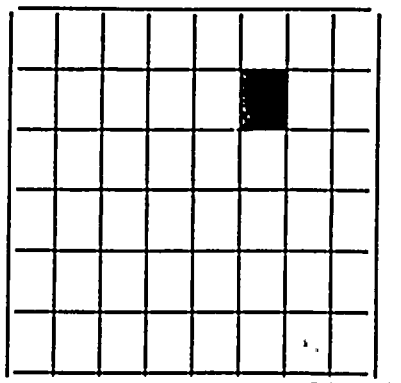
NOTE: If computer point ENSBC40 alarms (DIV 2 LOCA SIGNAL), before the bus is restored to offsite power, trip breaker 103-14.

20.0 852214 Load Center EJS*US3 Trouble

Reflash: Yes

TCN-1





20.1	Computer Point	Computer Printout	Source
	a. EJSBC18	UV PROT US3 LOSS DC PWR	74-2EJSY08
	b. EJSUC11	2EJS US3 NORM BRKR EL FLT	52-2EJSY05 Bkr overcurrent
	c. EJSUC12	2EJS US3 ALTN BRKR EL FLT	52-2EJSY06 Bkr overcurrent

20.2 Automatic Response

EJSBC18 None
EJSUC11 Trips breaker ACB3-3B
EJSUC12 Trips breaker ACB3-9B

.3 Corrective Action

SBC18 For loss of control power, check fuses in load center cubicle 3-3A, and breaker 4C at 2BYS*SWG002B, DC switchgear.

EJSUC11 EJSUC12 For breaker overcurrent trip, check annunciator 852246 for a branch breaker trip, and close in the other load center feeder breaker.

a. If both feeder breakers trip, send an operator to the east stand-by switchgear room.

1. Open all branch breakers on US3.

2. Reset both feeder breakers.

3. Close feeder breaker 3-3B.

4. Close breaker 3-9B, if breaker 3-3B fails to close.

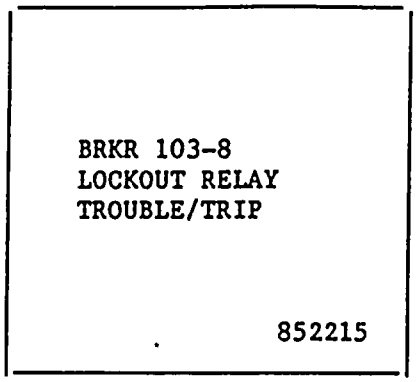
5. Close in branch breakers.

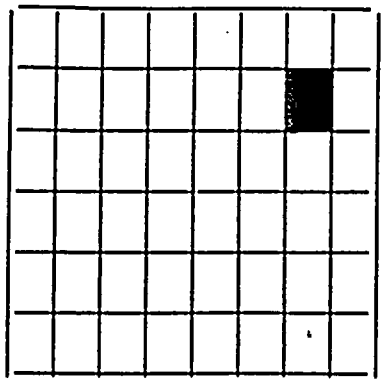
a. Notify elect. maint. of the event, and any branch breakers which are tripped, or fail-to-close.

21.0 852215 Breaker 103-8 Lockout Relay Trouble or Trip

Reflash: Yes

TCN-1





21.1	Computer Point	Computer Printout	Source
a.	ENSUC02	EM SWGR ACB 103-8 LO RLY	2NNS-SWG015 Phase or Ground overcurrent 50/51-2ENSB03 50G-2ENSB04
b.	ENSUC04	EM SWGR ACB 103-8 TRIP	52-2ENSX12 (also brings in ENSBC02)
	TRIP SIGNALS ORIGINATE FROM:		
	ENSBC35	LD SHED SIGNAL BUS 103	27X3-2ENSY04
	ENSBC40	DIV 2 LOCA SIGNAL	K-110B
c.	ENSUC24	BUS 103 STUB FDR GND RLT	Back-Up Ground overcurrent 50G-2ENSB08

21.2 Automatic Response

ENSUC02 None
ENSUC04 None
ENSUC24 a. Trips 103-4 and 103-2, both offsite feeder breakers, see 852239.

b. Trips 103-N1, Diesel Gen. Neutral breaker, see 852227.

c. Category II service water separates from Category I.

d. Load shed trips all loads except load center.

e. Auto start Diesel generator.

f. Auto load sequence commences.

g. Manual loading of the bus is blocked for approx. 1 minute.

21.3 Corrective Action

a. Verify the stub bus breaker trip. Check computer point ENSBC02.

b. See Section H2.0 to re-energize the stub bus after loss of offsite power.

c. Reset lockouts on tripped breakers.

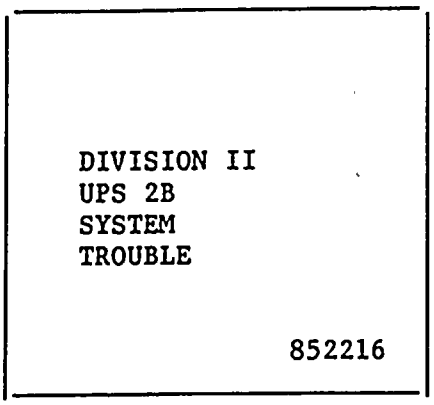
d. Notify elect. maint. of the event and any breakers which remain tripped.

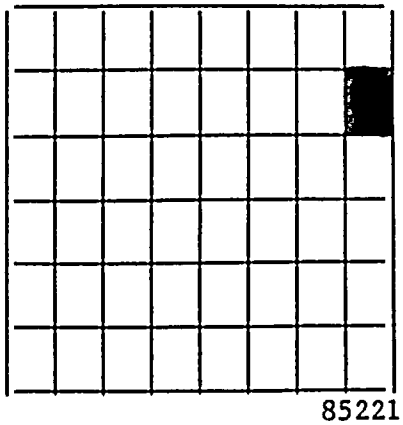
e. See N2-OP-100A to return the diesel gen. to stand-by after offsite power is restored.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (Cont.)

22.0 852216 Division II UPS 2B System Trouble

Reflash: No





22.1	Computer Point	Computer Printout	Source
	a. VBABC04	UPS2B SYSTEM TROUBLE	UPS2B/A9-K51

NOTE: A9-K51 is initiated by any local UPS2B alarm. This relay will stay de-energized as long as any local alarm exists. This annunciator will not reflash if another local alarm comes in.

TCN 1

22.2 Automatic Response

a. UPS may realign to power the vital bus from either backup D.C., or maintenance supply dependent on the local alarm.

22.3 Corrective Action

a. Check the UPS output voltage on Control Room panel 852 meter labelled "Vital bus 2VBS*UPS2B 125VAC Output," or computer point VBSVA101.

b. Send an operator to record meter readings and status light indications at the UPS.

NOTE: Consult Tech. Spec. 3.8.3.1 if the UPS is on maintenance power or if the local alarm response indicates that the UPS is inoperable and the plant is in Mode 1, 2 or 3.

TCN-13

c. Notify electrical maintenance for repair or adjustments to the UPS.

d. See Section H of this procedure for operation of the UPS with the loss of a source, or sources.

e. Take corrective action as required per following Table:

(NCTS) Local Alarm Description - Corrective Action

Alarm	Description	Corrective Action
Synch Loss	1. Maintenance AC frequency is out of tolerance	a. Initiate a WR
	or	
	2. Maintenance AC is not present	a. Restore maint. AC (if fuse is blown in the maintenance AC supply regulator, initiate a WR)
	or	
	3. UPS inverter output frequency is out of tolerance (60Hz±3Hz)	a. Verify on Frequency meter
		b. If valid declare INOP and if the plant is in Mode 1, 2 or 3 refer to Tech. Spec. 3.8.3.1
		c. Initiate a WR

Alarm	Description	Corrective Action
Battery Drain/Charge	Current being drawn from batteries caused by:	
	1. Loss of normal AC to UPS	a. Restore normal AC
	or	
	2. Voltage on DC switchgear higher than UPS internal DC voltage	a. If the charger is on equalize, notify Electrical to check charger equalize voltage
		b. If the charger is not on equalize, initiate a WR
	NOTE: Refer to Tech. Specs. 3.8.2.1 or 3.8.2.2	
Rectifier AC Loss	Loss of normal AC to UPS	a. If CB-51 has tripped, initiate a WR
		b. If CB-51 is closed, restore upstream normal AC supply
Reverse Transfer	Static switch is in maintenance position	a. Declare the UPS INOP and if the plant is in Mode 1, 2 or 3 refer to Tech. Spec. 3.8.3.1
		b. If other alarms are present, correct the other alarms prior to restoring the UPS to normal AC power
		c. If all other alarms clear, verify UPS AC output voltage present on AC voltmeter, then push "Forward" static switch pushbutton
Fan Fail	One or more fans have stopped	a. Visually check, if possible, to determine which fan is off
		b. Initiate a WR
	NOTE: This alarm may be concurrent with a Blown Fuse Alarm	

TCN-13

Alarm	Description	Corrective Action
Low Inverter Voltage	UPS inverter output voltage is 15% low (~103 Vac)	a. Verify on AC voltmeter b. If valid declare INOP and if the plant is in Mode 1, 2 or 3 refer to Tech Spec. 3.8.3.1
Inverter Over Temp	Unit overheating	a. Initiate a WR
Fuse Blown	Fuse within UPS blown	a. Initiate a WR to replace fuses
	NOTE: This alarm alone does not INOP the UPS. The operability determination must be made based on other local alarms (eg. "Low Battery", "Reverse Transfer", etc.)	
Rectifier DC Grounded	UPS internal DC Bus grounded	a. Initiate a WR
Low DC Bus	UPS internal DC Bus voltage is low (DC Bus Low)	a. Initiate a WR for Repair/adjustment
Overload	UPS inverter supplying over 100% rating of unit (~165 Amps)	a. Check output ammeter i) If unit loaded, clear non-essential loads ii) If alarm false, initiate a WR
Low Battery	UPS-internal DC Bus voltage is below 110 volts (DC Bus Lo/Lo)	a. Place S-51, the DC voltmeter selector switch in "Battery" i) If battery voltage indicates ≤110 VDC declare the UPS INOP and if the plant is in Mode 1, 2 or 3 refer to Tech. Spec. 3.8.3.1 ii) If battery voltage indicates >110 VDC, notify Electrical Maintenance
	NOTE: With DC Bus below 105 VDC, CB-52 will trip	

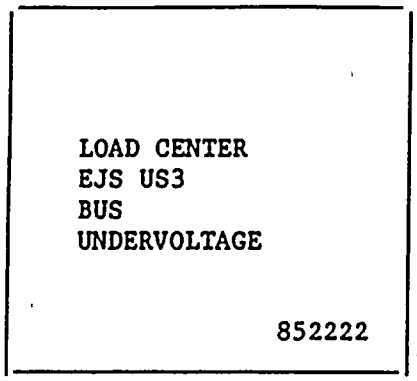
TCN 13

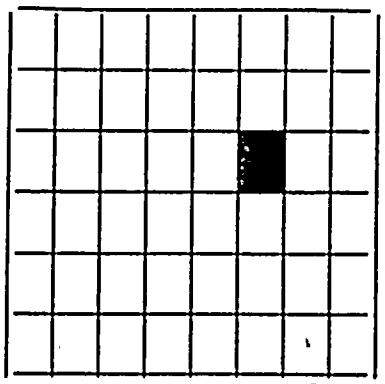
I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (Cont.)

23.0 852222 Load Center EJS*US3 Bus Undervoltage

Reflash: No

TCN-12





23.1	Computer Point	Computer Printout	Source
	a. EJSEC02	LD CTR US3 BUS UNDERVOLT	Undervoltage relays 27A-2EJSB11 and 27B-2EJSB11 Setpoint: 400V for 3 Sec.

23.2 Automatic Response

a. Trip Reactor Bldg. Recirc. Fan B, 2HVR*UC413B. Breaker 3-4C.

b. Trip Control Bldg. Chiller Compressor, 2HVK*CHL1B. Breaker 3-4D.

23.3 Corrective Action

a. Verify auto-start of redundant units per N2-OP-52 for HVR*UC413A/B, and N2-OP-53A for HVK*CHL1A/B.

b. Check the voltage on the DIV II 4160V bus 2ENS*SWG103.

c. Check the voltage on the DIV II load center, 2EJS*US3.

NOTE: Loss of offsite power for 3 sec. will also bring in this annunciator.

d. If the 4160 DIV II bus in nominally 4160V, trip the load center incoming line breaker inservice (bkr 3-3B, or 3-9B), and close the other feeder breaker (bkr 3-9B, or 3-3B).

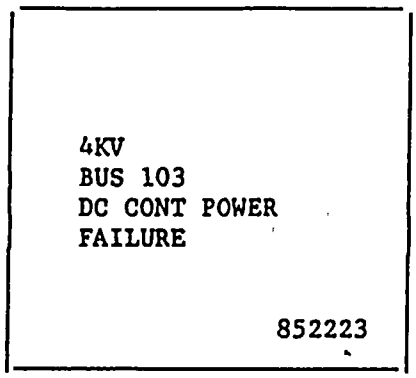
e. Notify elect. maint. of the event, and any tripped breakers.

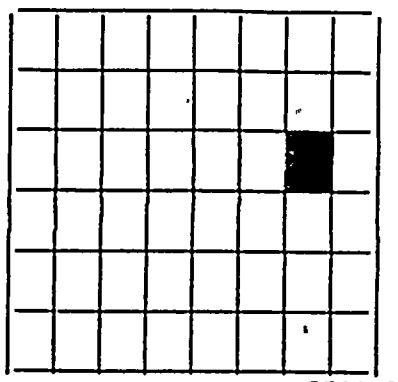
I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (Cont.)

24.0 852223 4KV Bus 103 DC Control Power Failure

Reflash: Yes

TCN-1





24.1	Computer Point	Computer Printout	Source
	a. ENSBC13	125 VDC CONT PWR DII BUS A	Loss of protective relaying power to trip 103-2, 103-4, & 103-14 (offsite feeders, and Dies. Gen. bkr) due to: phase overcurrent; Dies. Gen. gnd overcurrent; bus gnd overcurrent; incoming line XFMR neutral gnd overcurrent. emer. swgr DC bus A 74-2ENSY01
	ENSBC14	125VDC CONT PWR D-II BUS B	Loss of protective relaying power to trip 103-2, 103-4, & 103-14 (offsite feeders, and Dies. Gen bkr) due to: phase overcurrent; Dies. Gen. gnd overcurrent; bus gnd overcurrent; incoming line XFMR neutral gnd overcurrent. emer. swgr DC bus B 74-2ENSY02.

24.1 (Cont'd)

Computer Point	Computer Printout	Source
ENSBC16	125VDC CONT PWR D II BUS B	Loss of protective relaying power to trip 103-2, 103-4, & 103-N1 (offsite feeders, and Dies. Gen. neutral bkr) due to: Stub bus (SWG0015) gnd overcurrent; load center XFMR EJS*X3A phase overcurrent; load center XFMR EJS*X3B phase overcurrent. emer. swgr. D.C. bus B 74-2ENSY03

24.2 Automatic Response

NONE

24.3 Corrective Action

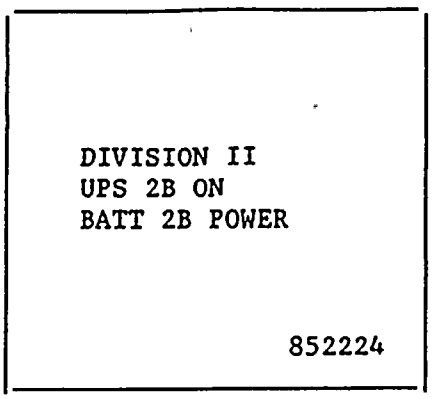
a. Send an operator to the DIV II swgr to check the D.C. fuses in cubicle 103-13.

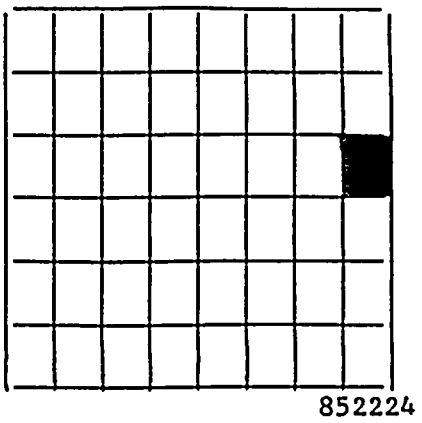
b. If both D.C. buses are alarming, check the D.C. switchgear 2BYS*SWG002B cubicle 2D.

c. Notify elect. maint. of the event, the relay number, and any tripped breakers.

25.0 852224 Division II UPS 2B On Battery 2B Power

Reflash: No





25.1

	Computer Point	Computer Printout	Source
a.	VBABC04	DIV 2 UPS2B ON BATT PWR	UPS2B/A9-K52

NOTE: UPS2B/A9-K52 is initiated by local alarm "Battery Drain/ Charge".

25.2 Automatic Response

NONE

25.3 Corrective Action

a. Notify SSS.

b. IF required by Tech Spec 3.8.2.1 or 3.8.2.2, place the second battery charger in service in accordance with N2-OP-74, Sect H.4. TCN-

c. Dispatch operator to 2UPS 2B (in the DIV II swgr room) to record indications on front panel of UPS.

d. Check the UPS output voltage on cont. rm. panel 852 "Vital Bus 2VBS*UPS2B 125VAC Output," or computer point VBSVA101.

e. Check corrective action for annunciator 852116 - local alarm "Battery Drain/Charge".

f. Check for tripped feeder, panel 2EJS*PNL300B bkr #7.

g. Check the UPS front panel breaker #CB-51 is closed. TCN-

h. Check the 125VDC switchgear for proper voltage and current. There should be no battery current if the charger is operating within its load range.

i. Refer to Section H of this procedure to align the UPS for Off Normal operation.

j. If necessary contact Electrical Maintenance to align or repair UPS.

24.1 (Cont'd)

Computer Point	Computer Printout	Source
ENSBC16	125VDC CONT PWR D II BUS B	Loss of protective relaying power to trip 103-2, 103-4, & 103-N1 (offsite feeders, and Dies. Gen. neutral bkr) due to: Stub bus (SWG0015) gnd overcurrent; load center XFMR EJS*X3A phase overcurrent; load center XFMR EJS*X3B phase overcurrent. emer. swgr. D.C. bus B 74-2ENSY03

24.2 Automatic Response

NONE

24.3 Corrective Action

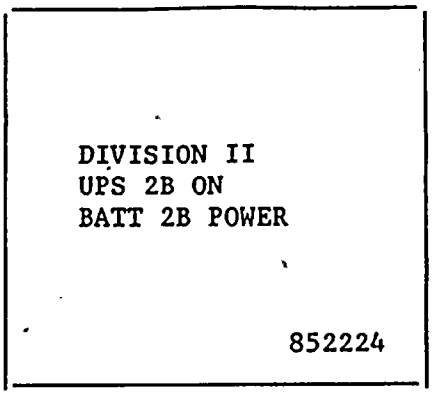
a. Send an operator to the DIV II swgr to check the D.C. fuses in cubicle 103-13.

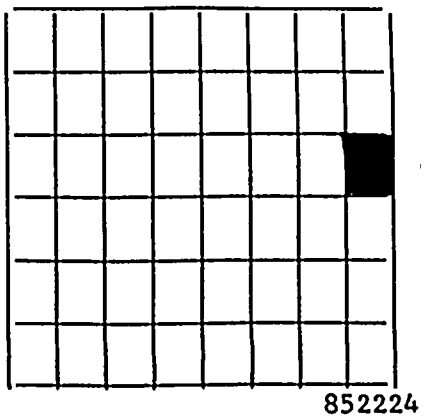
b. If both D.C. buses are alarming, check the D.C. switchgear 2BYS*SWG002B cubicle 2D.

c. Notify elect. maint. of the event, the relay number, and any tripped breakers.

25.0 852224 Division II UPS 2B On Battery 2B Power

Reflash: No





25.1	Computer Point	Computer Printout	Source
	a. VBABC04	DIV 2 UPS2B ON BATT PWR	UPS2B/A9-K52

NOTE: UPS2B/A9-K52 is initiated by local alarm "Battery Drain/ Charge".

25.2 Automatic Response

NONE

25.3 Corrective Action

a. Notify SSS.

b. IF required by Tech Spec 3.8.2.1 or 3.8.2.2, place the second battery charger in service in accordance with N2-OP-74, Sect H.4. TCN-

c. Dispatch operator to 2UPS 2B (in the DIV II swgr room) to record indications on front panel of UPS.

d. Check the UPS output voltage on cont. rm. panel 852 "Vital Bus 2VBS*UPS2B 125VAC Output," or computer point VBSVA101.

e. Check corrective action for annunciator 852116 - local alarm "Battery Drain/Charge".

f. Check for tripped feeder, panel 2EJS*PNL300B bkr #7.

g. Check the UPS front panel breaker #CB-51 is closed. TCN-

h. Check the 125VDC switchgear for proper voltage and current. There should be no battery current if the charger is operating within its load range.

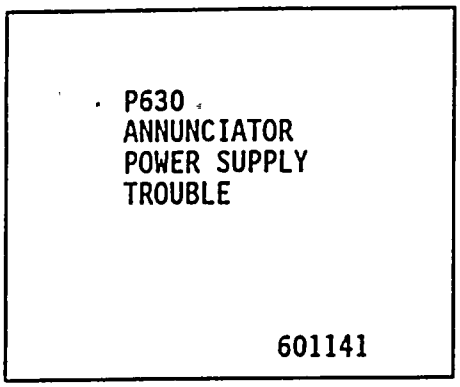
i. Refer to Section H of this procedure to align the UPS for Off Normal operation.

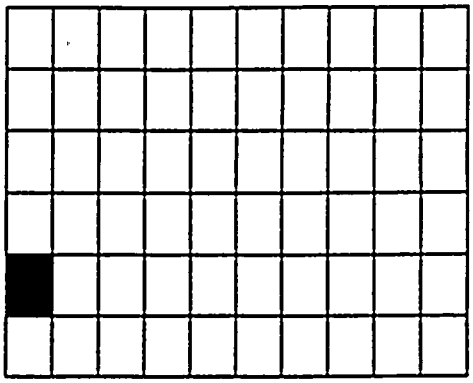
j. If necessary contact Electrical Maintenance to align or repair UPS.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

1.0 601141 Panel 630 Annunciator Power Supply Trouble

Reflash: Yes





601141

1.1

Computer Point	Computer Printout	Source
IHABC13	NSS ANN PW GROUND	Panel 630 internal power supply ground
IHABC18	NSS ANN PWR SUPPLY FAILURE	Panel 630 circuit 2IHAA06 circuit breaker A8CB2 or UPS1A 2VBS-PNLA101 circuit 3

1.2 Automatic Response

None

1.3 Corrective Action

a. Check panel circuits and breaker shown as "source".

b. Notify I&C of the alarm.

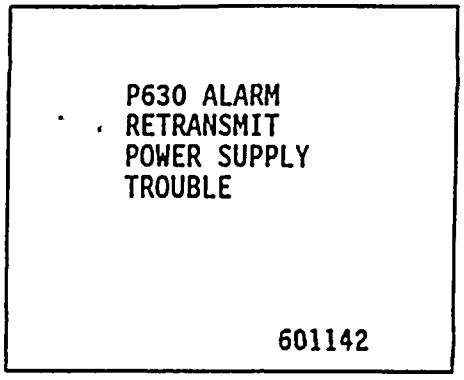
c. Refer to N2-OP-91A, Section H.3.0 "Loss of all Annunciators", if applicable.

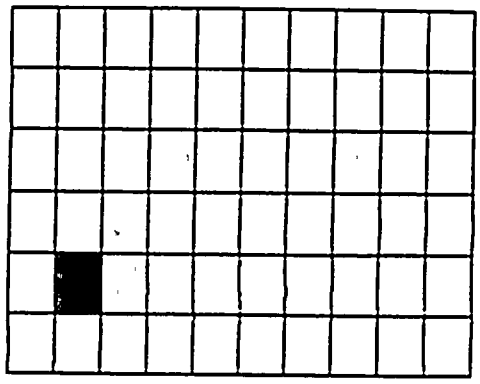
07-749-91

.0 601142 Panel 630 Alarm Retransmit Power Supply Trouble

Reflash: Yes

Non Daffy Related





601142

2.1	Computer Point	Computer Printout	Source
	IHABC14	NSS ANN PWR SUPPLY FAIL	Panel 630 circuit 2IHAN06 circuit breaker A8CB3 or UPS1B 2VBS-PNLB101 circuit 4
	IHABC15	ALM REFL PS LOSS OF PWR	Panel 630 circuit 2IHAN05 loss of power

2.2 Automatic Response

None

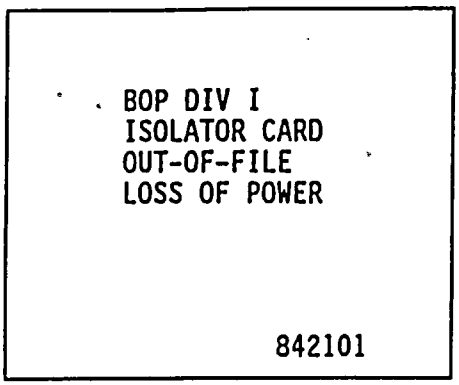
2.3 Corrective Action

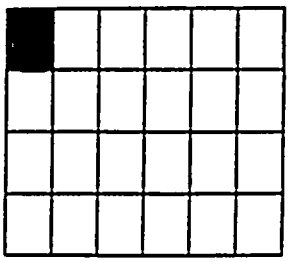
a. Check circuits and breaker shown as "source".

b. Notify I&C of the alarm if unable to restore power to annunciator isolators, or retransmitter relays.

3.0 842101 Balance of Plant - Division I Isolation Card Out-of-File/Loss of Power

Reflash: Yes





3.1

Computer Point	Computer Printout	Source
CECBC29	P837 D1 BOP ISOL CD 00F	Panel 837 circuit 2CECA01 Fuse F1
CECBC35	P838 D1 BOP ISOL CD 00F	Panel 838 circuit 2CECb01 Fuse F1
CECBC39	P874 D1 BOP ISOL CD 00F	Panel 874 circuit 2CECC01 Fuse F1

3.2 Automatic Response

None

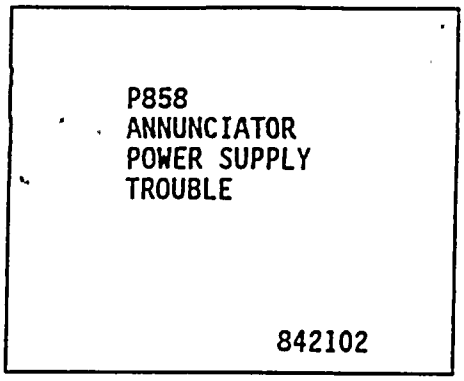
3.3 Corrective Action

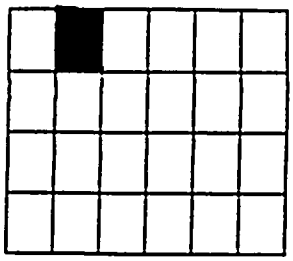
a. Check the fuse in the circuit and panel shown as the "source".

b. Contact I&C if unable to restore power to isolator cards.

4.0 842102 Panel 858 Annunciator Power Supply Trouble

Reflash: Yes





4.1

Computer Point	Computer Printout	Source
IHABC04	BOP ANN PWR SUPPLY FAIL	Vital Bus 2VBS-PNLA101 ckt 8 Panel 858 ckt 2IHAA02 circuit breaker CB1
IHABC10	ANN PS GROUNDED	Panel 858 ground detector for: 2VBS-PNLA01 ckt 8 or 2VBS-PNLB101 ckt 37

4.2 Automatic Response

None

4.3(a) Corrective Action

IHABC04 - 1. Check panel 858 circuit 2IHAA02 circuit breaker A13CB1.

2. Check UPS1A panel 2VBS-PNLA101 circuit 8.

3. Notify I&C if unable to restore power to annunciators.

(b) IHABC10 - 1. Check panel 858 circuit 2IHAA02 circuit breaker A13CB1 and 2IHAN02 circuit breaker A13CB3.

(c) Refer to N2-OP-91A, Section H.3.0 "Loss of all Annunciators, if applicable

4.0 842102 Panel 858 Annunciator Power Supply Trouble (Cont'd)

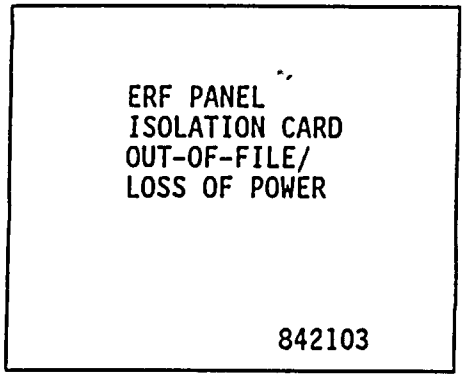
4.3(b) (Cont'd) 2. Check UPS1A panel 2VBS-PNLB101 circuit 37 and 2VBS-PNLA101 circuit 8.

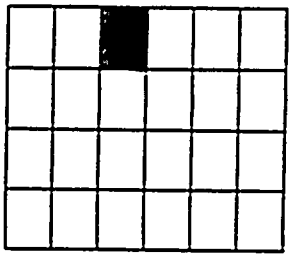
3. Notify I&C if unable to restore power to annunciator.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

5.0 842103 Emergency Response Facility Panel Isolation Card Out-of-File/Loss of Power

Reflash: Yes





842103

5.1	Computer Point	Computer Printout	Source
	CECBC45	P899D1 ERF ISOL CD 00F	Panel 899 circuit 2CECA03 Fuse F1 or 2UPS2A 2VBS*PNL101A circuit 3
	CECBC46	P899D2 ERF ISOL CD 00F	Panel 899 circuit 2CECB02 Fuse F1 or UPS 2B 2VBS*PNL301B circuit 20
	CECBC47	P899 ERF ISOL CD 00F	Panel 899 circuit 2CECB04 Fuse F1 or 2SCI-PNLA102 circuit 17

5.2 Automatic Response

None

5.3 Corrective Action

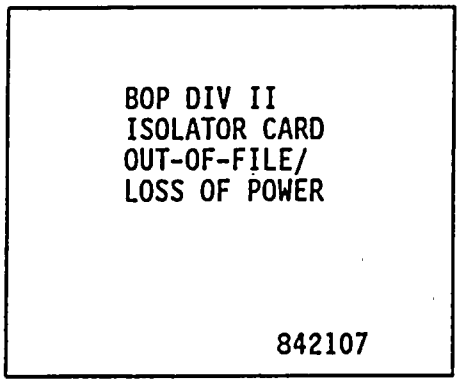
a. Check fuses and breakers in panels listed as "source".

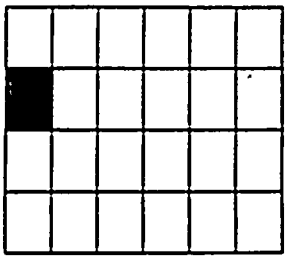
b. Notify I&C if unable to restore power to isolator circuits.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

6.0 842107 Balance of Plant Division II Isolator Card Out-of-File/Loss of Power

Reflash: Yes





842107

6.1

Computer Point	Computer Printout	Source
CECBC30	P874 D2 BOP ISOL CD 00F	Panel 874 Isol cards ZG-A, B, C, D
CECBC36	P837 D2 BOP ISOL CD 00F	Panel 837 Isol cards ZAJ-A, B, C, D
CECBC40	P838 D2 BOP ISOL CD 00F	Panel 838 Isol cards ZAH-A, B, C, D or panel 838 circuit 2CECB01 Fuse F1
IHABC02	DIV 2 ISOL INP CARD OUT	Panel 838 Div 2 Isol input card(s) from 99-1A through 99-11B any card(s) out of file

6.2 Automatic Response

None

6.3 Corrective Action

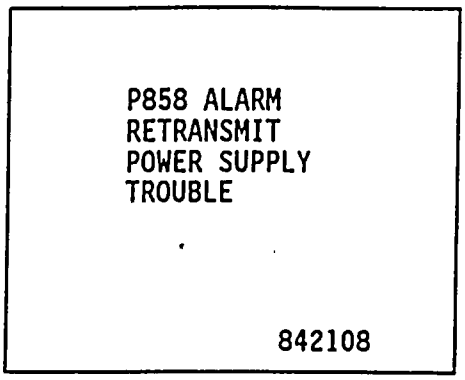
a. Check panel cards and fuse as shown as "source".

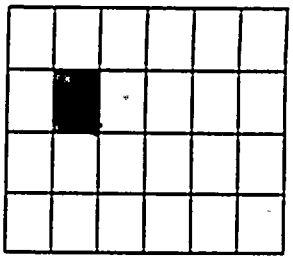
b. Notify I&C if unable to restore power to isolator circuits.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

7.0 842108 Panel 858 Alarm Retransmit Power Supply Trouble

Reflash: Yes





842108

7.1	Computer Point	Computer Printout	Source
	IHABC11	BOP ANN PWR SUPPLY FAIL	74-2IHAN02 Panel 858 circuit 2IHAN02 circuit breaker A13CB3 or UPS1A 2VBS-PNLB101 ckt 37
	IHABC12	ALM REFL PS LOSS	74B-2IHAN03 Panel 858 power supply to alarm retransmit relay circuit 2IHAN03

7.2 Automatic Response

None

7.3 Corrective Action

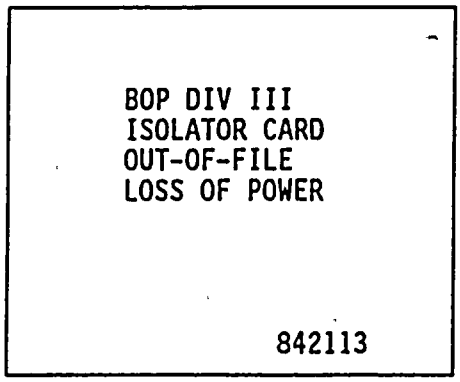
a. Check breakers in panels listed as "source".

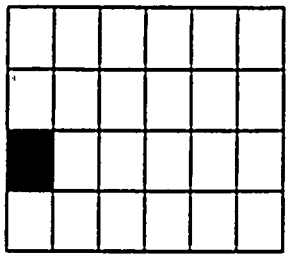
b. Notify I&C if unable to restore power to retransmission circuits.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

8.0 842113 Balance of Plant Division II Isolator Card Out-of-File/Loss of Power

Reflash: Yes





8.1	Computer Point	Computer Printout	Source
	IHABC03	DIV 3 ISOL INP CARD OUT	Panel 874 Div 3 Isol input card 99-1 or 99-2 any card(s) out-of-file (DC)
	CECBC31	P874 D3 BOP ISOL CD OOF	Panel 874 Div 3 isol input card analog or digital (HC) out-of-file

8.2 Automatic Response

None

8.3 Corrective Action

a. Notify I&C that panel 874 Div 3 isolator input card(s) is (are) out-of-file.

b. Check panel 2CES-IPNL414 circuit 18.

c. Check panel 874 circuit 2IHAC01 Fuse F1.

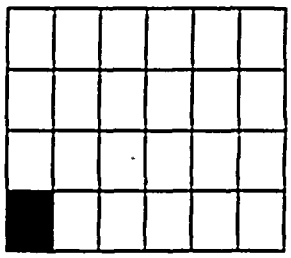
I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

9.0 842119 Balance of Plant Non-Divisional/Reactor Protection System Isolation Card Out-of-File/Loss of Power

Reflash: Yes

BOP NON-DIV
RPS ISOL CARD
OUT-OF-FILE
LOSS OF POWER

842119



842119

9.1

Computer Point	Computer Printout	Source
CECBC32	P837 NON-DIV ISOL CD OOF	Panel 837 analog or digital isolator output card out-of-file
CECBC33	P838 NON-DIV ISOL CD OOF	Panel 838 analog or digital isolator output card out-of-file
CECBC34	P874 NON-DIV ISOL CD OOF	Panel 874 analog or digital isolator output card out-of-file
CECBC37	P837 RPS D1 ISOL CD OOF	Power from panel 856 circuit 2SCIA06 fuse F1
CECBC38	P838 RPS D2 ISOL CD OOF	Power from panel 857 circuit 2SCIB06 fuse F1
IHABC07	DIV 1 ISOL OUTP CARD OUT	Panel 857 optic Isol output card out-of-file

9.1	Computer Point	Computer Printout	Source (Cont'd)
	IHABC08	DIV 2 ISOL OUTP CARD OUT	Panel 838 optic Isol output card out-of-file
	IHABC09	DIV 3 ISOL OUTP CARD OUT	Panel 874 optic Isol output card out-of-file

9.2 Automatic Response

None

9.3 Corrective Action

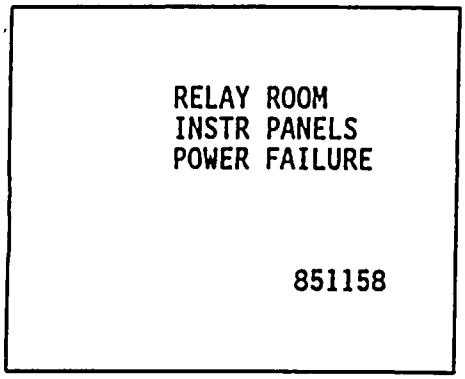
a. Check panel cards and fuses listed as "source".

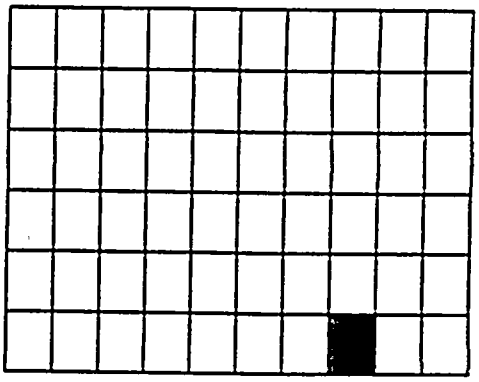
b. Notify I&C of the alarm.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

10.0 851158 Relay Room Instrument Panels Power Failure

Reflash: Yes





851158

10.1

Computer Point	Computer Printout	Source
CECBC01	P825 PWR SUPPLY FAIL	Panel Power Supply relays K2 & K3
CECBC02	P826 PWR SUPPLY FAIL	Panel power supply relays K2 & K3
CECBC04	P827 PWR SUPPLY FAIL	Panel power supply relays K2 & K3
CECBC05	P828 PWR SUPPLY FAIL DIV I	Panel power supply relays K2 & K3
CECBC06	P829 PWR SUPPLY FAIL DIV I	Panel power supply relays K2 & K3
CECBC08	P830 PWR SUPPLY FAIL DIV II	Panel power supply relays K2 & K3
CECBC10	P831 PWR SUPPLY FAIL DIV II	Panel power supply relays K2 & K3
CECBC11	P883 PWR SUPPLY FAIL DIV III	Panel power supply relays K2 & K3
CECBC13	P884 PWR SUPPLY FAIL	Panel power supply relays K2 & K3
CECBC15	P885 PWR SUPPLY FAIL	Panel power supply relays K2 & K3

10.0 851158 Relay Room Instrument Panels Power Failure (Cont'd)

10.1

Computer Point	Computer Printout	Source
CECBC16	P886 PWR SUPPLY FAIL	Panel power supply relays K2 & K3
CECBC17	P887 PWR SUPPLY FAIL	Panel power supply relays K2 & K3
CECBC19	P888 PWR SUPPLY FAIL	Panel power supply relays K2 & K3
CECBC21	P890 PWR SUPPLY FAIL DIV I	Panel power supply relays K2 & K3
CECBC22	P891 PWR SUPPLY FAIL DIV II	Panel power supply relays K2 & K3
CECBC23	P894 PWR SUPPLY FAIL DIV I	Panel power supply relays K2 & K3
CECBC24	P895 PWR SUPPLY FAIL DIV II	Panel power supply relays K2 & K3
CECBC26	P896 PWR SUPPLY FAIL DIV I	Panel power supply relays K2 & K3
CECBC27	P897 PWR SUPPLY FAIL DIV II	Panel power supply relays K2 & K3

10.2 Automatic Response

None

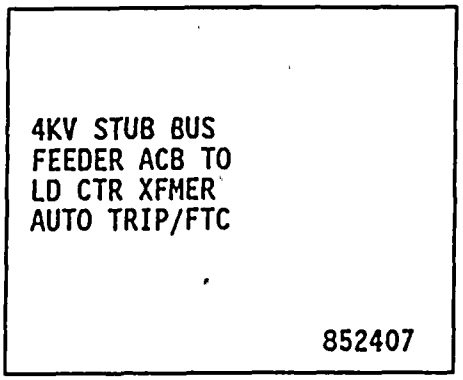
10.3 Corrective Action

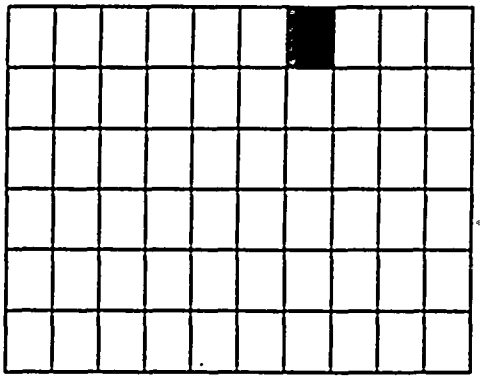
a. Notify I&C of the alarm.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS

11.0 852407 4KV Stub Bus Feeder Air Circuit Breaker to Load Center Transformer Auto Trip Failure to Close

Reflash: Yes





852407

11.1 Computer Point		Computer Printout	Source
a.	NJSUC13	X1E ACB 14-4 AT/FTC	2NJS-X1E ACB 14-4 Auto Trip/Failure to Close as sensed by 1 & 52 2NJSX21
b.	NJSUC14	X1E ACB 14-8 AT/FTC	2NJS-X1E ACB 14-8 Auto Trip/Failure to Close as sensed by 1 & 52 2NJSX31
c.	NJSUC15	X3E ACB 15-1 AT/FTC	2NJS-X3E ACB 15-1 Auto Trip/Failure to Close as sensed by 1 & 52 2NJSY21
d.	NJSUC16	X3E ACB 15-7 AT/FTC	2NJS-X3F ACB 15-7 Auto Trip/Failure to Close as sensed by 1 & 52 2NJSY31

11.2 Automatic Response

a. Trip 4160 stub bus feeders to 600V load centers US5 or US6.

11.3 Corrective Action

a. Verify auto station response.

b. Investigate and determine reason for trip.

c. When the cause for the trip is corrected, re-energize the system per N2-OP-71 Section E.7.0 (E.10.0), E.17.0 (E.18.0) or N2-OP-72 Section H.2.0 as appropriate.

12.2 Automatic Response

a. Trip stub bus feeder 5-8B (86-2NJS-X21) to US-5, bus loads trip on sustained under voltage.

b. Trip stub bus feeder 5-3B (86-2NJS-X31) to US-5, bus loads trip on sustained under voltage.

c. Trip stub bus feeder 6-7B (86-2NJS-Y21) to US-6, bus loads trip on sustained under voltage.

d. Trip stub bus feeder 6-3B (86-2NJS-Y31) to US-6, bus loads trip on sustained under voltage.

12.3 Corrective Action

a. Verify automatic response.

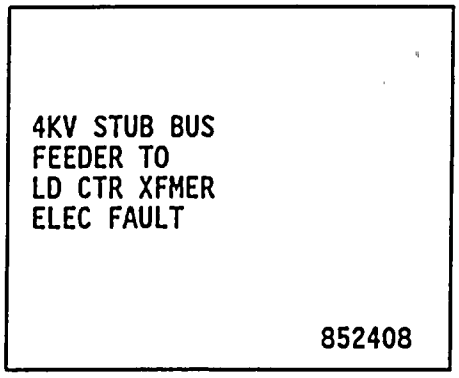
b. Check computer and panel 852 to determine which breaker tripped.

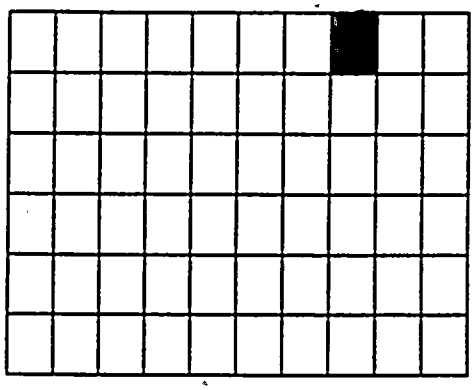
c. Investigate and determine reason for trip.

d. When the cause for the trip is corrected, re-energize the system per N2-OP-71 Section E.7.0 (E.10.0), E.17.0 (E.18.0) or N2-OP-72 Section H.2.0 as appropriate.

12.0 852408 4KV Stub Bus Feeder to Load Center Transformer Electrical Fault

Reflash: Yes





852408

12.1	Computer Point	Computer Printout	Source
a.	NJSUC09	LOCK OUT RLY 86-X21 TRIP	Lock Out Relay 86-2NJSX21 On stub bus 2NNS-SWG014 feeder ACB 14-4 to US-5 trips and locks out 600V Breaker IS-5-8B on high: INST, Time or GND over-current
b.	NJSUC10	LOCK OUT RLY 86-X31 TRIP	Lock Out Relay 86-2NJSX31 on stub bus 2NNS-SWG014 feeder ACB 14-8 to US-5 trips and locks out 600V Breaker US-5-3B on high: INST, Time or GND over-current
c.	NJSUC11	LOCK OUT RLY 86-Y21 TRIP	Lock Out Relay 86-2NJSY21 on stub bus 2NNS-SWG015 feeder ACB 15-1 to US-6 trips and locks out 600V Breaker US-6-7B on high: INST, Time or GND over-current
d.	NJSUC12	LOCK OUT RLY 86-Y31 TRIP	Lock Out Relay 86-2NJSY31 on stub bus 2NNS-SWG015 feeder ACB 15-7 to US-6 trips and locks out 600V Breaker US-6-3B on high: INST, Time or GND over-current

d.	NJSUC06	LOCK OUT RLY 86-X10 TRIP	Lock out Relay 86-2NJSX10 on 2NPS-SWG003 feeder ACB 3-13 to 2NJS-US3, -US4, US-7, trips on transformer 2NJS-X3A, -X3B or X3G high: phase Inst. or Time over current; ground inst. or time OC.

13.2 Automatic Response

a. Trips and locks out bus breakers: 2NPS-SWG001, ACB1-5; 2NJS-US1, ACB 1-3B; 2NJS-US2, ACB 2-3B. Removes power to the Alternate Access Bldg. Transformer 2JKB-X1.

b. Trips and locks out bus breakers: 2NPS-SWG001, ACB 1-14; 2NJS-US3, ACB 3-3B; 2NJS-US4, ACB 4-3B, 2NJS-US7, ACB 7.3B.

c. Trips and Locks out bus breakers: 2NPS-SWG003; ACB 3-3; 2NJS-US1, ACB 1-14B; 2NJS-US2, ACB 2-12B.

d. Trips and Locks out bus breakers: 2NPS-SWG003, ACB 3-13; 2NJS-US3, ACB 3-14B; 2NJS-US4, ACB 4-15B; 2NJS-US7, ACB 7-7B.

13.3 Corrective Action

a. Verify automatic response.

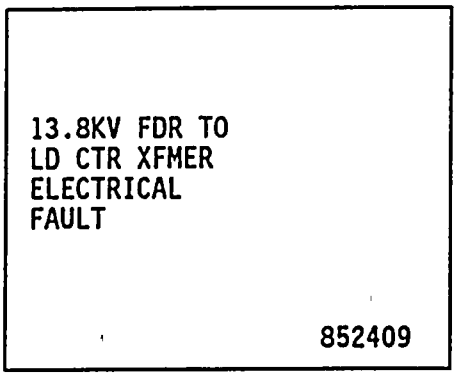
b. Check computer and panel, 2CES-PNL852 to determine which breaker tripped.

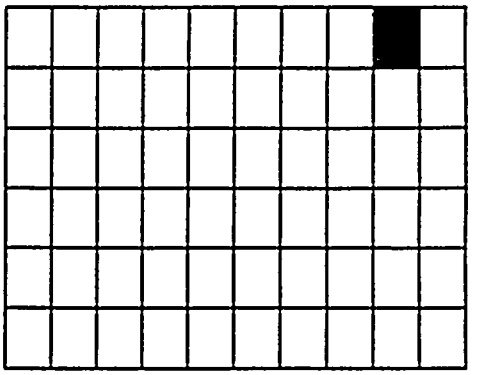
c. Investigate and determine reason for trip.

d. Return system to normal.

13.0 852409 13.8KV Feeder to Load Center Transformer Electrical Fault

Reflash: Yes





852409

13.1 Computer Point		Computer Printout	Source
a.	NJSUC01	LOCK OUT RLY 86-Y01 TRIP	Lock out relay 86-2NJSY01 on 2NPS-SWG001 feeder ACB 1-5 to 2NJS-US1 and 2NJS-US2 trips and locks out on: high time or Inst Grnd overcurrent (OC) high time or Inst. Overcurrent (OC).
b.	NJSUC02	LOCK OUT RLY 86-Y04 TRIP	Lock out Relay 86-2NJSY04 on 2NPS-SWG001 feeder ACB 1-14 to 2NJS-US3, -US4, -US7 trips on transformer X1A, X1B, X1G high: phase Inst. or Time over current; ground inst. or time OC.
c.	NJSUC05	LOCK OUT RLY 86-X07 TRIP	Lock out Relay 86-2NJSX07 on 2NPS-SWG003 feeder ACB 3-3 to 2NJS-US1, -US2, trips on transformer 2NJS-X3C, -X3D high: phase Inst. or Timer over current; ground inst. or time OC.

14.3 Corrective Action

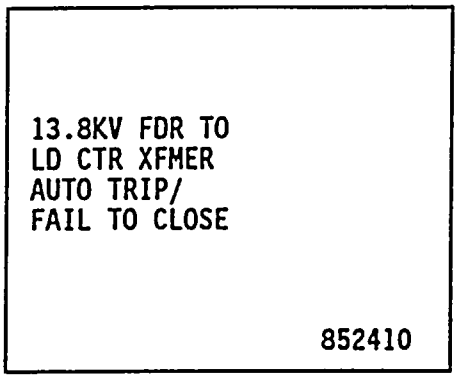
a. Investigate and determine reason for trip or failure to close.

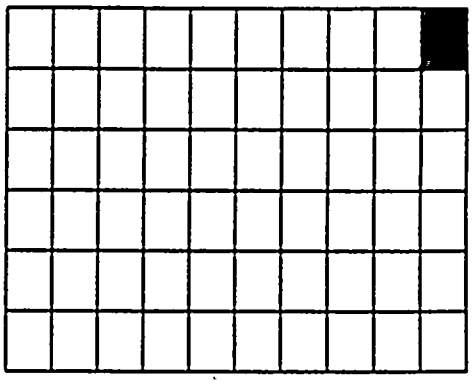
b. Return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

14.0 852410 13.8KV Feeder to Load Center Transformer Auto Trip/Failure to Close

Reflash: Yes





852410

14.1 Computer Point		Computer Printout	Source
a.	NJSUC03	NPS001 ACB 1-5 AT/F-T-C	2SWG-NPS001 Air Circuit Breaker 1-5 Auto Trip/ Failure to Close as sensed by 1 & 52 2NJSY01
b.	NJSUC04	NPS001 ACB 1-14 AT/F-T-C	2SWG-NPS001 Air Circuit Breaker 1-14 Auto Trip/ Failure to Close as sensed by 1 & 52 2NJSY04
c.	NJSUC07	NPS003 ACB 3-3 AT/F-T-C	2SWG-NPS003 Air Circuit Breaker 3-3 Auto Trip/ Failure to Close as sensed by 1 & 52 2NJSX07
d.	NJSUC08	NPS001 ACB 3-13 AT/F-T-C	2SWG-NPS003 Air Circuit Breaker 3-13 Auto Trip/ Failure to Close as sensed by 1 & 52 2NJSX10

14.2 Automatic Response

a. 13.8KV breaker 1-5 open and Ctrl Sw in Normal after close.

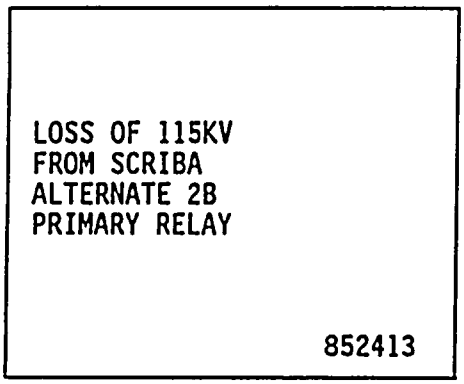
b. 13.8KV breaker 1-14 open and Ctrl Sw in Normal after close.

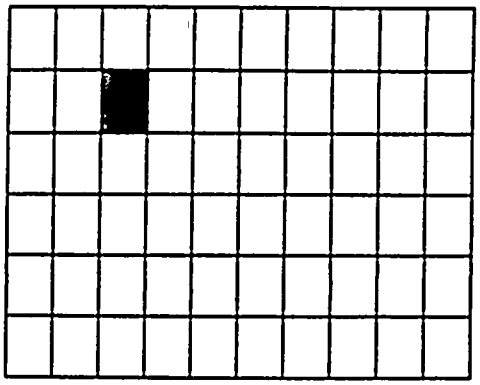
c. 13.8KV breaker 3-3 open and Ctrl Sw in Normal after close.

d. 13.8KV breaker 3-13 open and Ctrl Sw in Normal after close.

16.0 852413 Loss of 115KV From Scriba Alternate 2B Backup Relay

Reflash: No





852413

16.1 Computer Point	Computer Printout	Source
YUCBC10	115KV PWR SCRIBA ALT 2(B)	Scriba Station (B) 115KV Line #6 protection (alternate 2) operated as sensed by 94-2YUCB02

16.2 Automatic Response

NONE (unless 2YUL-MDS2, MDS20, MDS10 are closed then alarm window 852441 would also be lit.

16.3 Corrective Action

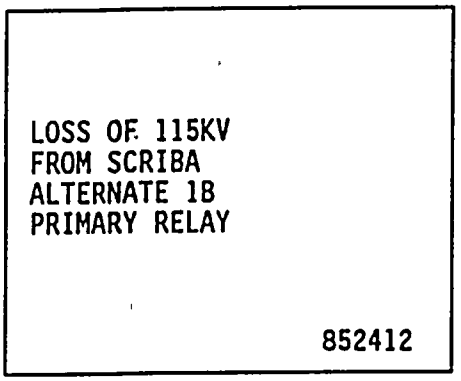
a. Determine the cause of the protection circuit actuation.

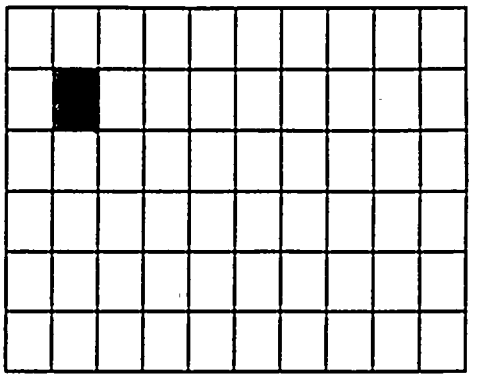
b. Restore to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

15.0 852412 Loss of 115KV From Scriba Alternate 1B Primary Relay

Reflash: No





852412

15.1 Computer Point	Computer Printout	Source
YUCBC08	115KV PWR SCRIBA ALT 1(B)	Scriba Station (B) 115KV Line #6 protection (alternate 1) operated as sensed by 94-2YUCB01

15.2 Automatic Response

NONE (unless 2YUL-MDS2, MDS20, MDS10 are closed then alarm window 852441 would also be lit.

15.3 Corrective Action

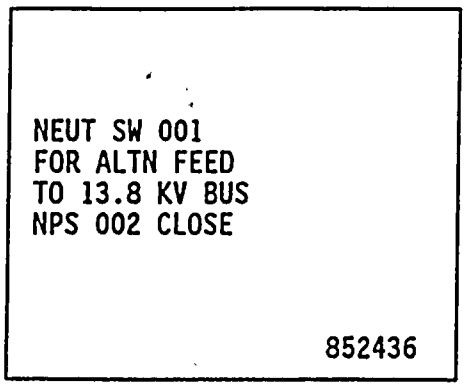
a. Determine the cause of the protection circuit actuation.

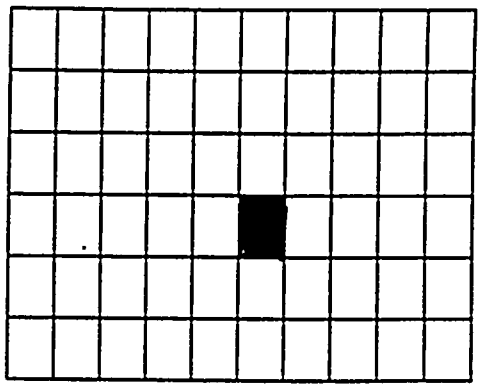
b. Restore to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

18.0 852436 Neutral Switch 001 for Alternate Feed to BUS 2NPS-SWG002 close

Reflash: No





852436

18.1 Computer Point	Computer Printout	Source
NPSZC01	Neut SW001 Altn. Fd. 002	Neutral Switch 2RTX-SW001 (Neutral Grounding Resistor Bypass) on 2RTX-XSR1A for Alternate Feed to 13.8KV Bus 2NPS-SWG002 closed, as sensed by 33-2NPSZ13

18.2 Automatic Response

NONE

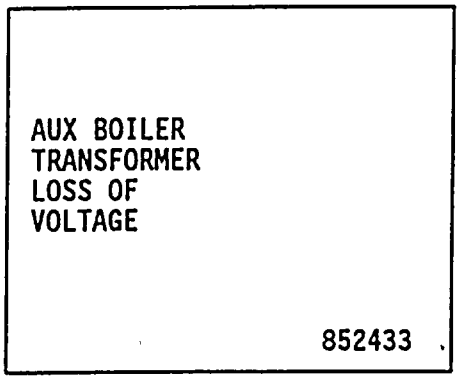
18.3 Corrective Action

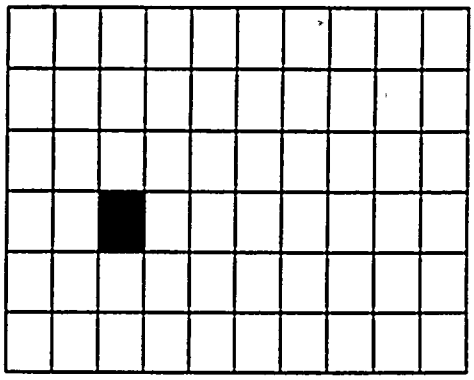
a. Verify that 2NPS-SWG002 is the only 13.8KV bus to be connected to 2RTX-XSR1A.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

17.0 852433 Auxiliary Boiler Transformer Loss of Voltage

Reflash: No





852433

17.1 Computer Point	Computer Printout	Source
NPSEC12	AUX BLR XFMR LOSS OF VOLT	Auxiliary Boiler Transformer 2ABS-X1 Loss of Voltage as sensed by 59-2NPSZ17 (between 2ABS-X1 and 13.8KV Bus 2NPS-SWG002)

17.2 Automatic Response

NONE (unless 13.8KV Bus 2NPS-SWG002 Supply ACB 2-5 is closed, then annunciator 852519 would also be lit.

17.3 Corrective Action

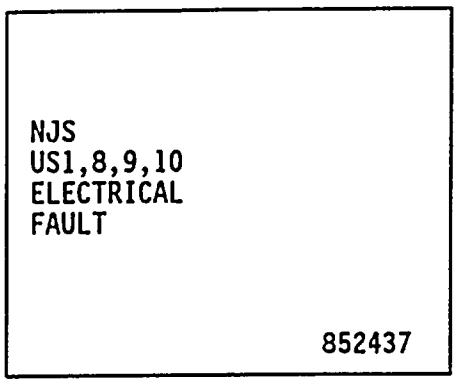
a. Determine the cause of the protection circuit actuation.

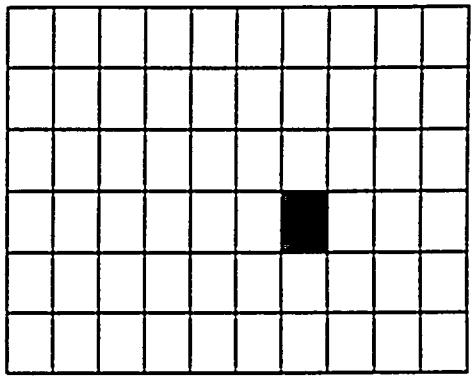
b. Restore to normal.

19.1 Computer Point		Computer Printout	Source (cont.)
f.	NJSUC[illegible]	US8B Sply Brkr ACB 8-13B	2NJS-US8B Air Circuit Breaker ACB 8-13B Electrical Fault as sensed by 520C-2NJSB08
g.	NJSUC44	US8 A & C Sply Brkr ACB 8-7B	2NJS-US8A & US8C Air Circuit Breaker ACB 8-7B Electrical Fault as sensed by 520C-2NJSN41
h.	NJSUC47	US8B & C Sply Brkr ACB 8-9B	2NJS-US8B & US8C Air Circuit Breaker ACB 8-9B Electrical Fault as sensed by 520C-2NJSN42
i.	NJSUC49	US9A Sply Brkr ACB 9-3B	2NJS-US9A Air circuit Breaker ACB 9-3B Electrical Fault as sensed by 520C-2NJSA09
j.	NJSUC50	US9B Sply Brkr ACB 9-13B	2NJS-US9B Air circuit Breaker ACB 9-13B. Electrical Fault as sensed by 520C-2NJSB09
k.	NJSUC48	US9A & US9C Sply Bkr ACB 9-7B	2NJS-US9A & US9C Air Circuit Breaker ACB 9-7B Electrical Fault as sensed by 520C-2NJSN43
l.	NJSUC51	US9B & US9C Sply Bkr ACB 9-9B	2NJS-US9A & US9C Air Circuit Breaker ACB 9-9B Electrical Fault as sensed by 520C-2NJSN44
m.	NJSUC52	US10A & C Tie Bkr ACB 10-6B	2NJS-US10A & US10C Air Circuit Breaker ACB 10-6B Electrical Fault as sensed by 520C-2NJSN45
n.	NJSUC53	US10A Sply Brkr ACB 10-3B	2NJS-US10A Air Circuit Breaker ACB 10-3B Electrical Fault as sensed by 520C-2NJSA10

19.0 852437 NJS US1, 8, 9, 10, Electrical Fault

Reflash: Yes





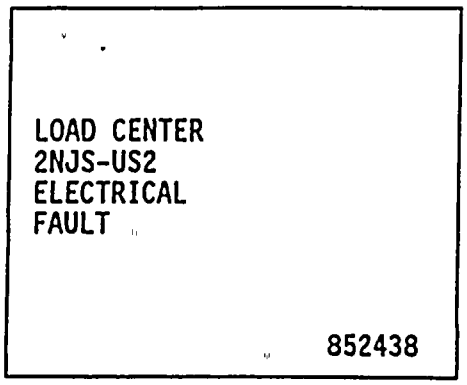
852437

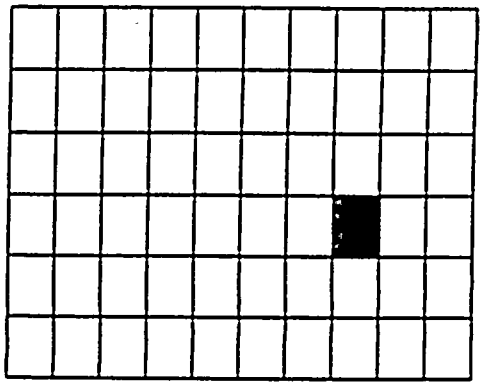
19.1

Computer Point		Computer Printout	Source
a.	NJSUC21	US1A ACB 1-3B Elec. Fault	2NJS-US1A Air Circuit Breaker 1-3B Electrical Fault as sensed by 52OC-2NJSA01
b.	NJSUC22	US1B ACB 1-14B Elec. Fault	2NJS-US1B Air Circuit Breaker 1-14B Electrical Fault as sensed by 52OC-2NJSB01
c.	NJSUC27	US1A & C ACB 1-8B Elec. Fault	2NJS-US1A &USIC Air Circuit Breaker ACB1-8B Electrical Fault as sensed by 52OC-2NJSN28
d.	NJSUC29	US1B&C ACB 1-10B Elec. Fault	2NJS-US1B &USIC Air Circuit Breaker ACB1-10B Electrical Fault as sensed by 52OC-2NJSN30
e.	NJSUC45	US8A Sply Brkr ACB 8-3B	2NJS-US8A Air Circuit Breaker ACB 8-3B Electrical Fault as sensed by 52OC-2NJSA08

20.0 852438 - Load Center 2NJS-US2 Electrical Fault

Reflash: Yes





852438

20.1 Computer Point		Computer Printout	Source
a.	NJSUC32	US2A ACB 2-3B Elec. Flt	Load Center 2NJS-US2A Air Circuit Breaker ACB 2-3B Electrical Fault as Sensed by 520C-2NJSA02
b.	NJSUC33	US2B ACB 2-12B Elec. Flt	Load Center 2NJS-US2B Air Circuit Breaker ACB 2-12B Electrical Fault as Sensed by 520C-2NJSB02
c.	NJSUC36	US2A ACB 2-6B Elec. Flt	Load Center 2NJS-US2A Air Circuit Breaker ACB 2-6B Electrical Fault as Sensed by 520C-2NJSN33
d.	NJSUC38	US2B ACB 2-9B Elec. Flt	Load Center 2NJS-US2B Air Circuit Breaker ACB 2-9B Electrical Fault as Sensed by 520C-2NJSN35

20.2 Automatic Response

a. Trip 600V supply or tie breaker, load center 2NJS-US2.

20.3 Corrective Action

a. Check computer to determine which breaker is in alarm.

b. Dispatch operator to load center US2.

c. Investigate and determine reason for trip.

d. Return system to normal.

19.1 Computer Point		Computer Printout	Source (cont.)
o	NJSUC54	US10B Sply Brkr ACB 10-12B	2NJS-US10B Air Circuit Breaker ACB 10-12B Electrical Fault as sensed by 520C-2NJSB10
p.	NJSUC55	US10B &C Bs Tbkr ACB 10-9B	2NJS-US10B &US10C Bus Tie Breaker Air Circuit Breaker ACB 10-9B Elec. Fault as sensed by 520C-2NJSN46

19.2 Automatic Response

a. Trip 600V supply or tie breaker on 2NJSUS1, US8, US9, or US10 (whichever breaker fault occurred on).

19.3 Corrective Action

a. Check computer to determine which breaker is in alarm.

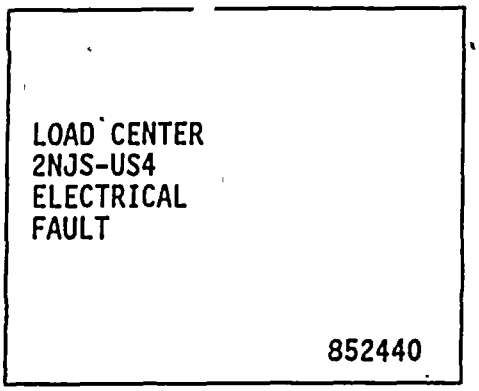
b. Dispatch operator to load center US1, US8, US9, US10.

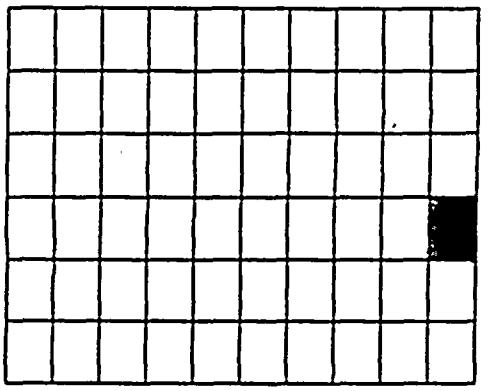
c. Investigate and determine reason for trip.

d. Return system to normal.

22.0 852440 Load Center 2NJS-US4 Electrical Fault

Reflash: Yes





852440

22.1 Computer Point		Computer Printout	Source
a.	NJSUC34	US4A ACB 4-3B Elec. Flt	Load Center 2NJS-US4A Air Circuit Breaker ACB 4-3B Electrical Fault as Sensed by 520C-2NJSA04
b.	NJSUC35	US4B ACB 4-15B Elec. Flt	Load Center 2NJS-US4B Air Circuit Breaker ACB 2-15B Electrical Fault as Sensed by 520C-2NJSB04
c.	NJSUC37	US4A ACB 4-8B Elec. Flt	Load Center 2NJS-US4A Air Circuit Breaker ACB 4-8B Electrical Fault as Sensed by 520C-2NJSN34
d.	NJSUC39	US4B ACB 4-11B Elec. Flt	Load Center 2NJS-US4B Air Circuit Breaker ACB 4-11B Electrical Fault as Sensed by 520C-2NJSN36

22.2 Automatic Response

a. Trip 600V supply or tie breaker, load center 2NJS-US4.

22.3 Corrective Action

a. Check computer to determine which breaker is in alarm.

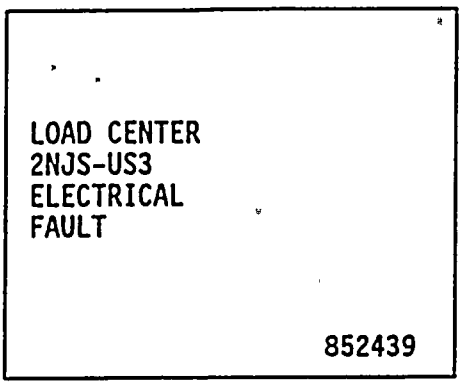
b. Dispatch operator to load center US4.

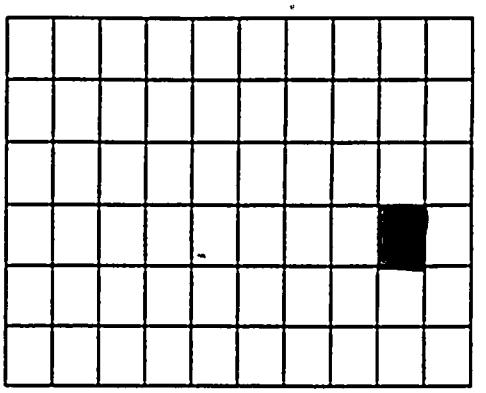
c. Investigate and determine reason for trip.

d. Return system to normal.

21.0 852439 Load Center 2NJS-US3 Electrical Fault

Reflash: Yes





852439

21.1 Computer Point		Computer Printout	Source
a.	NJSUC23	US3A ACB 3-3B Elec. Flt	Load Center 2NJS-US3A Air Circuit Breaker ACB 3-3B Electrical Fault as Sensed by 520C-2NJSA03
b.	NJSUC24	US3B ACB 3-14B Elec. Flt	Load Center 2NJS-US3B Air Circuit Breaker ACB 2-14B Electrical Fault as Sensed by 520C-2NJSB03
c.	NJSUC28	US3A & C ACB 3-7B Elec. Flt	Load Center 2NJS-US3A & US3C Air Circuit Breaker ACB 3-7B Electrical Fault as Sensed by 520C-2NJSN29
d.	NJSUC30	US3B&C ACB 32-11B Elec. Flt	Load Center 2NJS-US3B & US3C Air Circuit Breaker ACB 3-11B Electrical Fault as Sensed by 520C-2NJSN31

21.2 Automatic Response

a. Trip 600V supply or tie breaker, load center 2NJS-US3.

21.3 Corrective Action

a. Check computer to determine which breaker is in alarm.

b. Dispatch operator to load center US3.

c. Investigate and determine reason for trip.

d. Return system to normal.

23.1 Computer Point		Computer Printout	Source (cont.)
g.	NJSBC20	LOSS of US9 CONT PWR	Loss of DC Control power, 13.8KV Brkr Intlk, to 2NJS-US9 as sensed by 74-2NJSN39
h.	NJSBC21	LOSS of US10 CONT PWR	Loss of DC Control power, 13.8KV Brkr Intlk, to 2NJS-US10 as sensed by 74-2NJSN40

23.2 Automatic Response

NONE

23.3 Corrective Action

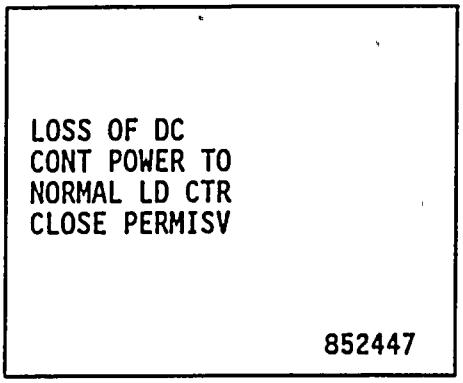
a. Check computer to determine which load center is in alarm.

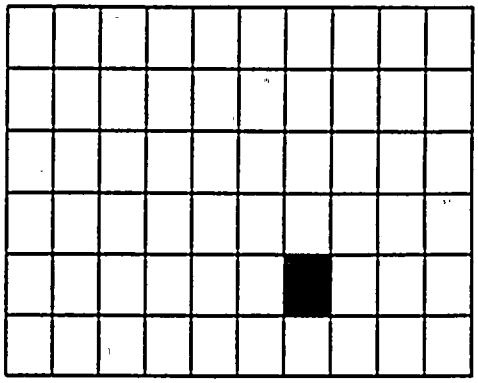
b. Move fuses to Alternate Feed position (see Section H of N2-OP-73A).

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

23.0 852447 Load Center DC Control Power to Normal Load Center Close Permissive

Reflash: Yes



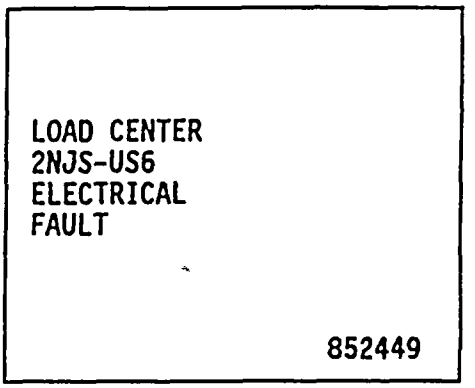


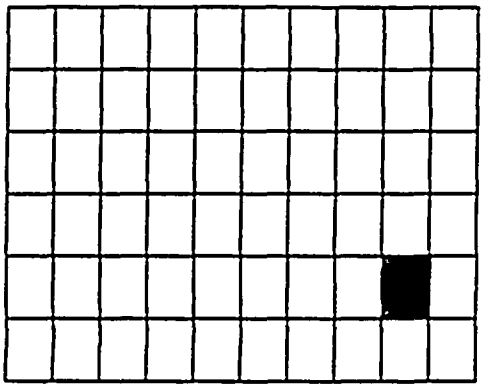
852447

23.1 Computer Point		Computer Printout	Source
a.	NJSBC13	LOSS of US1 DC CONT PWR	Loss of DC Control power, 13.8KV Brkr Intlk, to 2NJS-US1 as sensed by 74-2NJSN21
b.	NJSBC14	LOSS of US3 DC CONT PWR	Loss of DC Control power, 13.8KV Brkr Intlk, to 2NJS-US3 as sensed by 74-2NJSN23
c.	NJSBC15	LOSS of US2 DC CONT PWR	Loss of DC Control power, 13.8KV Brkr Intlk, to 2NJS-US2 as sensed by 74-2NJSN22
d.	NJSBC16	LOSS of US4 DC CONT PWR	Loss of DC Control power, 13.8KV Brkr Intlk, to 2NJS-US4 as sensed by 74-2NJSN24
e.	NJSBC18	LOSS of US7B NORM BRKR STATUS	Loss of DC Control power, 13.8KV Brkr Intlk, to 2NJS-US7 as sensed by 74-2NJSB07
f.	NJSBC19	LOSS of US8 CONT PWR	Loss of DC Control power, 13.8KV Brkr Intlk, to 2NJS-US8 as sensed by 74-2NJSN38

25.0 852449 Load Center 2NJS-US6 Electrical Fault

Reflash: Yes





852449

25.1 Computer Point		Computer Printout	Source
a.	NJSUC18	US6 NORM BRKR ELEC FAULT	2NJS-US6 Normal Breaker Electrical Fault as sensed by 520C-2NJSY13
b.	NJSUC20	US6 ALTN BRKR ELEC FAULT	2NJS-US6 Alternate Breaker Electrical Fault as sensed by 520C-2NJSY14

25.2 Automatic Response

a. Trip 600V normal or alternate supply breaker to load center 2NJS-US6.

25.3 Corrective Action

a. Check computer and panel 852 to determine which breaker tripped.

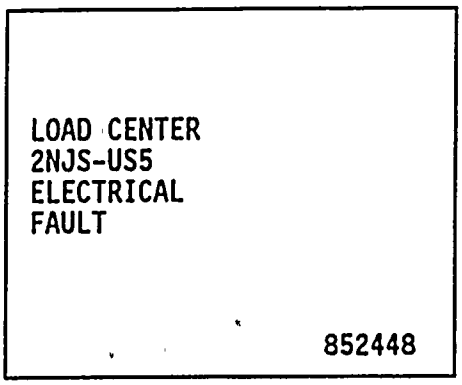
b. Dispatch operator to load center US65.

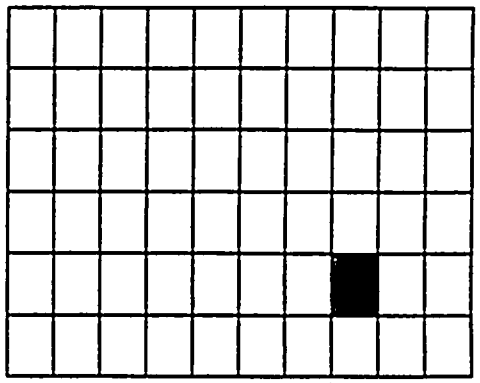
c. Investigate and determine reason for trip.

d. Return system to normal.

24.0 852448 Load Center 2NJS-US5 Electrical Fault

Reflash: Yes





852448

24.1 Computer Point		Computer Printout	Source
a.	NJSUC17	US5 NORM BRKR ELEC FAULT	2NJS-US5 Normal Breaker Electrical Fault as as sensed by 520C-2NJSX13
b.	NJSUC19	US5 ALTN BRKR ELEC FAULT	2NJS-US5 Alternate Breaker Electrical Fault as sensed by 520C-2NJSX14

1712

24.2 Automatic Response

a. Trip 600V normal or alternate supply breaker to load center 2NJS-US5.

24.3 Corrective Action

a. Check computer to determine which breaker is in alarm.

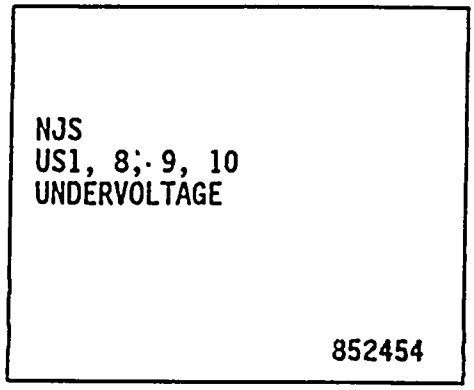
b. Dispatch operator to load center US5.

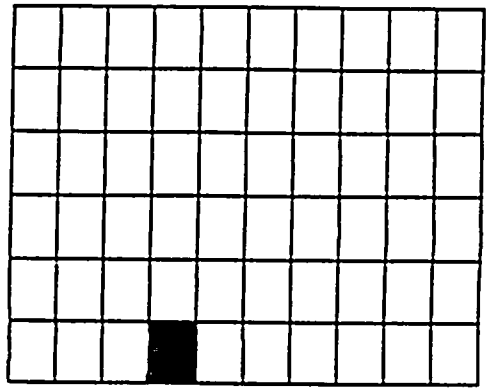
c. Investigate and determine reason for trip.

d. Return system to normal.

27.0 852454 Load Center 2NJS-US1, US8, US9, US10, Undervoltage

Reflash: Yes





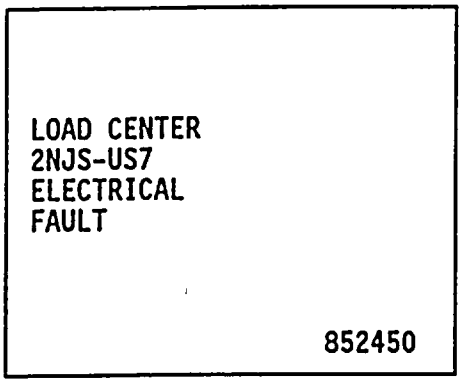
852454

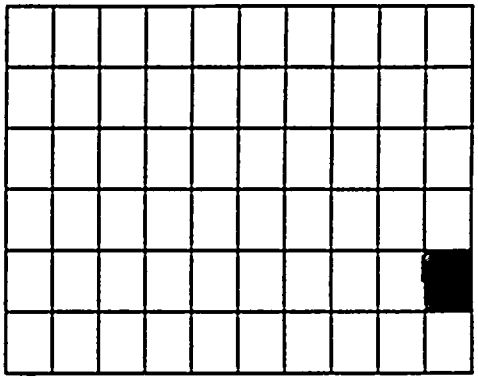
27.1

	Computer Point	Computer Printout	Source
a.	NJSEC01	US1A Norm Sply Brkr Volt	2NJS-US1A Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSX15
b.	NJSEC02	US1B Norm Sply Brkr Volt	2NJS-US1B, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSY15
c.	NJSEC03	US1C Norm Sply Brkr Volt	2NJS-US1C, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSZ15
d.	NJSEC17	Bus 2NJS-US8A Undv Prot	2NJS-US8A, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSX37
e.	NJSEC18	Bus 2NJS-US8B Undv Prot	2NJS-US8B, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSY40
f.	NJSEC19	Bus 2NJS-US8C Undv Prot	2NJS-US8C, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSZ20

26.0 852450 Load Center 2NJS-US7 Electrical Fault

Reflash: Yes





852450

26.1	Computer Point	Computer Printout	Source
a.	NJSUC25	US7A ACB7-3B ELEC FAULT	2NJS-US7A Brkr ACB7-3B Electrical Fault as sensed by 520C-2NJSA07
b.	NJSUC26	US7B ACB7-7B ELEC FAULT	2NJS-US7B Brkr ACB7-7B Breaker Electrical Fault as sensed by 520C-2NJSB07
c.	NJSUC31	US7A & 7B ACB7-5B EL FLT	2NJS-US7A & B, Bkr ACB7-5B Brkr Electrical Fault as sensed by 520C-2NJSN32

1712.

26.2 Automatic Response

a. Trip 600V normal or alternate supply breaker to load center 2NJS-US7.

26.3 Corrective Action

a. Check computer to determine which breaker is in alarm.

b. Dispatch operator to load center US7.

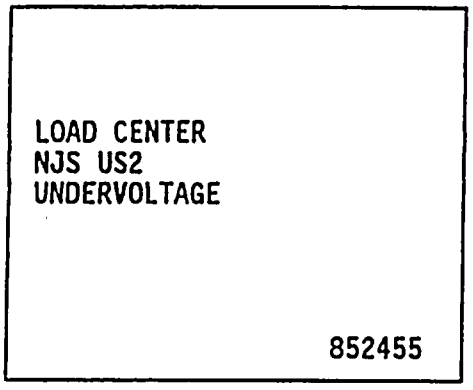
c. Investigate and determine reason for trip.

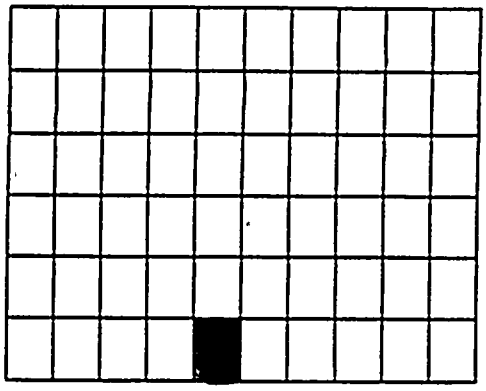
d. Return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

28.0 852455 Load Center 2NJS-US2 Undervoltage

Reflash: Yes





852455

28.1

	Computer Point	Computer Printout	Source
a.	NJSEC04	US2A NORM SPLY BRKR VOLT	2NJS-US2A Norm Sply Brkr phase under volt, as sensed by 27A & B 2NJSX16
b.	NJSEC05	US2B NORM SPLY BRKR VOLT	2NJS-US2B Norm Sply Brkr phase under volt, as sensed by 27A & B 2NJSY16
c.	NJSEC06	US2C NORM SPLY BRKR VOLT	2NJS-US2C Norm Sply Brkr phase under volt, as sensed by 27A & B 2NJSZ16

28.2 Automatic Response

a. The motor feeders on the respective sub bus are tripped after a .05-3 second time delay.

28.3 Corrective Action

a. Check computer to determine which section is de-energized.

b. Investigate and determine reason for undervoltage.

c. Identify the 86 devices, reset and return to normal.

27.1	Computer Point	Computer Printout	Source
	g. NJSEC20	Bus 2NJS-US9A Undv Prot	2NJS-US9A, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSX38
	h. NJSEC21	Bus 2NJS-US9B Undv Prot	2NJS-US9B, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSY41
	i. NJSEC22	Bus 2NJS-US9C Undv Prot	2NJS-US9C, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSZ21
	j. NJSEC23	Bus 2NJS-US10A Undv Prot	2NJS-US10A, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSX39
	k. NJSEC24	Bus 2NJS-US10B Undv Prot	2NJS-US10B, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSY42
	l. NJSEC25	Bus 2NJS-US10C Undv Prot	2NJS-US10C, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSZ22

27.2 Automatic Response

a. The motor feeders on the respective sub bus are tripped after a .05 sec. time delay.

27.3 Corrective Action

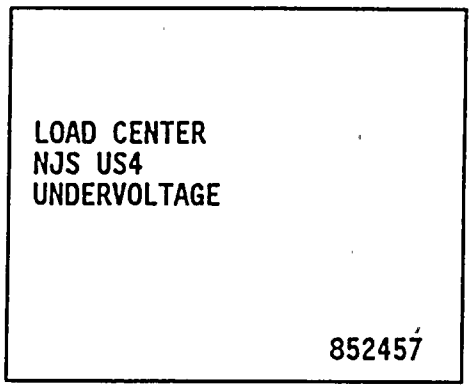
a. Check computer to determine which section is de-energized.

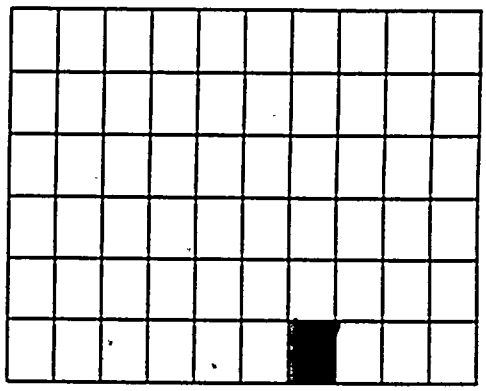
b. Investigate and determine reason for trip.

c. Return system to normal.

30.0 852457 Load Center 2NJS-US4 Undervoltage

Reflash: Yes





852457

30.1	Computer Point	Computer Printout	Source
a.	NJSEC10	US4A NORM SPLY BRKR VOLT	2NJS-US4A Norm Sply Brkr Phase under volt as sensed by 27A&B 2NJSX18
b.	NJSEC11	US4B NORM SPLY BRKR VOLT	2NJS-US4B Norm Sply Brkr Phase under volt as sensed by 27A&B 2NJSY18
C.	NJSEC12	US4C NORM SPLY BRKR VOLT	2NJS-US4C Norm Sply Brkr Phase under volt as sensed by 27A&B 2NJSZ18

30.2 Automatic Response

a. The motor feeders on the respective sub bus are tripped after a .05-3 sec time delay.

30.3 Corrective Action

a. Check computer to determine which section is de-energized.

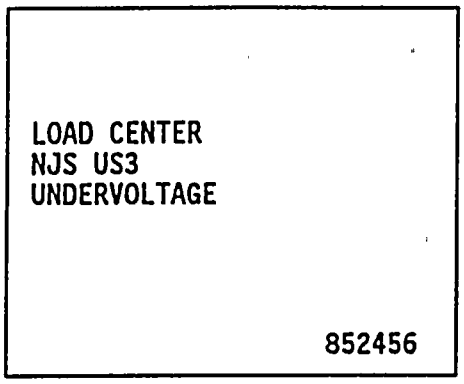
b. Investigate and determine reason for undervoltage.

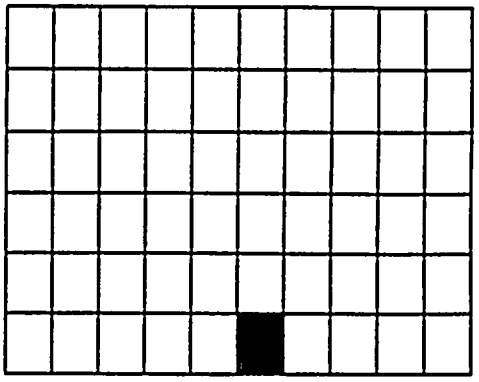
c. Identify the 86 device, reset and return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

29.0 852456 Load Center 2NJS-US3 Undervoltage

Reflash: Yes





852456

29.1

	Computer Point	Computer Printout	Source
a.	NJSEC07	US3A NORM SPLY BRKR VOLT	2NJS-US3A Normal Sply Brkr Phase under volt as sensed by 27A&B 2NJSX17
b.	NJSEC08	US3B NORM SPLY BRKR VOLT	2NJS-US3B Norm Sply Brkr Phase under volt as sensed by 27A&B 2NJSY17
c.	NJSEC09	US3C NORM SPLY BRKR VOLT	2NJS-US3C Norm Sply Brkr Phase under volt as sensed by 27A&B 2NJSZ17

29.2 Automatic Response

a. The motor feeders on the respective sub bus are tripped after a .05-3 sec time delay.

29.3 Corrective Action

a. Check computer to determine which section is de-energized.

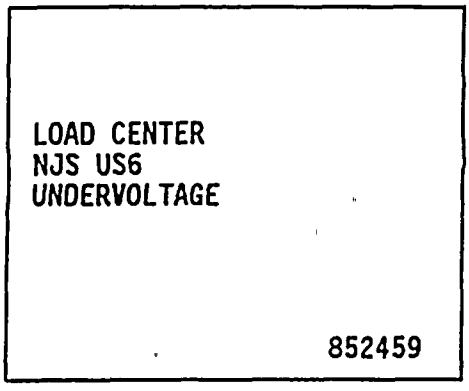
b. Investigate and determine reason for undervoltage.

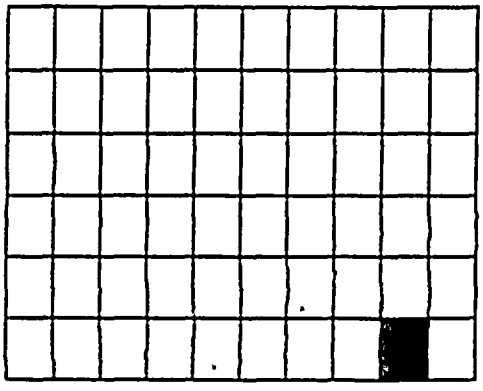
c. Identify the 86 device, reset and return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

32.0 852459 : Load Center 2NJS-US6 Undervoltage

Reflash: No





852459

32.1

Computer Point	Computer Printout	Source
NJSEC14	US6 NORM SPLY BRKR VOLT	2NJS-US6 Norm Sply Brkr Phase Undervolt as sensed by 27A&B 2NJSY19

32.2 Automatic Response

a. The motor feeders on 2NJS-US6 are tripped, after a .05-3 second time delay.

32.3 Corrective Action

a. Check normal or Alt. feed to bus at panel 852.

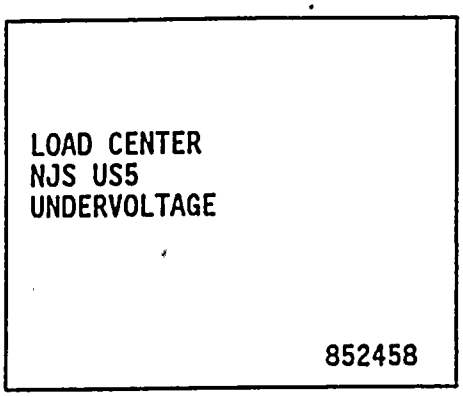
b. Investigate and determine reason for undervoltage.

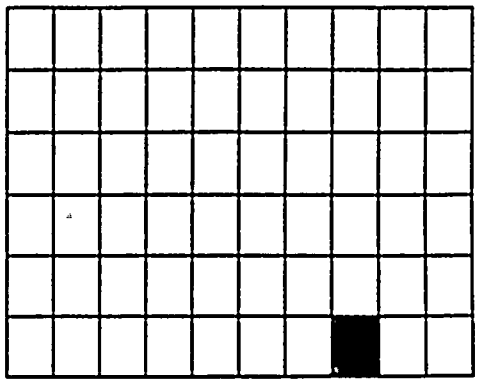
c. Identify the 86 device, reset and return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

31.0 852458 Load Center 2NJS-US5 Undervoltage

Reflash: No





852458

31.1

Computer Point	Computer Printout	Source
NJSEC13	US5 NORM SPLY BRKR VOLT	2NJS-US5 Norm Sply Brkr Phase Undervolt as sensed by 27A&B 2NJSX19

31.2 Automatic Response

a. the motor feeders on 2NJS-US5 are tripped after a .05-3 sec. time delay.

31.3 Corrective Action

a. Check normal or Alt. feed to bus at panel 852.

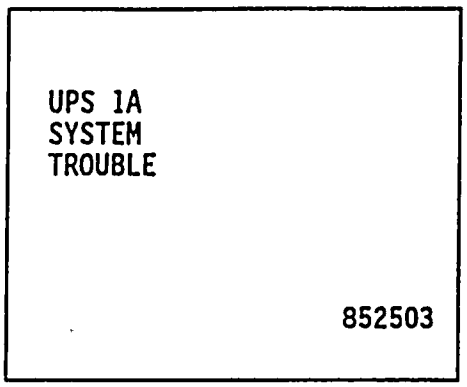
b. Investigate and determine reason for undervoltage.

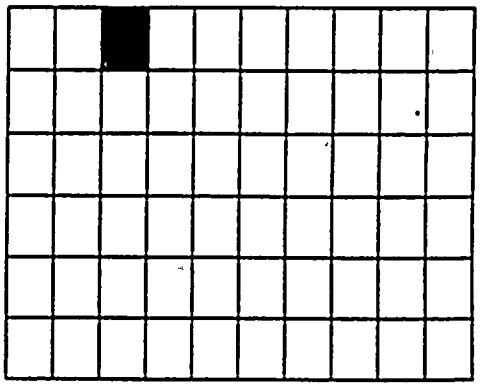
c. Identify the 86 device, reset and return system to normal.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

33.0 852503 Uninterruptable Power Supply 2VBB-UPS1A System Trouble

Reflash: No





852503

33.1

Computer Point	Computer Printout	Source
VBBTC09	UPS1A SYSTEM TROUBLE	UPS1A-K6 sensing: Ground on battery, over temperature on the inverter or charger, over current on the inverter, DC Low Voltage/Battery Operation Loss of DC input, Loss of maintenance AC input, Loss of Sync, Loss of inverter output.

33.2 Automatic Response

UPS1A will realign power supplies to provide power to vital bus.

33.3 Corrective Action

a. Dispatch an operator to the local 2VBB-UPS1A panel to record indications on the UPS front panel.

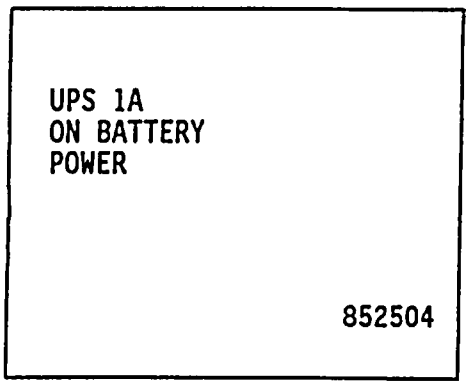
b. Refer to Section H to align power supplies to the desired off normal configuration.

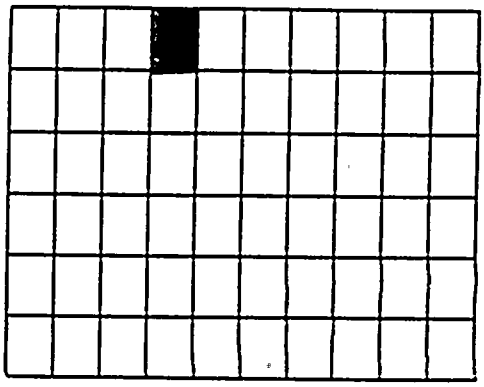
c. Initiate maint. activities if the unit needs repair.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

34.0 852504 Uninterruptable Power Supply UPS1A on Battery Power

Reflash: No





852504

34.1

Computer Point	Computer Printout	Source
VBBTC10	UPS1A ON BATT PWR	UPS1A-K2 (On Battery Power)

34.2 Automatic Response

2VBB-UPS1A Auto Transfer to DC battery power.

34.3 Corrective Action

a. Dispatch an operator to 2VBB-UPS1A to record indications on the UPS front panel.

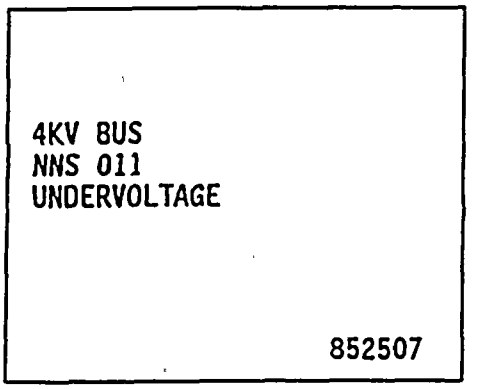
b. Refer to Section H to align power supplies to the desired off normal configuration.

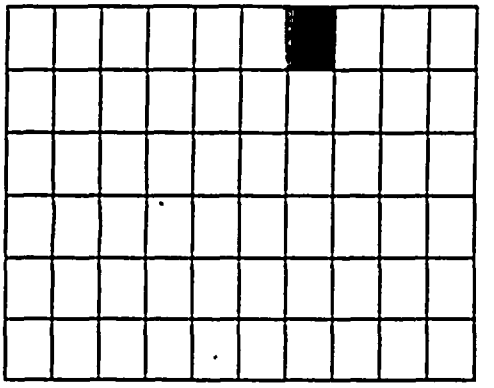
c. Initiate maint. activities if the unit needs repair.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

36.0 852507 4KV Bus NNS011 Undervoltage

Reflash: No





852507

36.1	Computer Point	Computer Printout	Source
	NNSEC01	4KV BUS NNS011 UNDERVOLTAGE	2NNS-SWG011 Undervoltage as sensed by 27A & B 2NNSX09

36.2 Automatic Response

a. Loss of voltage to 4160V bus 2NNS-SWG011.

b. Trip turb. Bldg. closed loop cooling pump A or block Auto Start.

c. Trip condensate pump C or block auto start.

d. Trip fourth point Htr drain pump A.

e. Trip condensate pump A or block auto start.

36.3 Corrective Action

a. Verify automatic response.

b. Check auto start or standby pumps.

c. Investigate and determine reason for undervoltage.

d. Return system to normal.

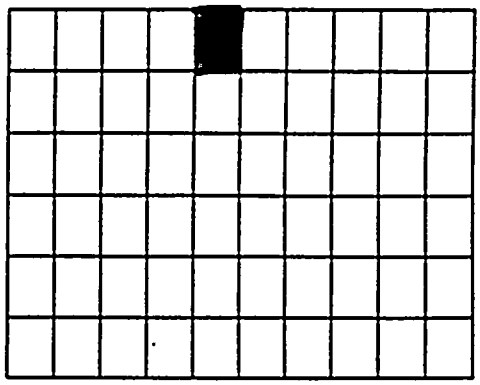
I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

35.0 852505 XFMR XS3 Sply ACB 1-4 Auto Trip/Fail to Close | 1712

Reflash: No

XFMER XS1
SPLY ACB 1-4
AUTO TRIP/
FAIL TO CLOSE

852505



852505

35.1	Computer Point	Computer Printout	Source
	NNSUC01	XS1 SPLY ACB1-4 AUTO TRIP	XFMR 2ATX-XS1 SUPPLY ACB 1-4 Auto trip or Fail to Close as sensed by 1 & 52 2NNSY07 (SW ACB 1-4 Normal After Close & ACB 1-4 Open)

| 17128

35.2 Automatic Response

a. Trip or fail to close breaker ACB-1-4.

b. Loss of 4160V powerboards 2NNS-SWG011, 2NNS-SWG012, 2NNS-SWG014.

35.2 Corrective Action

a. Verify automatic response.

b. Investigate and determine reason for alarm.

c. Return system to normal.

37.2 Automatic Response

a. Trip and lockout (cross ties from 2NNS-SWG011 and SWG-13) ACB 11-1 and ACB 13-10; Trip or block auto start of: 2CCP-P1A, 2CCS-P1C; Fire Pump 2FPW-P2 undervoltage; trip 2HDL-P1C.

b. Trip and lockout ACB 11-1 and ACB 11-3 on 2NNS-SWG011; prevent the auto transfer of 2CNM-P1C on to NNS-SWG011; trip or block the auto start of: 2CCS-P1A, 2CNM-P1A and 2CNM-P1C on the 2NNS-SWG011; trip 2HDL-P1A.

c. Trip and lockout ACB 13-6 and ACB 13-10 on 2NNS-SWG013; trip or block the auto start of: 2CCS-P1B, 2CNM-P1B, 2CCP-P3A, 2CNM-P1C on to 2NNS-SWG013; trip 2HDL-P1B.

d. Trip and lockout ACB 13-6 which in this circumstance would trip the loads on busses 2NNS-SWG012 and 2NNS-SWG013 (a combination of the loads on a and c above). | 17

e. Trip and lockout ACB 11-3 which in this circumstance would trip the loads on busses 2NNS-SWG011 and 2NNS-SWG012 (a combination of the loads on a and b above).

37.3 Corrective Action

a. Check the computer to determine which bus tripped.

b. Verify automatic response.

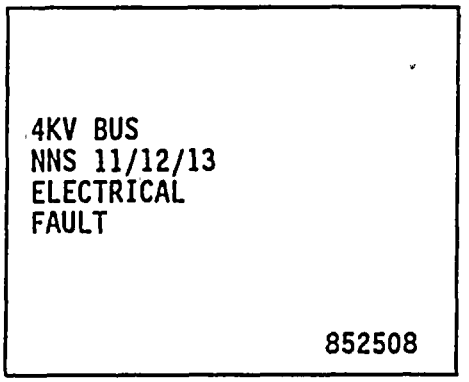
c. Investigate and determine the reason for the trip.

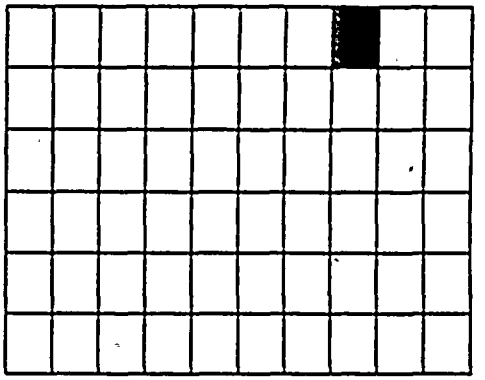
d. Return the system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

37.0 852508 4KV Bus NNS 11/12/13 Electrical Fault

Reflash: Yes





852508

37.1

	Computer Point	Computer Printout	Source
a.	NNSUC14	4KV BUS E12 LO RLY TRIP	2NNS-SWG012 Lock Out Relay Trip as sensed by 86-2NNSZ01 on bus 11/12/13 phase time OC or grnd OC.
b.	NNSUC15	4KV BUS E11 LO RLY TRIP	2NNS-SWG011 Lock Out Relay Trip as sensed by 86-2NNSX01 on bus 11 phase time OC or grnd OC.
c.	NNSUC16	4KV BUS E13 LO RLY TRIP	2NNS-SWG013 Lock Out Relay Trip as sensed by 86-2NNSY04
d.	NNSUC17	4KV BUS E12 LO RLY TRIP	2NNS-SWG012 Lock Out Relay Trip as sensed by 86-2NNSX05 (Backup protection when SWG012 is being fed from SWG013).
e.	NNSUC18	4KV BUS E12 LO RLY TRIP	2NNS-SWG012 Lock Out Relay Trip as sensed by 86-2NNSY01 (Backup protection when SWG012 is being fed from SWG011).

38.2 Automatic Response

j. Loss of loads on 2NPS-SWG001; 2NNS-SWG011, 12, 14; 2NJS-US1A, C & US2A, C, and US3A, C and US4A, C and US5 & US7A and US8A, C and US9A and C; US10A and C; Alternate Access substation.

38.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby equipment.

c. Reduce power to less than 65%, per N2-OP-101D Section H.1.0.

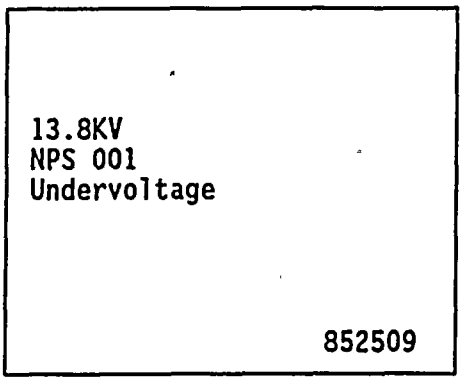
f. Investigate and determine the reason for the undervoltage.

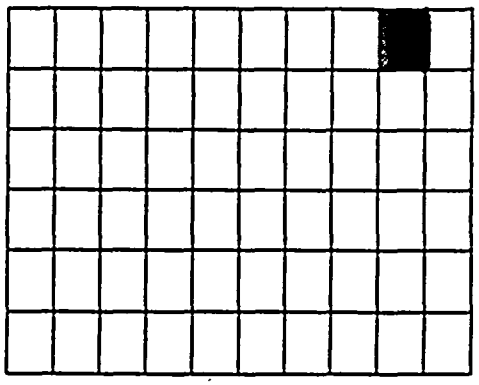
g. Return the plant to normal operation.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

38.0 852509 13.8KV Bus NPS001 Undervoltage

Reflash: No





852509

38.1

Computer Point	Computer Printout	Source
NPSEC01	13.8KV BUS NPS1 UNDER VLT	NPS-SWG001 Undervoltage as sensed by 27A & B - 2NPSX09

38.2 Automatic Response

a. Trip the normal supply breaker ACB 1-3 (2STX-XNS1) to 2NPS-SWG001.

b. Trip condensate booster pump 'A', ACB 1-7, on 2NPS-SWG001.

c. Trip condensate booster pump 'C', ACB 1-12 or prevent auto start.

d. Trip reactor feed pump 'A', ACB 1-8, on 2NPS-SWG001.

e. Trip reactor feed pump 'C', ACB 1-13, or prevent auto start.

f. Trip reactor recirc pump 'A', ACB 1-6 on 2NPS-SWG001.

g. Trip Circulating Water Pumps 'A', 'C', E, (ACB 1-9, 1-10, 1-11) on 2NPS-SWG001. 17128

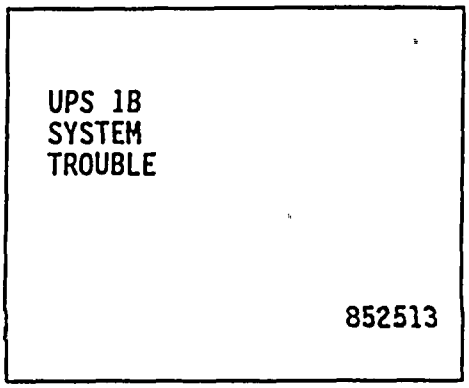
h. Trip the Supply breaker to 4160V bus 2NNS-SWG011, ACB 1-3 on 2NPS-SWG001.

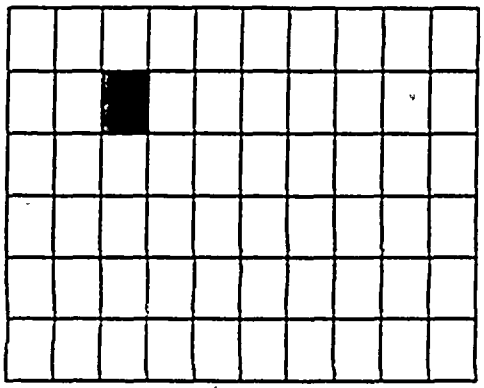
i. Permits residual transfer to reserve breaker ACB 1-1 (2RTX-XSR1A) or ACB 1-16 (2RTX-XSR1B).

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

40.0 852513 Uninterruptable Power Supply 2VBB-UPS1B System Trouble

Reflash: No





852513

40.1 Computer Point	Computer Printout	Source
VBBTC11	UPS1B SYSTEM TROUBLE	UPS1B-K6 sensing: Ground on battery, over temperature on the inverter or charger, over current on the inverter, DC Low Voltage/Battery Operation Loss of DC input, Loss of maintenance AC input, Loss of Sync, Loss of inverter output.

40.2 Automatic Response

UPS1B will realign power supplies to provide power to vital bus.

40.3 Corrective Action

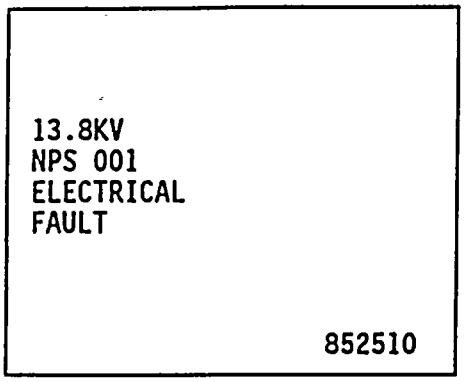
a. Dispatch an operator to the local 2VBB-UPS1B panel to record indications on the UPS front panel.

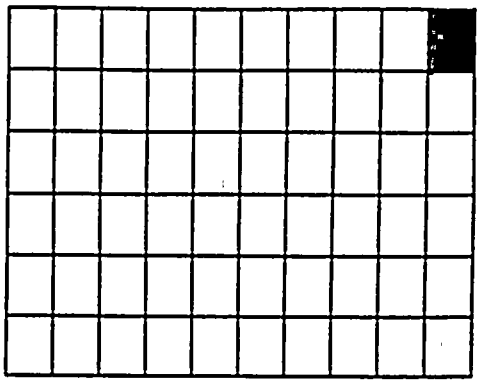
b. Refer to Section H to align power supplies to the desired off normal configuration.

c. Initiate maint. activities if the unit needs repair.

39.0 852510 13.8KV Bus NPS001 Electrical Fault

Reflash: No





852510

39.1	Computer Point	Computer Printout	Source
	NPSUC09	13.8KV BUS NPS 01 LO RLY TRP	NPS-SWG001 Lock Out Relay Trips on Transformers 2ATX-XS1 Time OC & Grnd OC;SWG001 Dir Grnd OC & Time OC; Transformers 2NJS-X1C, -X1D, -X1A, -X1B or -X1G as sensed by 86-2NPSX01

39.2 Automatic Response

a. Trip and lockout reserve supply breakers ACB 1-1 and 1-16.

b. Trip and lockout normal supply breaker ACB 1-3.

c. Lockout "A" and "C" condensate booster pumps (ACB 1-7 and ACB 1-13).

d. Loss of loads on: 2NPS-SWG001, 2NNS-SWG011, 12, 14, 2NJS-US1A,C & -US2A, C & -US3A,C & -US4A,C & -US5 and -US7A & -US8A,C & US9A,C & US10A,C; Alt. Access Substation.

39.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby equipment.

c. Reduce power to less than 65%, per N2-OP-101D Section H.1.0.

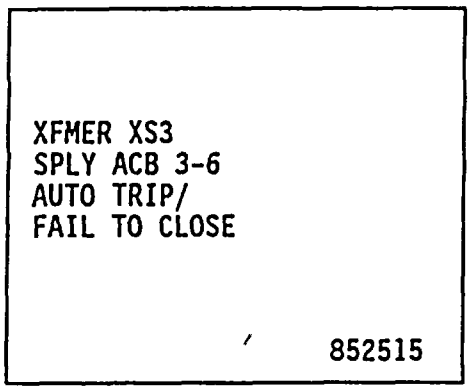
d. Investigate and determine reason for trip.

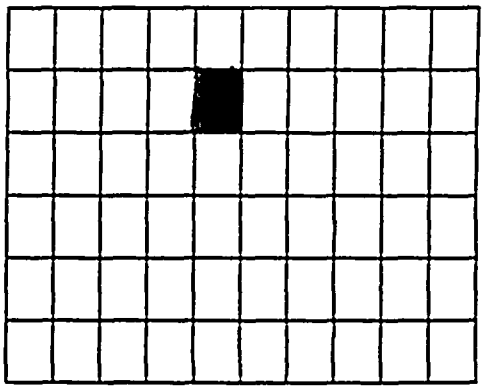
e. Return plant to normal operation.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

42.0 852515 λ-MR XS3 SPLY ACB3-6 Auto Trip/Fail to Close

Reflash: No





852515

42.1	Computer Point	Computer Printout	Source
	NNSUC02	XS3 Supply ACB 3-6 AUTO TRIP	XFMR 2ATX-XS3 Supply ACB 3-6 Auto Trip or Fail to Close as sensed by 1 & 52 2NNSX06 (ACB 3-6 open & SW ACB 3-6 Normal After Close)

42.2 Automatic Response

a. Trip or fail to close of ACB 3-6.

b. Loss of power to busses NNS-SWG013 & 015.

42.3 Corrective Action

a. Verify automatic response.

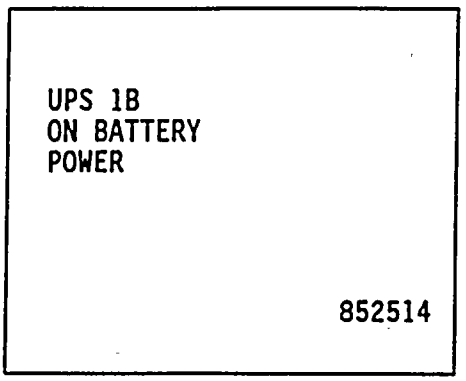
b. Investigate and determine reason for alarm.

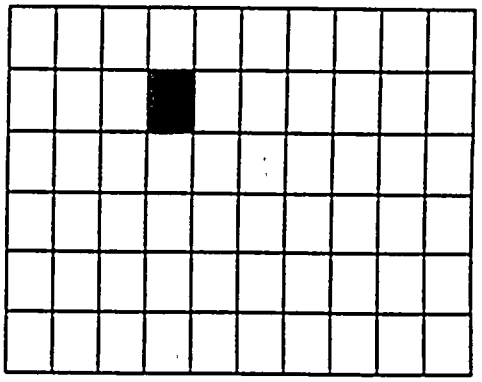
c. Return system to normal.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

41.0 852514 Uninterruptable Power Supply UPS1B on Battery Power

Reflash: No





852514

41.1

Computer Point	Computer Printout	Source
VBBTC12	UPS1B ON BATT PWR	UPS1B-K2 (On Battery Power)

41.2 Automatic Response

2VBB-UPS1B Auto Transfer to DC battery power.

41.3 Corrective Action

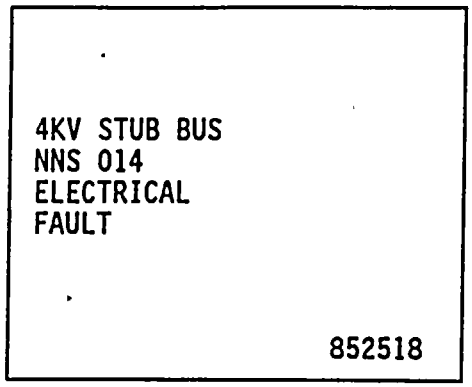
a. Dispatch an operator to 2VBB-UPS1B to record indications on the UPS front panel.

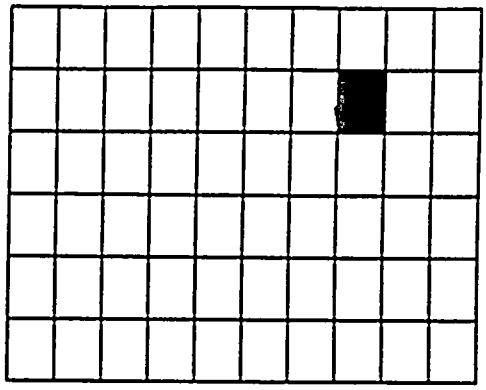
b. Refer to Section H to align power supplies to the desired off normal configuration.

c. Initiate maint. activities if the unit needs repair.

44.0 852518 4KV Stub Bus NNS 014 Electrical Fault

Reflash: No





852518

44.1	Computer Point	Computer Printout	Source
	NNSUC19	4KV BUS E14 LO RLY TRIP	NNS-SWG014 Lockout Relay Tripped on High time or Ground Overcurrent as sensed by 86-2NNSX15

44.2 Automatic Response

a. Trips and lockout breakers 14-1 and 14-2.

b. Loss of voltage to 4160V stub bus 014.

c. Loss of voltage to 600V load center 2NJS-US5.

d. Trip or block auto start of Rx bldg. closed loop cooling pump "C", 2CCP-P1C (ACB 14-9).

e. Trip control rod drive pump "A", 2RDS-P1A (ACB 14-7).

f. Trip or block auto start of Rx bldg. closed loop cooling booster pump "C", 2CCP-P3C (ACB 14-6).

44.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby pumps.

c. Investigate and determine reason for trip.

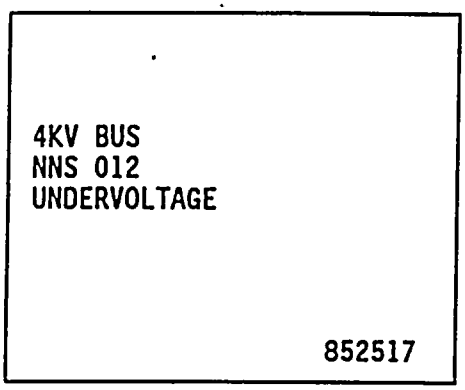
d. If necessary, supply bus 014 from emergency bus ENS*SWG101.

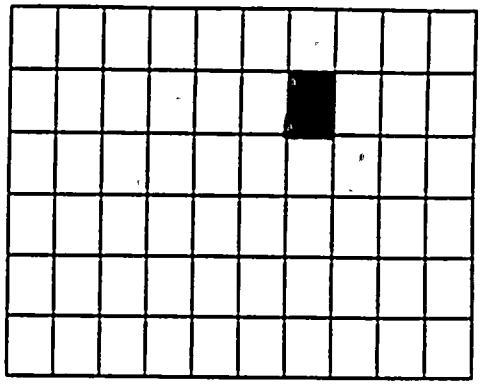
e. Return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

43.0 852517 4KV Bus NNS012 Undervoltage

Reflash: No





852517

43.1	Computer Point	Computer Printout	Source
	NNSEC03	4KV bus NNS012 Undervolt	2NNS-SWG012 undervoltage as sensed by 27A&B 2NNSX18

43.2 Automatic Response

a. Loss of voltage to 4160V bus NNS-SWG012.

b. Trip or block auto start of 2CCS-P1C.

c. Trip 2HDL-P1C.

d. Trip or block auto start of 2CCP-P1A.

e. Fire pump 2FPW-P2 undervoltage.

43.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby pumps.

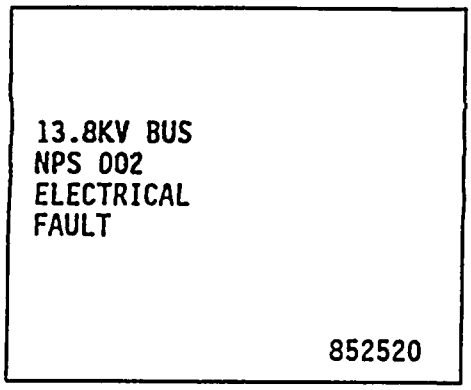
c. Investigate and determine reason for undervoltage.

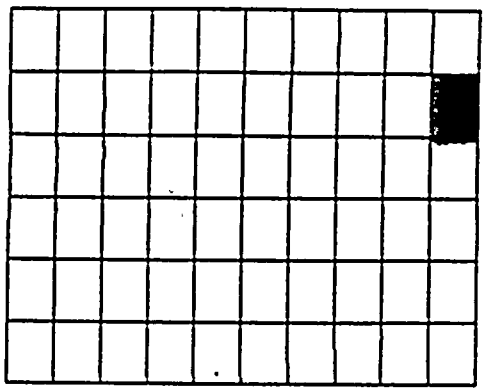
d. Return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

46.0 852520 13.8KV Bus NPS002 Electrical Fault

Reflash: No





852520

46.1	Computer Point	Computer Printout	Source
	NPSUC11	13.8KV BUS 02 LO RLY TRIP	NPS-SWG002 Lockout Relay Trip on time ground OC or Phase OC as sensed by 86-2NPSZ01.

46.2 Automatic Response

a. Trip and lockout normal and alternate supply breakers to 13.8KV bus 002 (ACB 2-5, & ACB 2-1).

b. Loss of voltage to the bus.

c. Auxiliary boilers will trip if operating.

d. If either 2NPS-SWG001 or SWG003 is connected to 2NPS-SWG002 (unusual lineup), their loads will trip.

46.3 Corrective Action

a. Verify automatic resonse.

b. Dispatch operator to aux. boilers (if operating)

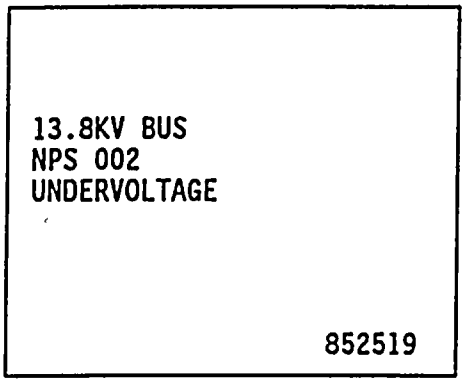
c. Investigate and determine reason for trip.

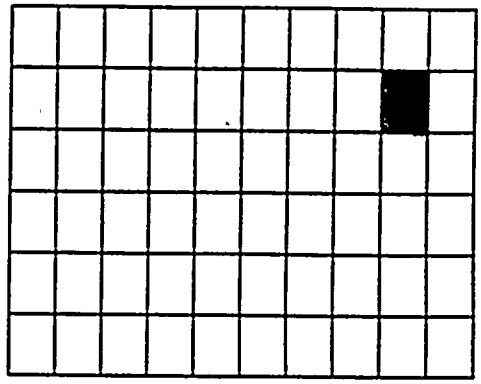
d. Return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

45.0 852519 13.8KV Bus NPS002 Undervoltage

Reflash: No





852519

45.1	Computer Point	Computer Printout	Source
	NPSEC13	13.8KV BUS NPS 2 UNDR VLT	2NPS-SWG002 sustained bus undervoltage as sensed by 27A&B-2NPSZ18

45.2 Automatic Response

a. 2NPS-SWG002 supply air circuit breaker, ACB 2-5, Trip.

b. 2NPS-SWG002 supply air circuit breaker, ACB 2-1, Trip.

c. The loads on 2NPS-SWG002, Auxiliary Boiler A&B will trip.

d. If either 2NPS-SWG001 or SWG003 is connected to 2NPS-SWG002, they will trip their loads (unusual lineup).

e. If either emergency bus 2ENS*SWG101 or *SWG103 is being powered from 2NPS-SWG002 via 2NNS-SWG018, their emergency diesels will start (unusual line up).

45.3 Corrective Actions

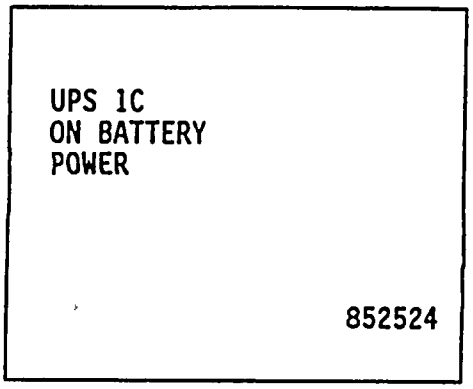
a. Determine the cause of the undervoltage (loss of 115KV from Scriba or Auxiliary Boiler electrical fault).

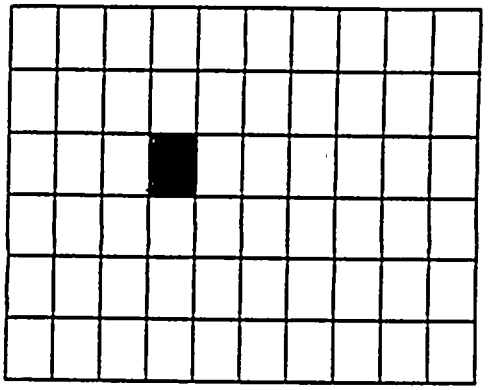
b. Restore power to 2NPS-SWG002 as required using Mds-20 (or Mds-10).

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

48.0 852524 Uninterruptable Power Supply 2VBB-UPS1C on Battery Power

Reflash: No





852524

48.1

Computer Point	Computer Printout	Source
VBBTC06	UPS1C ON BATT PWR	2VBB-UPS1C Relay K-2; (On Battery Power)

48.2 Automatic Response

2VBBUPS1C Auto Transfer to DC battery power.

48.3 Corrective Action

a. Dispatch an operator to 2VBB-UPS1C to record indications on the UPS front panel.

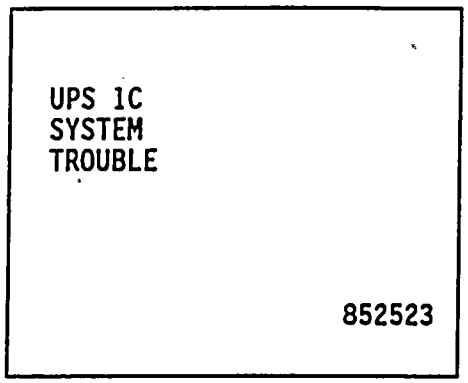
b. Refer to Section H to align power supplies to the desired off normal configuration.

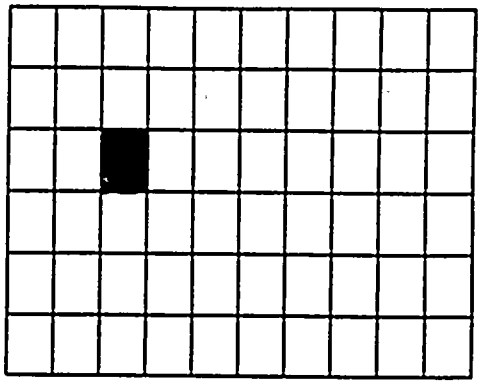
c. Initiate maint. activities if the unit needs repair.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

47.0 852523 Uninterruptable Power Supply 2VBB-UPS1C System Troubl

Reflash: No





852523

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47.1

Computer Point	Computer Printout	Source
VBBTC05	UPS1C SYSTEM TROUBLE	2VBB-UPS1C Relay K-6 sensing: Ground on battery, over temperature on the inverter or charger, over current on the inverter, DC Low Voltage/Battery Operation Loss of DC input, Loss of maintenance AC input, Loss of Sync, Loss of inverter output.

47.2 Automatic Response

UPS1C will realign power supplies to provide power to vital bus.

47.3 Corrective Action

a. Dispatch an operator to the local 2VBB-UPS1C panel to record indications on the UPS front panel.

b. Refer to Section H to align power supplies to the desired off normal configuration.

c. Initiate maint. activities if the unit needs repair.

49.3 Corrective Action

a. Verify automatic response.

b. Check computer point to determine which breaker tripped.

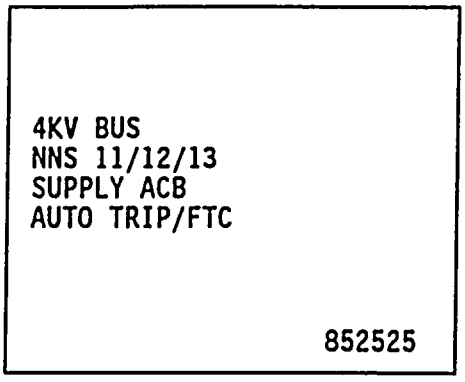
c. Investigate and determine reason for trip.

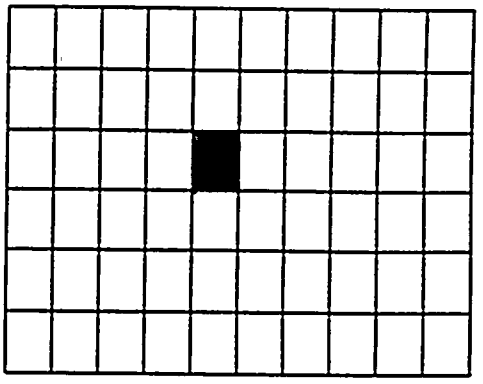
d. Return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

49.0 852525 4KV Bus NNS 11/12/13 Supply ACB Auto Trip/FTC

Reflash: Yes





852525

49.1

	Computer Point	Computer Printout	Source
a.	NNSUC03	4KV BUS 011 ACB 11-3 AT	NNS-SWG011 ACB 11-3 Auto Trip or Fail to Close as sensed by 1 & 52 2NNSX20
b.	NNSUC04	4KV BUS 13 ACB 13-6 AT	NNS-SWG013 ACB 13-6 Auto Trip or Fail to Close as sensed by 1 & 52 2NNSY20
c.	NNSUC05	4KV BUS 12 ACB 13-10 AT	NNS-SWG012 ACB 13-10 Auto Trip or Fail to Close as sensed by 1 & 52 2 NNSY08
d.	NNSUC06	SWG012 ACB 11-1 AT	NNS-SWG012 ACB 11-1 Auto Trip or Fail to Close as sensed by 1 & 52 2NNSX07.

49.2 Automatic Response

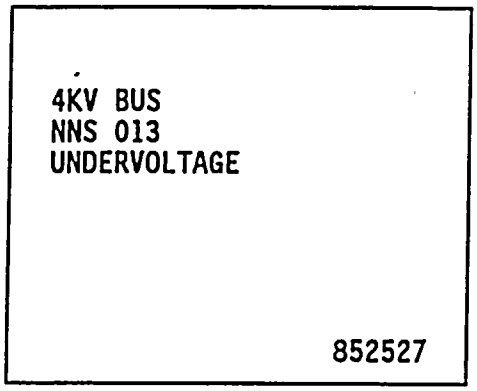
a. Auto trip of supply breakers to 4160V powerboards 011, 012, 013.

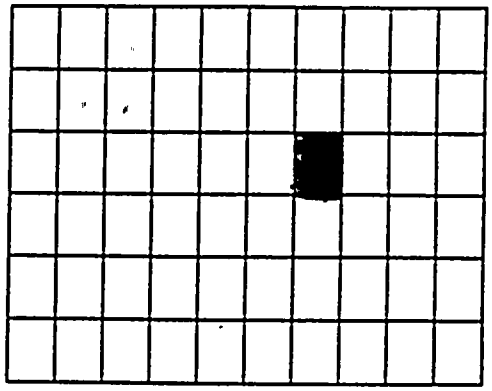
b. Auto trip of the motor feeders on the respective bus.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

51.0 852527 4KV Bus NNS013 Undervoltage

Reflash: No





852527

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51.1	Computer Point	Computer Printout	Source
	NNSEC05	4KV BUS NNS013 UNDERVOLT	NNS SWG013 Undervoltage as sensed by 27 A & B 2NNSY09

51.2 Automatic Response

a. Loss of voltage to 4160V bus 2NNS-SWG013.

b. Trip turb. bldg. closed loop cooling pump "B", 2CCS-P1B, ACB-13-8.

c. Trip condensate pump "C", 2CNM-P1C, ACB-13-2.

d. Trip condensate pump "B", 2CNM-P1B, ACB-13-3.

e. Trip fourth point Htr drain pump "B", 2HDL-P1B, ACB 13-4.

f. Trip Reactor Bldg. closed loop cooling booster pump 2CCP-P3A, ACB 13-9. | 17128

51.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby pumps.

c. Investigate and determine reason for undervoltage.

d. Return system to normal.

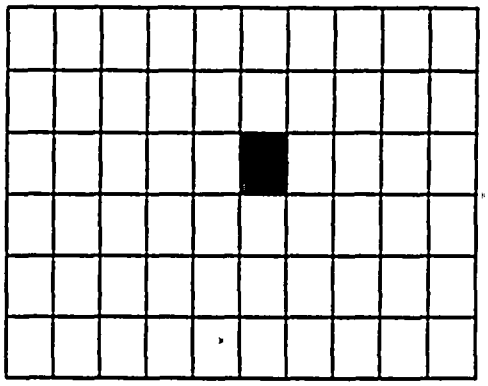
I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

50.0 852526 4KV Bus NNS016 SPLY ACB 16-2 Auto Trip/FTC

Reflash: No

4KV BUS
NNS 016
SPLY ACB 16-2
AUTO TRIP/FTC

852526



852526

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50.1	Computer Point	Computer Printout	Source
	NNSUC08	4KV BUS 016 ACB 16-2 AT	NNS-SWG016 Supply ACB 16-2 Auto Trip or Fail to Close as sensed by 1 & 52 2NNSX40 (ACB 16-2 open, SW ACB 16-2 Normal After Close)

50.2 Automatic Response

a. Trip or fail to close-breaker 16-2.

50.3 Corrective Action

a. Verify automatic response.

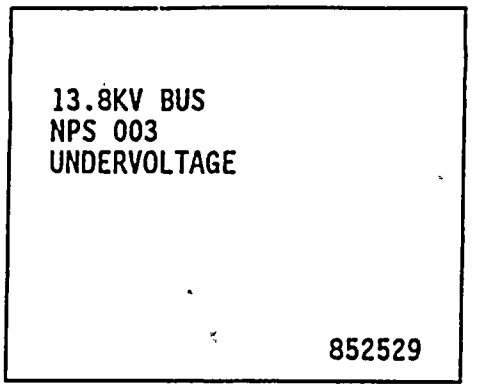
b. Verify auto start and diesel generator supplying emergency bus 101. (If breaker 16-2 is supplying bus 102, check bus 102 energized by it's diesel generator).

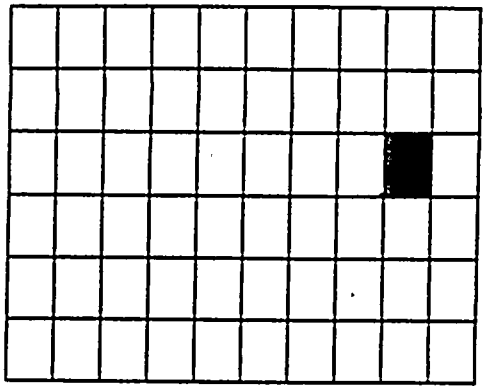
c. Investigate and determine reason for trip.

d. Return system to normal.

53.0 852529 13.8KV Bus NPS003 Undervoltage

Reflash: No





852529

53.1	Computer Point	Computer Printout	Source
	NPSEC05	13.8KV BUS NPS003 UNDR VLT	NPS-SWG003 Undervolt as sensed by 27 A & B-2NPSY09

53.2 Automatic Response

a. Trip normal supply breaker ACB 3-14.

b. Trip condensate booster pumps "B" & "C" (ACB 3-5, 3-11) prevent auto closure.

c. Trip reactor feed pumps "B" & "C" (ACB 3-7, 3-12).

d. Trip reactor recirc pump "B", ACB 3-4.

e. Trip circ. water pumps "B", "D", & "F" (ACB3-10, 3-9, 3-8).

f. Trip supply breaker to 4160V bus 013, ACB 3-6.

g. Permit residual transfer to reserve breaker ACB3-1 or ACB3-16.

h. Loss of loads on: 2NPS-SWG003; 2NNS-SWG013, 15; 2NJS-US1B & US-2B & US-3B & US-4B & US6 & US7B & US8B & US9B & US10B.

53.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby equipment.

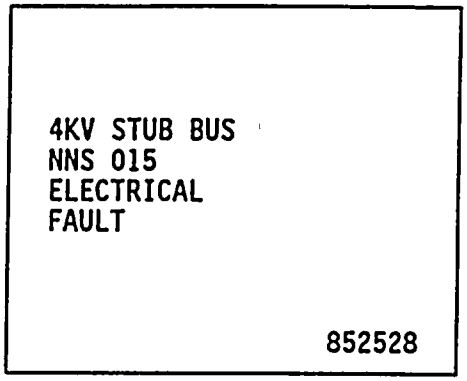
c. Reduce power to less than 65% per N2-OP-101D Section H.1.0.

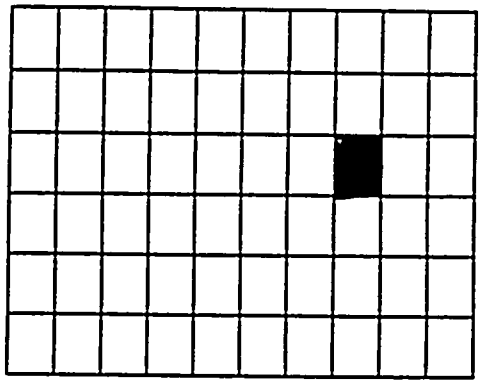
d. Investigate and determine reason for undervoltage.

e. Return plant to normal operation.

52.0 852528 4KV Stub Bus NNS015 Electrical Fault

Reflash: No





852528

52.1

Computer Point	Computer Printout	Source
NNSUC20	4KV BUS 015 LO RLY TRIP	NNS-SWG015 Lockout Relay tripped on phase or ground overcurrent as sensed by 86-2NNSY15

52.2 Automatic Response

a. Trip and lock out breakers 15-3 and 15-8.

b. Loss of voltage to 4160V stub bus 015.

c. Loss of voltage to 600V load center 2NJS-US6.

d. Trip Rx bldg. closed loop cooling pump "B", 2CCP-P1B, ACB 15-4.

e. Trip control rod drive pump "B", 2RDS-P1B, ACB 15-2.

f. Trip Rx bldg. closed loop cooling booster pump "B", 2CCP-P3B, ACB 15-6.

52.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby pumps.

c. Investigate and determine reason for trip.

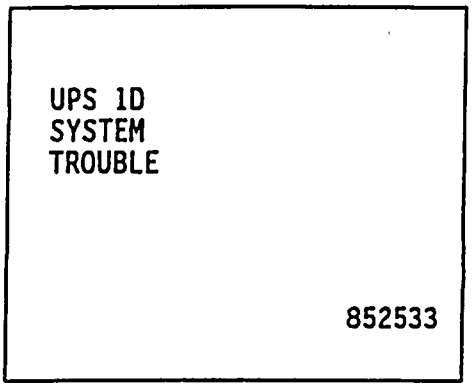
d. If necessary, supply bus 015 from emergency bus ENS*SWG103.

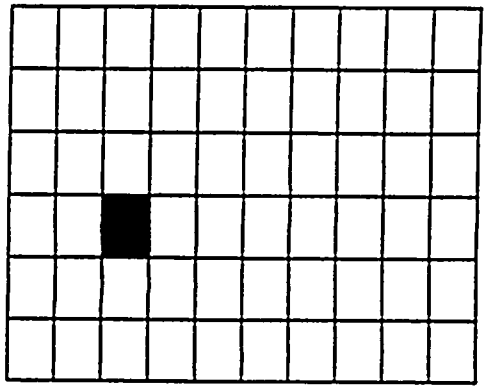
e. Return system to normal.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

55.0 852533 Uninterruptable Power Supply 2VBB-UPS1D System Trouble

Reflash: No





852533

55.1

Computer Point	Computer Printout	Source
VBBTC07	UPS1D SYSTEM TROUBLE	2VBB-UPS1D Relay K-6 sensing: ground on battery, over temperature on the inverter or charger, over current on the inverter, DC Low Voltage/Battery Operation Loss of DC input, Loss of maintenance AC input, Loss of Sync, Loss of inverter output.

55.2 Automatic Response

UPS1D will realign power supplies to provide power to vital bus.

55.3 Corrective Action

a. Dispatch an operator to the local 2VBB-UPS1D panel to record indications on the UPS front panel.

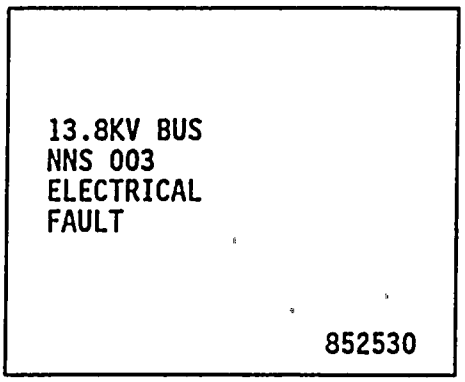
b. Refer to Section H to align power supplies to the desired off normal configuration.

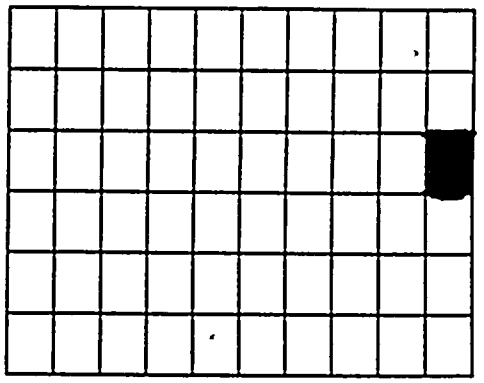
c. Initiate maint. activities if the unit needs repair.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

54.0 852530 13.8KV Bus NPS-003 Electrical Fault

Reflash: No





852530

54.1	Computer Point	Computer Printout	Source
	NNSUC10	13.8KV BUS 03 LO RLY TRP	NPS-SWG003 Lockout Relay Trip as sensed by 86-2NPSY01.

54.2 Automatic Response

a. Trip and lockout reserve supply breakers 3-1 and 3-16.

b. Trip and lockout normal supply breaker 3-14.

c. Lockout "B" and "C" condensate booster pumps (ACB 3-5, 3-11).

d. Loss of loads on: 2NPS-SWG003; 2NNS-SWG013, 015, 2NJS-US1B & US2B & US3B & US4B & US6 & US7B & US8B & US9B & US10B.

54.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby equipment.

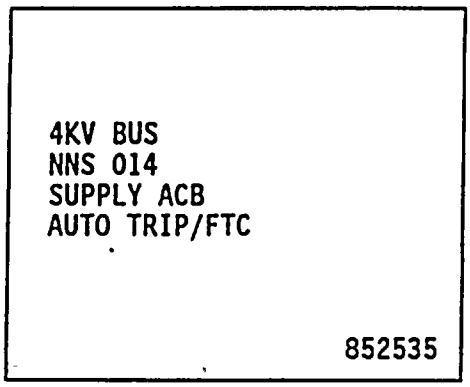
c. Reduce power to less 65% per N2-OP-101D Section H.1.0.

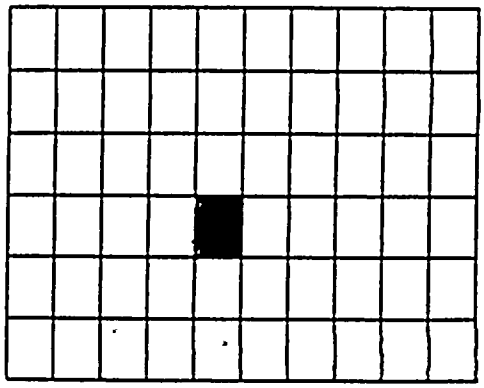
d. Investigate and determine reason for trip.

e. Return system to normal operation.

57.0 852535 4KV Bus NNS014 Supply ACB Auto Trip/FTC

Reflash: Yes





852535

57.1

	Computer Point	Computer Printout	Source
a.	NNSUC10	SWG014 ACB 14-2 Auto Trip	2NNS-SWG014 Supply ACB 14-2, Auto Trip or Failure to Close as sensed by 1 & 52 2NNSX11 (ACB 14-2 open & SW for ACB 14-2 normal after close).
b.	NNSUC11	SWG014 ACB 14-1 Auto Trip	2NNS-SWG014 Supply ACB 14-1, Auto Trip or Fail to Close, as sensed by 1 & 52 2NNSX10 (ACB 14-1 open & SW for ACB 14-1 normal after close).

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57.2 Automatic Response

a. Trip or fail to close breaker 14-1 or 14-2.

b. Loss of voltage to 4160V stub bus 014.

c. Loss of voltage to 600V load center 2NJS-US5.

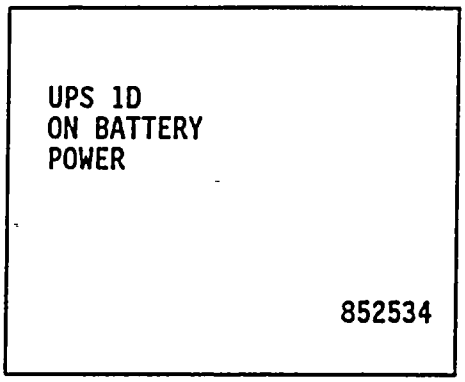
d. Trip or block auto start Rx Bldg. closed loop cooling pump "C", 2CCP-P1C (ACB 14-9).

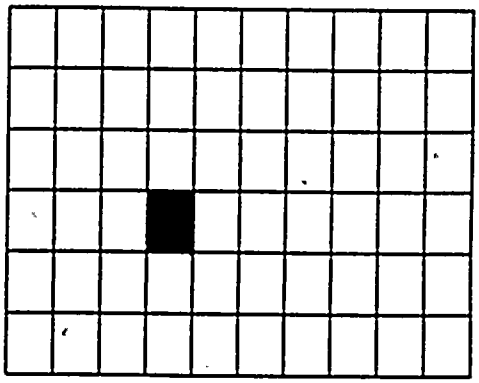
e. Trip control rod drive pump "A", 2RDS-P1A (ACB 14-7).

f. Trip or block auto start of Rx bldg. closed loop cooling booster pump "C:, 2CCP-P3C (ACB 14-6).

56.0 852534 Uninterruptable Power Supply 2VBB-UPS1D on Battery Power

Reflash: No





852534

1712

56.1 Computer Point	Computer Printout	Source
VBBTC08	UPS1C ON BATT PWR	2VBB-UPS1D Relay K-2; (On Battery Power)

56.2 Automatic Response

2VBBUPS1C Auto Transfer to DC battery power.

56.3 Corrective Action

a. Dispatch an operator to 2VBB-UPS1D panel to record indications on the UPS front panel.

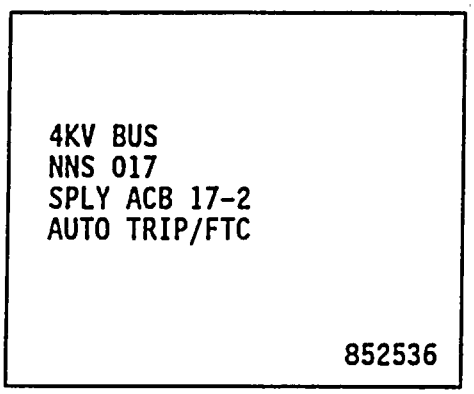
b. Refer to Section H to align power supplies to the desired off normal configuration.

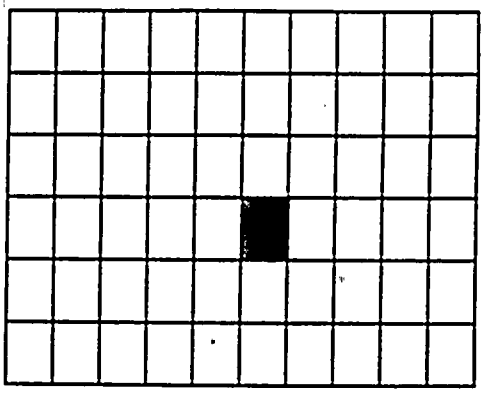
c. Initiate maint. activities if the unit needs repair.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

58.0 852536 4KV Bus NNS017 SPLY ACB 17-2 Auto Trip/FTC

Reflash: No





852536

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58.1

Computer Point	Computer Printout	Source
NNSUC09	4KV BUS 017 ACB 17-2 AT	2NNS-SWG017 Supply ACB 17-2, Auto Trip or Fail to Close as sensed by 1 & 52 2NNSY40 (ACB 17-2 open and Ctrl SW for 17-2 normal after closed)

58.2 Automatic Response

a. Trip or fail to close - breaker 17-2.

58.3 Corrective Action

a. Verify automatic response.

b. Verify auto start and diesel generator supplying emergency bus 103. (If breaker 17-2 is supplying bus 102, check bus 102 energized by it's diesel generator).

c. Investigate and determine reason for trip.

d. Return system to normal.

57.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby pumps.

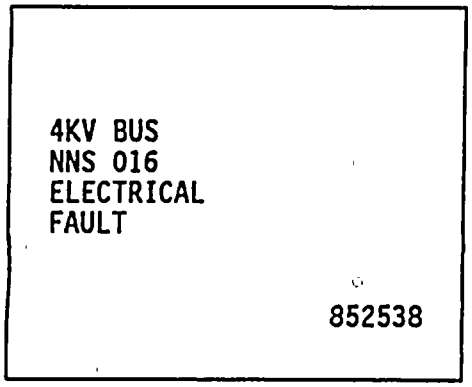
c. Investigate and determine reason for trip.

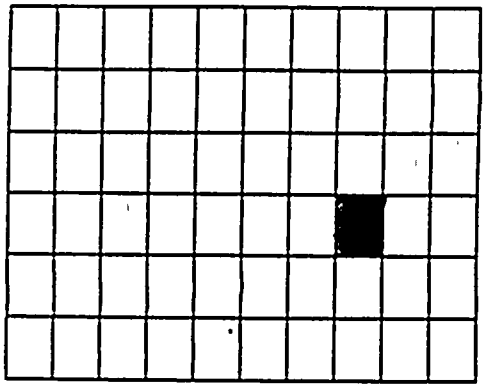
d. If necessary, supply bus 014 from emergency bus.

e. Return system to normal.

60.0 852538 4KV Bus NNS016 Electrical Fault

Reflash: Yes





852538

60.1	Computer Point	Computer Printout	Source
a:	NNSUC21	4KV BUS 016 LO RLY 1 TRIP	2NNS-SWG016 Lockout Relay Tripped as sensed by 86-1-2NNSX28
b.	NNSUC22	4KV BUS 016 LO RLY 2 TRIP	2NNS-SWG016 Lockout Relay Tripped as sensed by 86-2-2NNSX28
c.	NNSUC23	4KV BUS 016 LO RLY 3 TRIP	2NNS-SWG016 Lockout Relay Tripped as sensed by 86-3-2NNSX28

60.2 Automatic Response

a. Trip and lockout breaker 16-2.

b. Trip and lockout breaker 101-13 and 102-4.

60.3 Corrective Action

a. Verify automatic response.

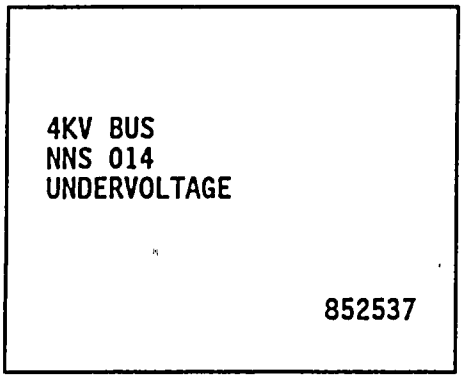
b. Verify auto start and diesel generator supplying emergency bus 101. (If breaker 16-2 is supplying bus 102, check bus 102 energized by it's diesel generator.

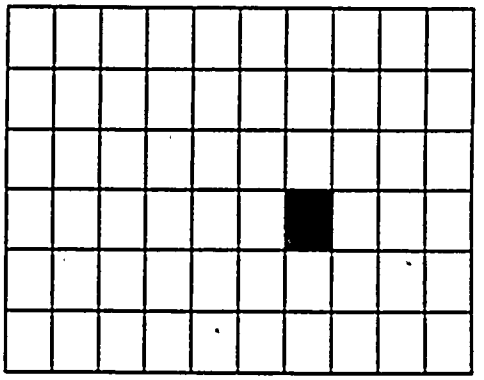
c. Investigate and determine reason for trip.

d. Return system to normal.

59.0 852537 4KV Bus NNS014 Undervoltage

Reflash: No





852537

59.1	Computer Point	Computer Printout	Source
	NNSEC07	4KV BUS NNS014 UNDERVOLT	NNS-SWG014 Norm Sply Brkr Undervolt, as sensed by 27 A & B 2NNSX29

59.2 Automatic Response

a. Loss of voltage to 4160V stub bus NNS014.

b. Loss of voltage to 600V load center 2NJS-US5.

c. Trip or block auto start of Rx bldg. closed loop cooling pump "C:, 2CCP-P1C (ACB 14-9).

d. Trip control rod drive pump "A", 2RDS-P1A (ACB 14-7).

e. Trip or block auto start of Rx bldg. closed loop cooling booster pump "C", 2CCP-P3C (ACB 14-6).

59.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby pumps.

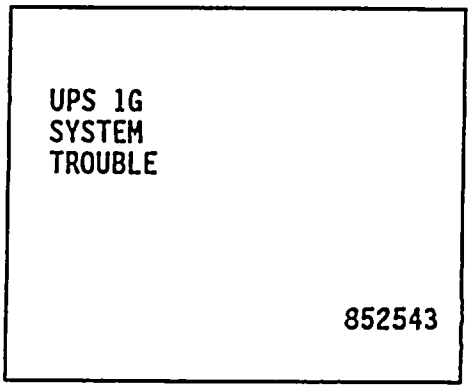
c. Investigate and determine reason for trip.

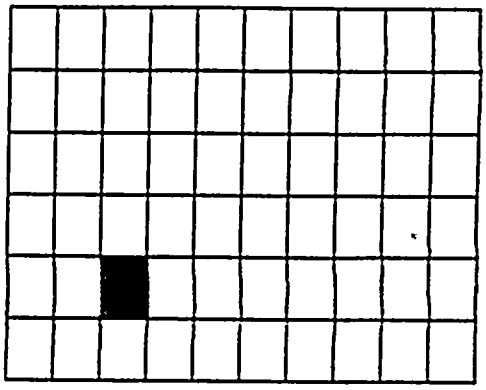
d. Return system to normal.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

6..0 852543 Uninterruptable Power Supply 2VBB-UPS1G System Trouble

Reflash: No





852543

62.1 Computer Point: VBBTC01

Computer Printout: UPS1G SYSTEM TROUBLE

Source: UPS1G-K6 sensing: Ground on battery, over temperature on the inverter or charger, over current on the inverter, DC Low Voltage/Battery Operation Loss of DC input, Loss of maintenance AC input, Loss of Sync, Loss of inverter output.

62.2 Automatic Response

UPS1G will realign power supplies to provide power to vital bus.

62.3 Corrective Action

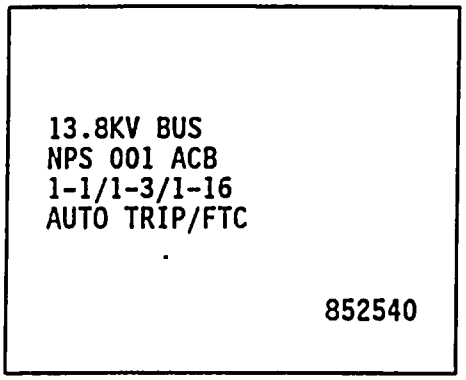
a. Dispatch an operator to the local 2VBB-UPS1G panel to record indications on the UPS front panel.

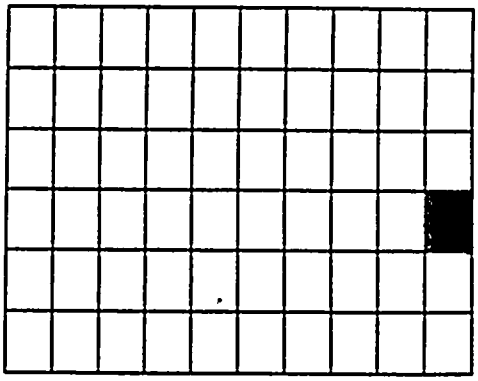
b. Refer to Section H to align power supplies to the desired off normal configuration.

c. Initiate maint. activities if the unit needs repair.

61.0 852540 13.8KV Bus NPS001 Air Circuit Breaker 1-1/1-3/1-16/Auto Trip/Failure to Close

Reflash: Yes





852540

61.1	Computer Point	Computer Printout	Source
a.	NPSUC01	SWG001 ACB 1-3 AUTO TRIP	NPS-SWG001 Air Circuit Breaker, 1-3 Auto Trip or Failure to Close as sensed by 1 & 52 2NPSX04
b.	NPSUC02	SWG001 ACB 1-16 AUTO TRIP	NPS-SWG001 Air Circuit Breaker, 1-16 Auto Trip or Failure to Close as sensed by 1 & 52 2NPSX06
c.	NPSUC07	SWG001 ACB 1-1 AUTO TRIP	NPS-SWG001 Air Circuit Breaker, 1-1 Auto Trip or Failure to Close as sensed by 1 & 52 2NPSX05

61.2 Automatic Response

a. Auto trip or fail to close of reserve or normal supply breaker to 13.8KV bus 001. This could result in 2NPS-SWG001 undervoltage check for annunciator 852509.

61.3 Corrective Action

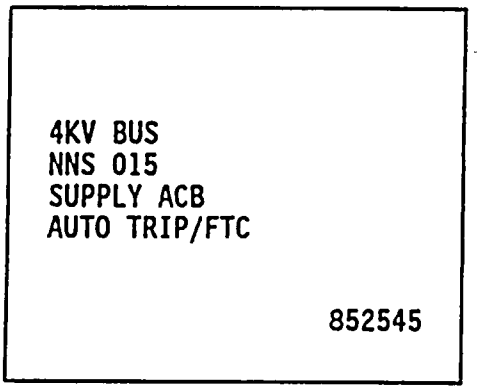
a. Verify automatic response.

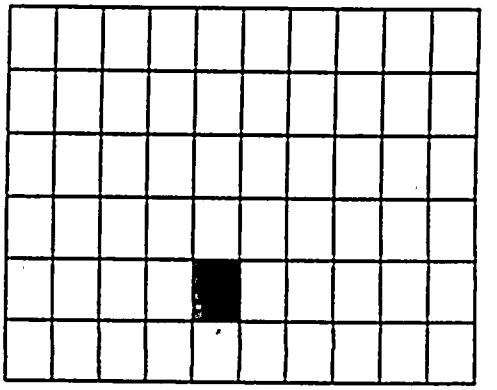
b. Investigate and determine reason for trip.

c. Return system to normal operation.

64.0 852545 4KV Bus NNS015 Supply ACB Auto Trip/FTC

Reflash: Yes





852545

64.1

	Computer Point	Computer Printout	Source
a.	NNSUC12	SWG015 ACB 15-3 AUTO TRIP	NNS-SWG015 ACB 15-3 Auto Trip or fail to close as sensed by 1 & 52 2NNSY11
b.	NNSUC13	SWG015 ACB 15-8 AUTO TRIP	NNS-SWG015 ACB 15-8 Auto Trip or fail to close as sensed by 1 & 52 2NNSY21

64.2 Automatic Response

a. Trip and lock out breakers 15-3 or 15-8.

b. Loss of voltage to 4160V stub bus 015.

c. Loss of voltage to 600V load center 2NJS-US6.

d. Trip Rx bldg. closed loop cooling pump "B", 2CCP-P1B, ACB 15-4.

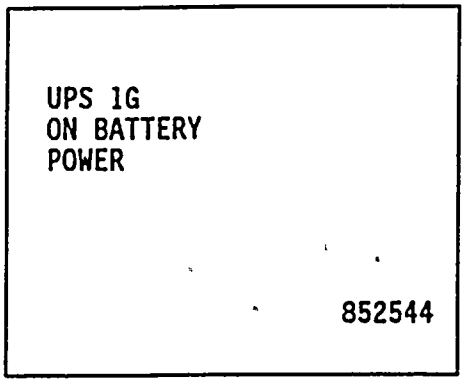
e. Trip control rod drive pump "B", 2RDS-P1B, ACB 15-2.

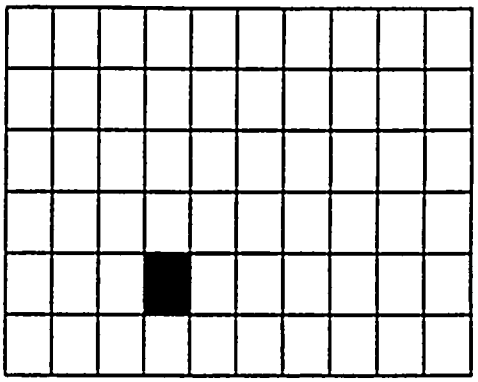
f. Trip Rx bldg. closed loop cooling booster pump "B", 2CCP-P3B, ACB 15-6.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

63.0 852544 Uninterruptable Power Supply UPS1G on Battery Power

Reflash: No





852544

63.1

Computer Point	Computer Printout	Source
VBBTC02	UPS1G ON BATT PWR	UPS1G-K2 (On Battery Power)

63.2 Automatic Response

2VBB-UPS1G Auto Transfer to DC battery power.

63.3 Corrective Action

a. Dispatch an operator to 2VBB-UPS1G to record indications on the UPS front panel.

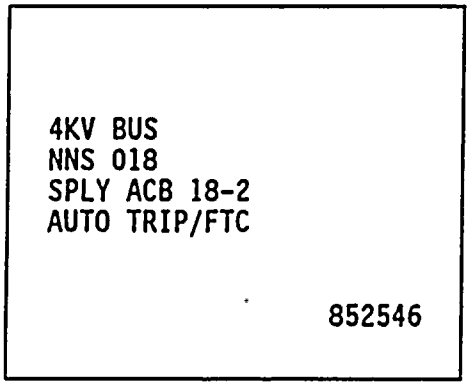
b. Refer to Section H to align power supplies to the desired off normal configuration.

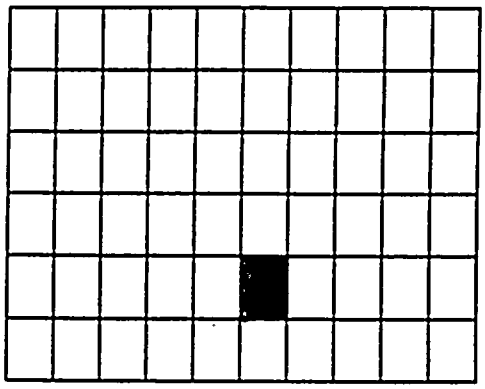
c. Initiate maint. activities if the unit needs repair.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

65.0 852546 4KV Bus NNS018 SPLY ACB 18-2 Auto Trip/FTC

Reflash: No





852546

65.1	Computer Point	Computer Printout	Source
	NNSUC07	4KV BUS 018 ACB 18-2 AT	NNS-SWG018 Supply ACB 18-2 Auto Trip or Failure to Close as sensed by 1 & 52 2NNSZ40 (ACB 18-2 open and SW ACB 18-2 in normal after close)

65.2 Automatic Response

a. Trip or fail to close - Breaker 18-2.

65.3 Corrective Action

a. Verify automatic response.

b. If aux. boiler transformer is supplying emergency bus 2ENS*SWG101 or *SWG103, check auto start of emergency diesel gen.

c. Investigate and determine reason for trip.

d. Return system to normal.

64.3 Corrective Action

a. Verify automatic response.

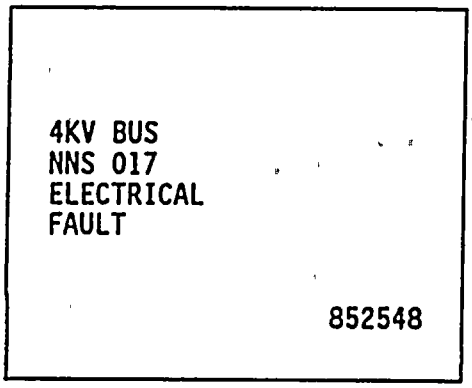
b. Check auto start of standby pumps.

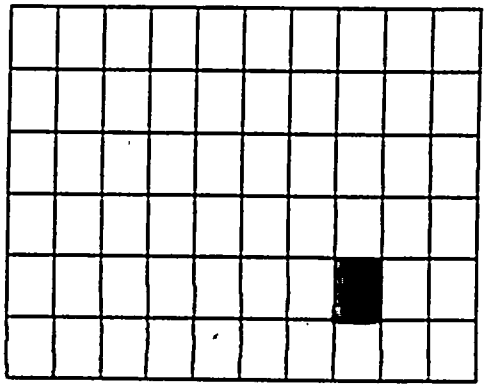
c. Investigate and determine reason for trip.

d. If necessary, supply bus 015 from emergency bus ENS*SWG103.

67.0 852548 4KV Bus NNS017 Electrical Fault

Reflash: Yes





852548

67.1

	Computer Point	Computer Printout	Source
a.	NNSUC24	4KV BUS E17 LO RLY 1 TRIP	NNS-SWG017 Lockout Relay Tripped as sensed by 86-1 2NNSY28
b.	NNSUC25	4KV BUS E17 LO RLY 2 TRIP	NNS-SWG017 Lockout Relay Tripped as sensed by 86-2 2NNSY28
c.	NNSUC26	4KV BUS E17 LO RLY 3 TRIP	NNS-SWG017 Lockout Relay Tripped as sensed by 86-3 2NNSY28

67.2 Automatic Response

a. Trip and lockout breaker 17-2.

b. Trip and lockout breaker 103-4 and 102-5.

67.3 Corrective Action

a. Verify automatic response.

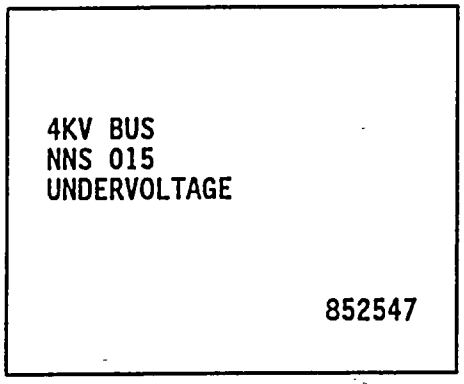
b. Verify auto start and diesel generator supplying emergency bus 2ENS*SWG103. (If breaker 17-2 is supplying bus 2ENS*SWG102, ensure that bus 102 is energized by it's diesel generator. | 17128

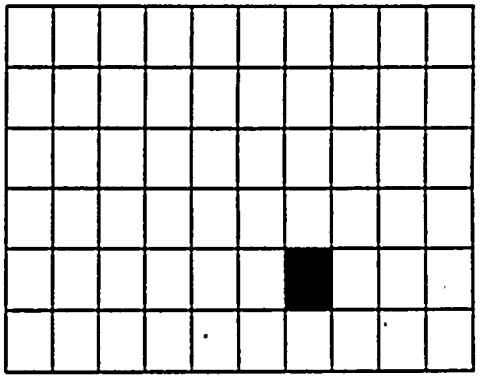
c. Investigate and determine reason for trip.

d. Return system to normal.

66.0 852547 4KV Bus NNS015 Undervoltage

Reflash: No





852547

66.1	Computer Point	Computer Printout	Source
	NNSEC09	4KV BUS NNS015 UNDERVOLT	2NNS-SWG015 undervoltage as sensed by 27A & B 2NNSY17

66.2 Automatic Response

a. Loss of voltage to 4160V stub bus 015.

b. Loss of voltage to 600V load center 2NJS-US6.

c. Trip Rx bldg. closed loop cooling pump "B", 2CCP-P1B, ACB 15-4.

d. Trip control rod drive pump "B", 2RDS-P1B, ACB 15-2.

e. Trip Rx bldg. closed loop cooling booster pump "B", 2CCP-P3B, ACB 15-6.

66.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby pumps.

c. Investigate and determine reason for undervoltage.

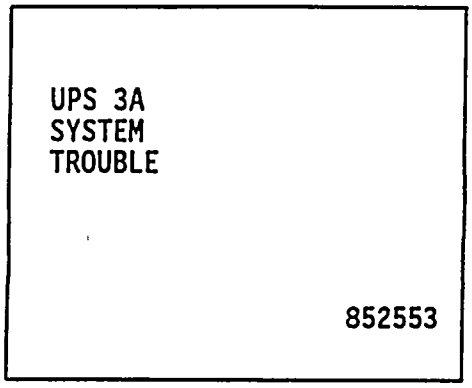
d. If necessary, supply bus 2NNS-SWG015 from emergency bus ENS*SWG103.

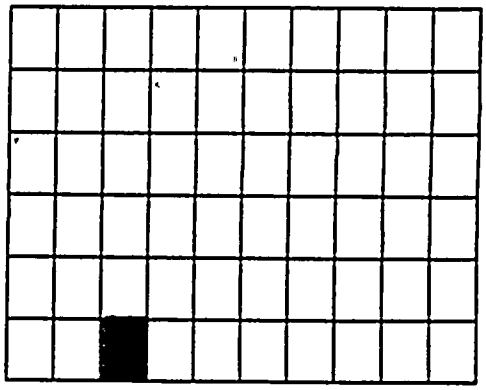
e. Return system to normal.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

69.0 852553 Uninterruptable Power Supply 2VBB-UPS3A System Trouble

Reflash: No





852553

69.1 Computer Point | Computer Printout | Source

Computer Point	Computer Printout	Source
VBBEC13	UPS3A SYSTEM TROUBLE	UPS3A-K2

NOTE: UPS3A-K2 is energized by initiation of any local alarm (See Section 69.3). 1712S

69.2 Automatic Response

UPS3A wil realign power supplies to provide power to vital bus.

69.3 Corrective Action

a. Dispatch an operator to the local 2VBB-UPS3A panel to record indications on the UPS front panel.

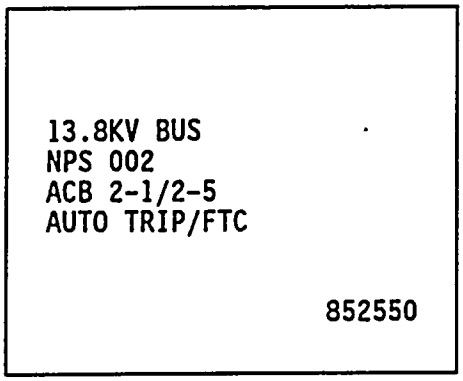
b. Refer to Section H to align power supplies to the desired off normal configuration, if required.

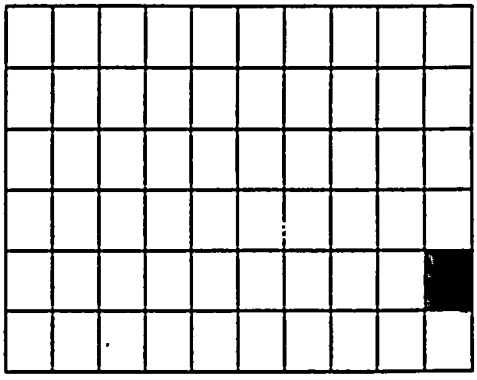
c. Initiate maint. activities if the unit needs repair.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

68.0 852550 13.8KV Bus NPS002 Air Circuit Breaker 2-1/2-5 Auto Trip/Failure to Close

Reflash: Yes





852550

68.1	Computer Point	Computer Printout	Source
a.	NPSUC06	SWG002 ACB 2-1 AUTO TRIP	NPS-SWG002 Air Circuit Breaker 2-1 Auto Trip/ Failure to Close sensed by 1 & 52-2NPSZ13
b.	NPSUC05	SWG002 ACB 2-5 AUTO TRIP	NPS-SWG002 Air Circuit Breaker 2-5 Auto Trip/ Failure to Close sensed by 1 & 52-2NPSZ15

68.2 Automatic Response

a. Trip or fail to close normal or alternate supply breakers to 13.8KV bus 002. Check for the undervoltage annunciator 852519.

68.3 Corrective Action

a. Verify automatic response.

b. Investigate and determine reason for trip.

c. Return system to normal.

Local Alarm Description - Corrective Action (Cont'd)

Alarm	Description	Corrective Action
Rectifier AC Loss	Loss of normal AC to Unit	a) Verify CB-1 not tripped - if tripped, notify Elect/I&C b) If CB-1 is closed, restore upstream normal AC supply
Reverse Transfer	Static switch is in maintenance position	a) If other alarms present, correct other alarms first b) If all other alarms clear, verify UPS AC output voltage present (meter), then push forward transfer (to inverter) push button

69.3 Corrective Action (Cont'd)

d. Evaluate local alarm indication per description below:

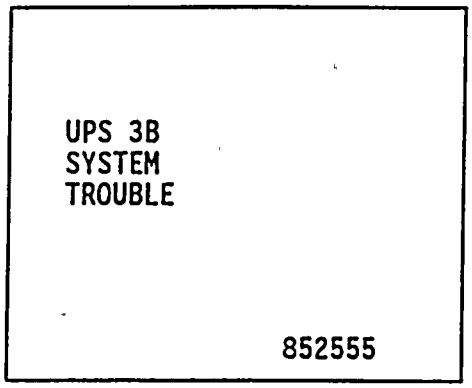
Local Alarm Description - Corrective Action

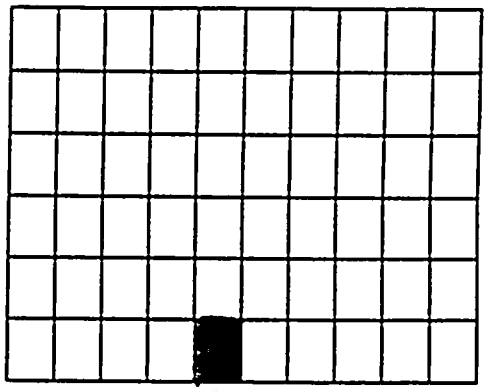
Alarm	Description	Corrective Action
Sync Loss	a) Maintenance AC is out of frequency tolerance	Notify maintenance
	b) Maintenance AC is not present	Restore Alt. AC (if fuse is blown in maintenance supply regulator, notify maintenance)
	c. UPS inverter out of freq. tolerance	Verify Freq. meter - notify maintenance
Low Inverter Voltage	UPS inverter output voltage is 15% low	Verify on voltmeter - Notify maintenance - if EPA was tripped with this alarm in, manually transfer to maintenance A.C. power
Inverter Overtemp	Unit overheating	Maintenance required
Fuse Blown	Fuse within UPS blown	Maintenance to replace fuses
Rectifier DC Grounded	UPS internal D.C. Bus grounded	Maintenance required
Low D.C. Bus	UPS internal D.C. Bus voltage is low	Notify Elec./I&C for Repair/adjustment
Overload	UPS inverter supplying over 100% rating of unit	Check output ammeter - if unit loaded, clear non-essential load If alarm false, contact Elec./I&C
Low Battery	UPS internal D.C. Bus voltage is below 110 volts	If batteries connected, (CB-2 Closed) Check battery volts, if battery volts OK, contact Elect/I&C
Battery Drain/Charge	Current being drawn from batteries caused by: a) Loss of normal A.C. to UPS b) Voltage on associated D.C. switchgear higher than UPS internal D.C. voltage	a) Restore normal AC. b) If associated charger on equalize, verify UPS D.C. setpoint @ 140.5, charger @ 139.9 VDC - notify Elect./I&C

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

71. 852555 Uninterruptable Power Supply 2VBB-UPS3B System Trouble

Reflash: No





71.1 Computer Point | Computer Printout | Source

Computer Point	Computer Printout	Source
VBBEC14	UPS3B SYSTEM TROUBLE	UPS3B-K2

NOTE: UPS3B-K2 initiated by any local alarm (See Section 69.3) |17

71.2 Automatic Response

UPS3B will realign power supplies to provide power to vital bus.

71.3 Corrective Action

a. Dispatch an operator to the local 2VBB-UPS3B panel to record indications on the UPS front panel.

b. Refer to Section H to align power supplies to the desired off normal configuration, if required.

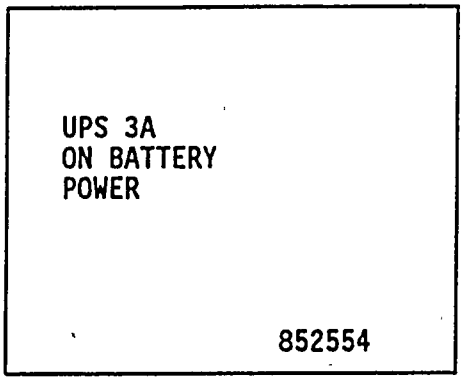
c. Initiate maint. activities if the unit needs repair.

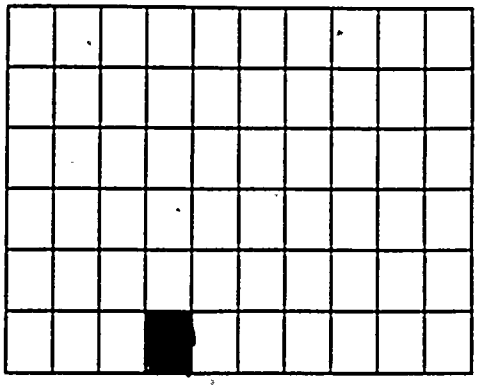
d. Evaluate local alarm indication per Section 69.3. |17128

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

70.0 852554 Uninterruptable Power Supply UPS3A on Battery Power

Reflash: No





852554

70.1

Computer Point	Computer Printout	Source
VBBBC11	UPS3A ON BATT PWR	UPS3A-K3

NOTE: UPS3A-K3 initiated by local alarm "Battery drain/charge" (See Section 69.3) 17123

70.2 Automatic Response

2VBB-UPS3A will operate on DC battery power.

70.3 Corrective Action

a. Dispatch an operator to 2VBB-UPS3A to record indications on the UPS front panel.

b. Refer to Section H to align power supplies to the desired off normal configuration, if required.

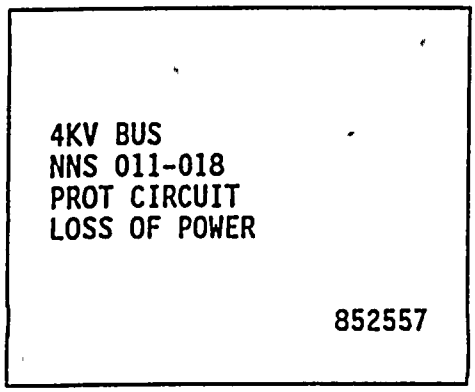
c. Initiate maint. activities if the unit needs repair.

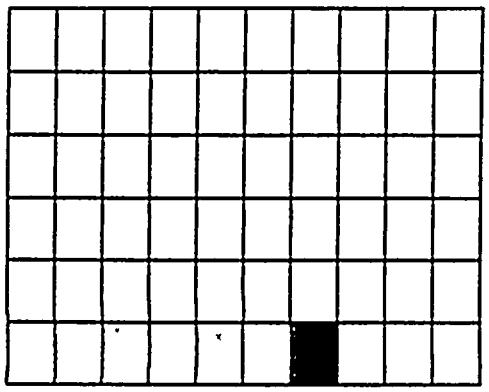
d. Evaluate cause of local alarm "Battery drain/charge" per Section 69.3. 17128

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

73.0 852557 4KV Bus NNS011 through 018 Protection Circuit Loss of Power

Reflash: Yes





852557

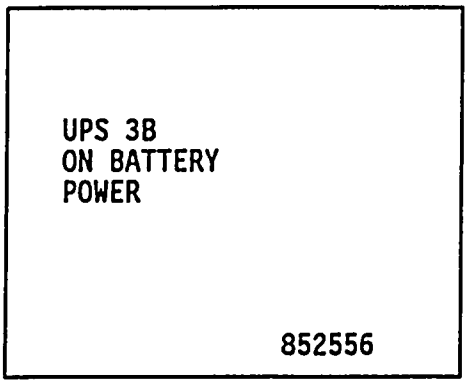
73.1

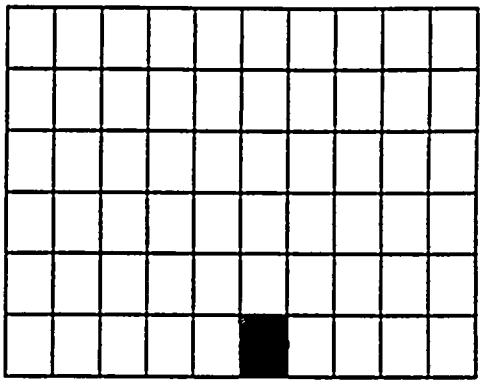
	Computer Point	Computer Printout	Source
a.	NNSBC14	125VDC CONT PWR PNL814	Loss of 125VDC Power to 2NNS-SWG012, Incoming from SWG011; protection circuits for: GND DIR OC, Phase OC, DIR OC sensed by 74-2NNSZ01
b.	NNSBC15	125VDC CONT PWR PNL814	Loss of 125VDC Power to 2NNS-SWG011, Protection Circuits for: Phase OC, Gnd OC, DIR OC
c.	NNSBC16	125VDC CONT PWR PNL813	Loss of 125VDC Power to 2NNS-SWG013, Protection Circuits for: Phase OC, GND OC, DIR OC
d.	NNSBC17	125VDC CONT PWR PNL815	Loss of 125VDC Power to 2NNS-SWG012, (incoming from SWG013) Protection Circuits for: Grnd OC, Dir OC
e.	NNSBC18	125VDC CONT PWR PNL815	Loss of 125VDC Power to 2NNS-SWG012, protection Circuits for: Grnd OC, Dir OC

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

72.0 852556 Uninterruptable Power Supply UPS3B on Battery Power

Reflash: No





852556 1712

72.1 Computer Point Computer Printout Source

VBBBC12 UPS3B ON BATT PWR UPS3B-K3

NOTE: UPS3B-K3 is initiated by local alarm: "Battery drain/charge" (See Section 69.3). 1712

72.2 Automatic Response

2VBB-UPS3B will operate on DC battery power.

72.3 Corrective Action

a. Dispatch an operator to 2VBB-UPS3B to record indications on the UPS front panel.

b. Refer to Section H to align power supplies to the desired off normal configuration, if required.

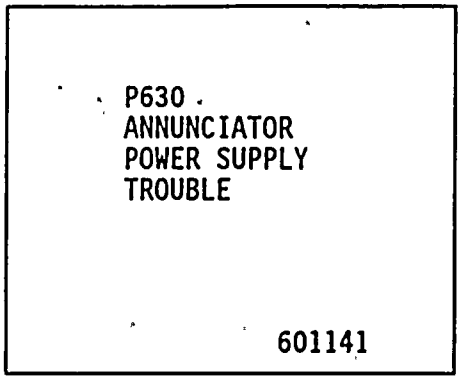
c. Initiate maint. activities if the unit needs repair.

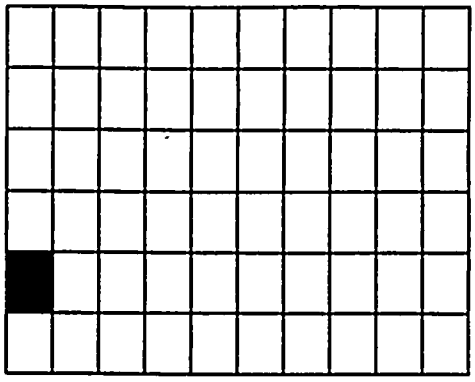
d. Evaluate local alarm "Battery drain/charge" per Section 69.3. 1712

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

1.0 601141 Panel 630 Annunciator Power Supply Trouble

Reflash: Yes





601141

1.1

Computer Point	Computer Printout	Source
IHABC13	NSS ANN PW GROUND	Panel 630 internal power supply ground
IHABC18	NSS ANN PWR SUPPLY FAILURE	Panel 630 circuit 2IHAA06 circuit breaker A8CB2 or UPS1A 2VBS-PNLA101 circuit 3

1.2 Automatic Response

None

1.3 Corrective Action

a. Check panel circuits and breaker shown as "source".

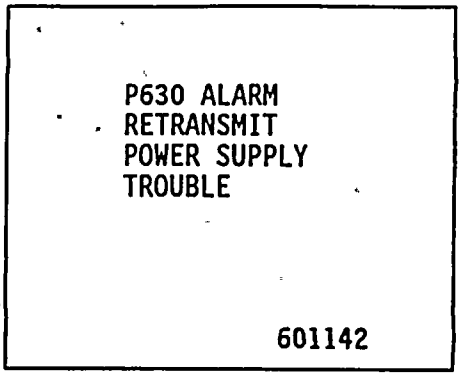
b. Notify I&C of the alarm.

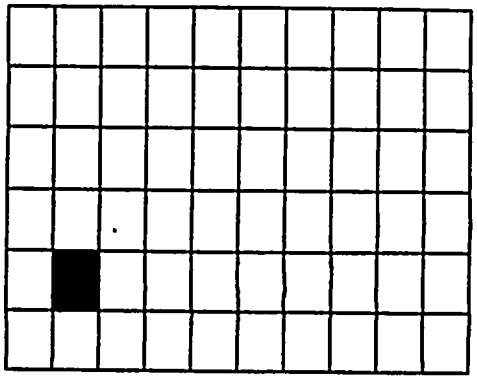
c. Refer to N2-OP-91A, Section H.3.0 "Loss of all Annunciators", if applicable.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

2.0 601142 Panel 630 Alarm Retransmit Power Supply Trouble

Reflash: Yes





601142

2.1

Computer Point	Computer Printout	Source
IHABC14	NSS ANN PWR SUPPLY FAIL	Panel 630 circuit 2IHAN06 circuit breaker A8CB3 or UPS1B 2VBS-PNLB101 circuit 4
IHABC15	ALM REFL PS LOSS OF PWR	Panel 630 circuit 2IHAN05 loss of power

2.2 Automatic Response

None

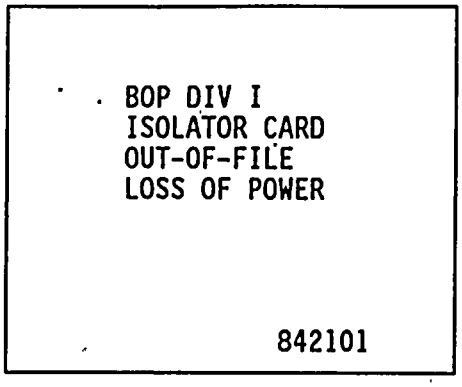
2.3 Corrective Action

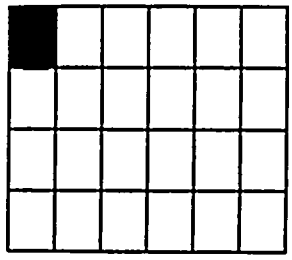
a. Check circuits and breaker shown as "source".

b. Notify I&C of the alarm if unable to restore power to annunciator isolators, or retransmitter relays.

3.0 842101 Balance of Plant - Division I Isolation Card Out-of-File/Loss of Power

Reflash: Yes





3.1

Computer Point	Computer Printout	Source
CECBC29	P837 D1 BOP ISOL CD 00F	Panel 837 circuit 2CECA01 Fuse F1
CECBC35	P838 D1 BOP ISOL CD 00F	Panel 838 circuit 2CECb01 Fuse F1
CECBC39	P874 D1 BOP ISOL CD 00F	Panel 874 circuit 2CECC01 Fuse F1

3.2 Automatic Response

None

3.3 Corrective Action

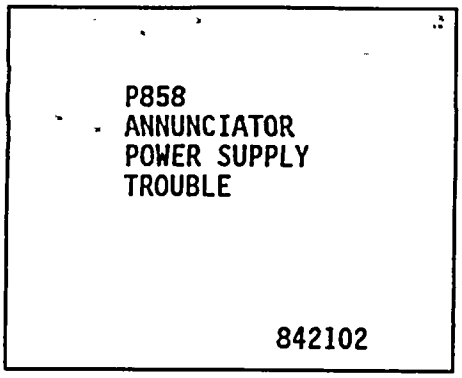
a. Check the fuse in the circuit and panel shown as the "source".

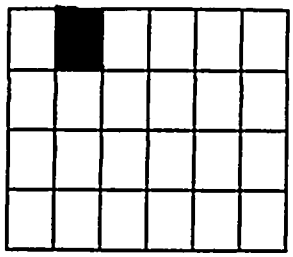
b. Contact I&C if unable to restore power to isolator cards.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

4.0 842102 Panel 858 Annunciator Power Supply Trouble

Reflash: Yes





4.1

Computer Point	Computer Printout	Source
IHABC04	BOP ANN PWR SUPPLY FAIL	Vital Bus 2VBS-PNLA101 ckt 8 Panel 858 ckt 2IHAA02 circuit breaker CB1
IHABC10	ANN PS GROUNDED	Panel 858 ground detector for: 2VBS-PNLA01 ckt 8 or 2VBS-PNLB101 ckt 37

4.2 Automatic Response

None

4.3(a) Corrective Action

IHABC04 - 1. Check panel 858 circuit 2IHAA02 circuit breaker A13CB1.

2. Check UPS1A panel 2VBS-PNLA101 circuit 8.

3. Notify I&C if unable to restore power to annunciators.

(b) IHABC10 - 1. Check panel 858 circuit 2IHAA02 circuit breaker A13CB1 and 2IHAN02 circuit breaker A13CB3.

(c) Refer to N2-OP-91A, Section H.3.0 "Loss of all Annunciators, if applicable

4.0 842102 Panel 858 Annunciator Power Supply Trouble (Cont'd)

4.3(b) (Cont'd) 2. Check UPS1A panel 2VBS-PNLB101 circuit 37 and 2VBS-PNLA101 circuit 8.

3. Notify I&C if unable to restore power to annunciator.

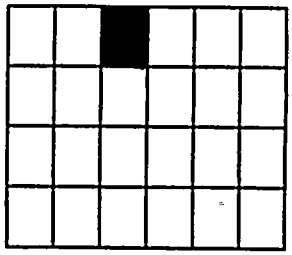
I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

5.0 842103 Emergency Response Facility Panel Isolation Card Out-of-File/Loss of Power

Reflash: Yes

ERF PANEL
ISOLATION CARD
OUT-OF-FILE/
LOSS OF POWER

842103



842103

5.1

Computer Point	Computer Printout	Source
CECBC45	P899D1 ERF ISOL CD OOF	Panel 899 circuit 2CECA03 Fuse F1 or 2UPS2A 2VBS*PNL101A circuit 3
CECBC46	P899D2 ERF ISOL CD OOF	Panel 899 circuit 2CECB02 Fuse F1 or UPS 2B 2VBS*PNL301B circuit 20
CECBC47	P899 ERF ISOL CD OOF	Panel 899 circuit 2CECB04 Fuse F1 or 2SCI-PNLA102 circuit 17

5.2 Automatic Response

None

5.3 Corrective Action

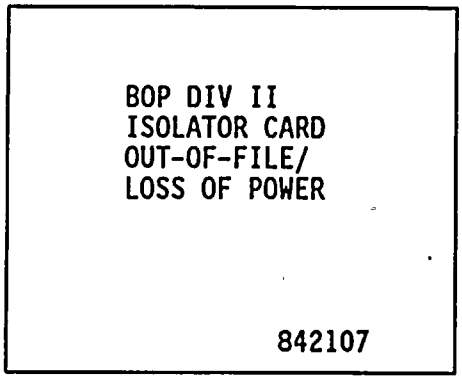
a. Check fuses and breakers in panels listed as "source".

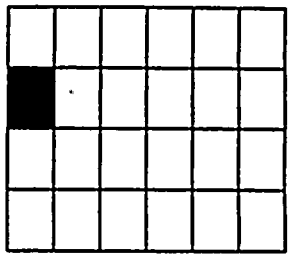
b. Notify I&C if unable to restore power to isolator circuits.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

6.0 842107 Balance of Plant Division II Isolator Card Out-of-File/Loss of Power

Reflash: Yes





842107

6.1

Computer Point	Computer Printout	Source
CECBC30	P874 D2 BOP ISOL CD 00F	Panel 874 Isol cards ZG-A, B, C, D
CECBC36	P837 D2 BOP ISOL CD 00F	Panel 837 Isol cards ZAJ-A, B, C, D
CECBC40	P838 D2 BOP ISOL CD 00F	Panel 838 Isol cards ZAH-A, B, C, D or panel 838 circuit 2CECB01 Fuse F1
IHABC02	DIV 2 ISOL INP CARD OUT	Panel 838 Div 2 Isol input card(s) from 99-1A through 99-11B any card(s) out of file

6.2 Automatic Response

None

6.3 Corrective Action

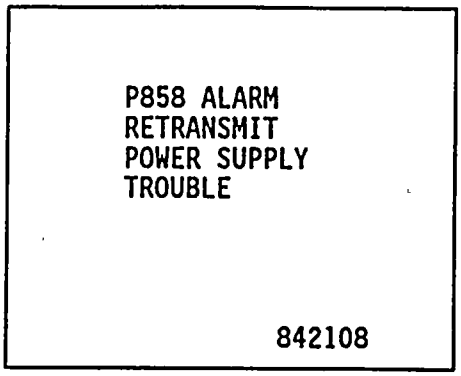
a. Check panel cards and fuse as shown as "source".

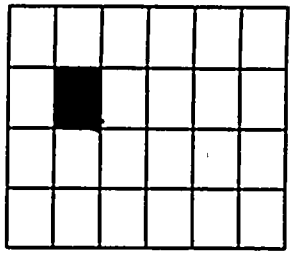
b. Notify I&C if unable to restore power to isolator circuits.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

7.0 842108 Panel 858 Alarm Retransmit Power Supply Trouble

Reflash: Yes





7.1

Computer Point	Computer Printout	Source
IHABC11	BOP ANN PWR SUPPLY FAIL	74-2IHAN02 Panel 858 circuit 2IHAN02 circuit breaker A13CB3 or UPS1A 2VBS-PNLB101 ckt 37
IHABC12	ALM REFL PS LOSS	74B-2IHAN03 Panel 858 power supply to alarm retransmit relay circuit 2IHAN03

7.2 Automatic Response

None

7.3 Corrective Action

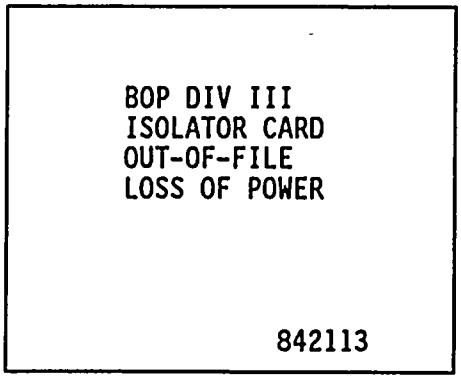
a. Check breakers in panels listed as "source".

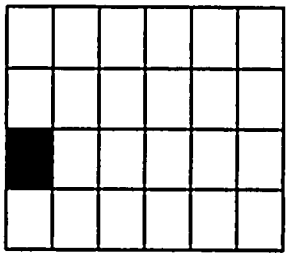
b. Notify I&C if unable to restore power to retransmission circuits.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

8.0 842113 Balance of Plant Division II Isolator Card Out-of-File/Loss of Power

Reflash: Yes





842113

8.1	Computer Point	Computer Printout	Source
	IHABC03	DIV 3 ISOL INP CARD OUT	Panel 874 Div 3 Isol input card 99-1 or 99-2 any card(s) out-of-file (DC)
	CECBC31	P874 D3 BOP ISOL CD OOF	Panel 874 Div 3 isol input card analog or digital (HC) out-of-file

8.2 Automatic Response

None

8.3 Corrective Action

a. Notify I&C that panel 874 Div 3 isolator input card(s) is (are) out-of-file.

b. Check panel 2CES-IPNL414 circuit 18.

c. Check panel 874 circuit 2IHAC01 Fuse F1.

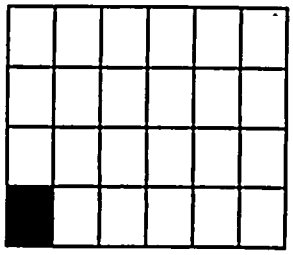
I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

9.0 842119 Balance of Plant Non-Divisional/Reactor Protection System Isolation Card Out-of-File/Loss of Power

Reflash: Yes

BOP NON-DIV
RPS ISOL CARD
OUT-OF-FILE
LOSS OF POWER

842119



842119

9.1

Computer Point	Computer Printout	Source
CECBC32	P837 NON-DIV ISOL CD OOF	Panel 837 analog or digital isolator output card out-of-file
CECBC33	P838 NON-DIV ISOL CD OOF	Panel 838 analog or digital isolator output card out-of-file
CECBC34	P874 NON-DIV ISOL CD OOF	Panel 874 analog or digital isolator output card out-of-file
CECBC37	P837 RPS D1 ISOL CD OOF	Power from panel 856 circuit 2SCIA06 fuse F1
CECBC38	P838 RPS D2 ISOL CD OOF	Power from panel 857 circuit 2SCIB06 fuse F1
IHABC07	DIV 1 ISOL OUTP CARD OUT	Panel 857 optic Isol output card out-of-file

9.1	Computer Point	Computer Printout	Source (Cont'd)
	IHABC08	DIV 2 ISOL OUTP CARD OUT	Panel 838 optic Isol output card out-of-file
	IHABC09	DIV 3 ISOL OUTP CARD OUT	Panel 874 optic Isol output card out-of-file

9.2 Automatic Response

None

9.3 Corrective Action

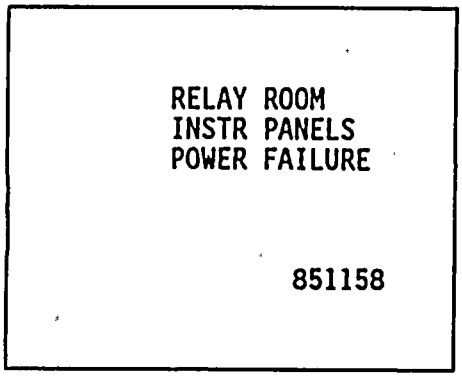
a. Check panel cards and fuses listed as "source".

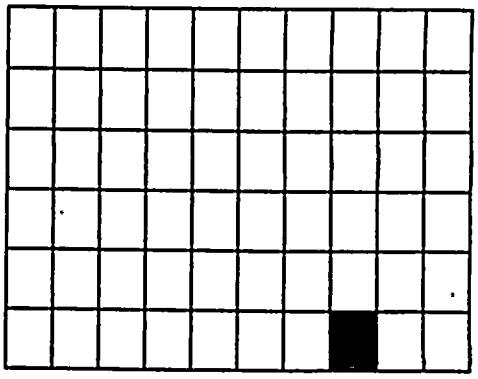
b. Notify I&C of the alarm.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

10.0 851158 Relay Room Instrument Panels Power Failure

Reflash: Yes





851158

10.1 Computer Point	Computer Printout	Source
CECBC01	P825 PWR SUPPLY FAIL	Panel Power Supply relays K2 & K3
CECBC02	P826 PWR SUPPLY FAIL	Panel power supply relays K2 & K3
CECBC04	P827 PWR SUPPLY FAIL	Panel power supply relays K2 & K3
CECBC05	P828 PWR SUPPLY FAIL DIV I	Panel power supply relays K2 & K3
CECBC06	P829 PWR SUPPLY FAIL DIV I	Panel power supply relays K2 & K3
CECBC08	P830 PWR SUPPLY FAIL DIV II	Panel power supply relays K2 & K3
CECBC10	P831 PWR SUPPLY FAIL DIV II	Panel power supply relays K2 & K3
CECBC11	P883 PWR SUPPLY FAIL DIV III	Panel power supply relays K2 & K3
CECBC13	P884 PWR SUPPLY FAIL	Panel power supply relays K2 & K3
CECBC15	P885 PWR SUPPLY FAIL	Panel power supply relays K2 & K3

10.0 851158 Relay Room Instrument Panels Power Failure (Cont'd)

10.1

Computer Point	Computer Printout	Source
CECBC16	P886 PWR SUPPLY FAIL	Panel power supply relays K2 & K3
CECBC17	P887 PWR SUPPLY FAIL	Panel power supply relays K2 & K3
CECBC19	P888 PWR SUPPLY FAIL	Panel power supply relays K2 & K3
CECBC21	P890 PWR SUPPLY FAIL DIV I	Panel power supply relays K2 & K3
CECBC22	P891 PWR SUPPLY FAIL DIV II	Panel power supply relays K2 & K3
CECBC23	P894 PWR SUPPLY FAIL DIV I	Panel power supply relays K2 & K3
CECBC24	P895 PWR SUPPLY FAIL DIV II	Panel power supply relays K2 & K3
CECBC26	P896 PWR SUPPLY FAIL DIV I	Panel power supply relays K2 & K3
CECBC27	P897 PWR SUPPLY FAIL DIV II	Panel power supply relays K2 & K3

10.2 Automatic Response

None

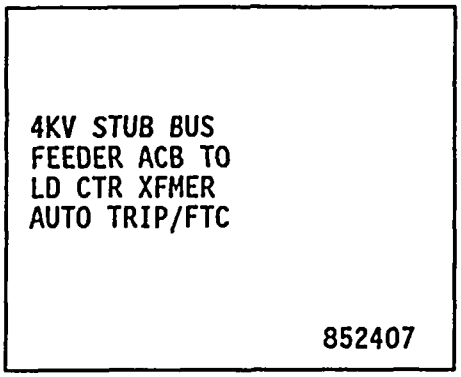
10.3 Corrective Action

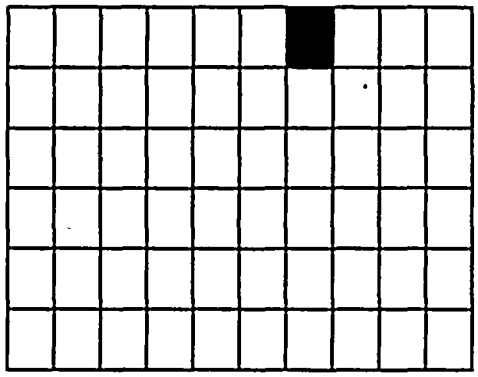
a. Notify I&C of the alarm.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS

11.0 852407 4KV Stub Bus Feeder Air Circuit Breaker to Load Center Transformer Auto Trip Failure to Close

Reflash: Yes





852407

11.1 Computer Point		Computer Printout	Source
a.	NJSUC13	X1E ACB 14-4 AT/FTC	2NJS-X1E ACB 14-4 Auto Trip/Failure to Close as sensed by 1 & 52 2NJSX21
b.	NJSUC14	X1E ACB 14-8 AT/FTC	2NJS-X1E ACB 14-8 Auto Trip/Failure to Close as sensed by 1 & 52 2NJSX31
c.	NJSUC15	X3E ACB 15-1 AT/FTC	2NJS-X3E ACB 15-1 Auto Trip/Failure to Close as sensed by 1 & 52 2NJSY21
d.	NJSUC16	X3E ACB 15-7 AT/FTC	2NJS-X3F ACB 15-7 Auto Trip/Failure to Close as sensed by 1 & 52 2NJSY31

11.2 Automatic Response

a. Trip 4160 stub bus feeders to 600V load centers US5 or US6.

11.3 Corrective Action

a. Verify auto station response.

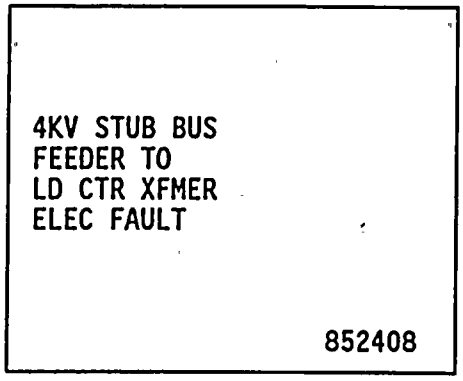
b. Investigate and determine reason for trip.

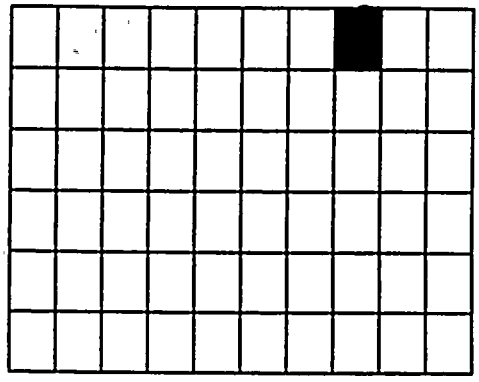
c. When the cause for the trip is corrected, re-energize the system per N2-OP-71 Section E.7.0 (E.10.0), E.17.0 (E.18.0) or N2-OP-72 Section H.2.0 as appropriate.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

12.0 852408 4KV Stub Bus Feeder to Load Center Transformer Electrical Fault

Reflash: Yes





852408

12.1	Computer Point	Computer Printout	Source
a.	NJSUC09	LOCK OUT RLY 86-X21 TRIP	Lock Out Relay 86-2NJSX21 On stub bus 2NNS-SWG014 feeder ACB 14-4 to US-5 trips and locks out 600V Breaker IS-5-8B on high: INST, Time or GND over-current
b.	NJSUC10	LOCK OUT RLY 86-X31 TRIP	Lock Out Relay 86-2NJSX31 on stub bus 2NNS-SWG014 feeder ACB 14-8 to US-5 trips and locks out 600V Breaker US-5-3B on high: INST, Time or GND over-current
c.	NJSUC11	LOCK OUT RLY 86-Y21 TRIP	Lock Out Relay 86-2NJSY21 on stub bus 2NNS-SWG015 feeder ACB 15-1 to US-6 trips and locks out 600V Breaker US-6-7B on high: INST, Time or GND over-current
d.	NJSUC12	LOCK OUT RLY 86-Y31 TRIP	Lock Out Relay 86-2NJSY31 on stub bus 2NNS-SWG015 feeder ACB 15-7 to US-6 trips and locks out 600V Breaker US-6-3B on high: INST, Time or GND over-current

12.2 Automatic Response

a. Trip stub bus feeder 5-8B (96-2NJS-X21) to US-5, bus loads trip on sustained under voltage.

b. Trip stub bus feeder 5-3B (86-2NJS-X31) to US-5, bus loads trip on sustained under voltage.

c. Trip stub bus feeder 6-7B (86-2NJS-Y21) to US-6, bus loads trip on sustained under voltage.

d. Trip stub bus feeder 6-3B (86-2NJS-Y31) to US-6, bus loads trip on sustained under voltage.

12.3 Corrective Action

a. Verify automatic response.

b. Check computer and panel 852 to determine which breaker tripped.

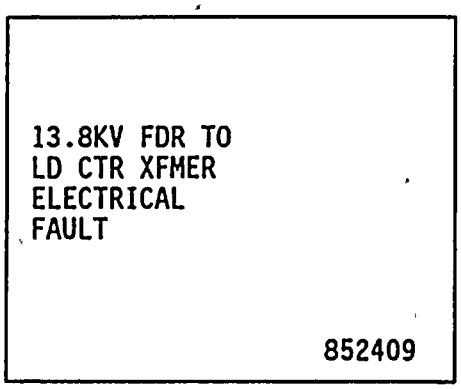
c. Investigate and determine reason for trip.

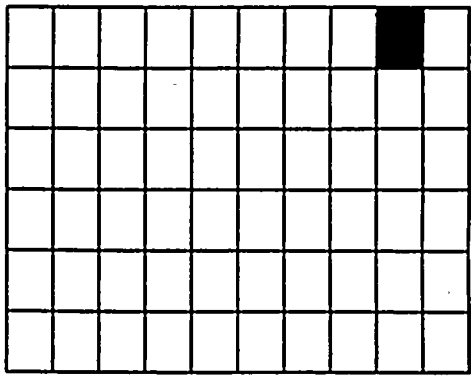
d. When the cause for the trip is corrected, re-energize the system per N2-OP-71 Section E.7.0 (E.10.0), E.17.0 (E.18.0) or N2-OP-72 Section H.2.0 as appropriate.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

13.0 852409 13.8KV Feeder to Load Center Transformer Electrical Fault

Reflash: Yes





852409

13.1 Computer Point		Computer Printout	Source
a.	NJSUC01	LOCK OUT RLY 86-Y01 TRIP	Lock out relay 86-2NJSY01 on 2NPS-SWG001 feeder ACB 1-5 to 2NJS-US1 and 2NJS-US2 trips and locks out on: high time or Inst Grnd overcurrent (OC) high time or Inst. Overcurrent (OC).
b.	NJSUC02	LOCK OUT RLY 86-Y04 TRIP	Lock out Relay 86-2NJSY04 on 2NPS-SWG001 feeder ACB 1-14 to 2NJS-US3, -US4, -US7 trips on transformer X1A, X1B, X1G high: phase Inst. or Time over current; ground inst. or time OC.
c.	NJSUC05	LOCK OUT RLY 86-X07 TRIP	Lock out Relay 86-2NJSX07 on 2NPS-SWG003 feeder ACB 3-3 to 2NJS-US1, -US2, trips on transformer 2NJS-X3C, -X3D high: phase Inst. or Timer over current; ground inst. or time OC.

d.	NJSUC06	LOCK OUT RLY 86-X10 TRIP	Lock out Relay 86-2NJSX10 on 2NPS-SWG003 feeder ACB 3-13 to 2NJS-US3, -US4, US-7, trips on transformer 2NJS-X3A, -X3B or X3G high: phase Inst. or Time over current; ground inst. or time OC.

13.2 Automatic Response

a. Trips and locks out bus breakers: 2NPS-SWG001, ACB1-5; 2NJS-US1, ACB 1-3B; 2NJS-US2, ACB 2-3B. Removes power to the Alternate Access Bldg. Transformer 2JKB-X1.

b. Trips and locks out bus breakers: 2NPS-SWG001, ACB 1-14; 2NJS-US3, ACB 3-3B; 2NJS-US4, ACB 4-3B, 2NJS-US7, ACB 7.3B.

c. Trips and Locks out bus breakers: 2NPS-SWG003, ACB 3-3; 2NJS-US1, ACB 1-14B; 2NJS-US2, ACB 2-12B.

d. Trips and Locks out bus breakers: 2NPS-SWG003, ACB 3-13; 2NJS-US3, ACB 3-14B; 2NJS-US4, ACB 4-15B; 2NJS-US7, ACB 7-7B.

13.3 Corrective Action

a. Verify automatic response.

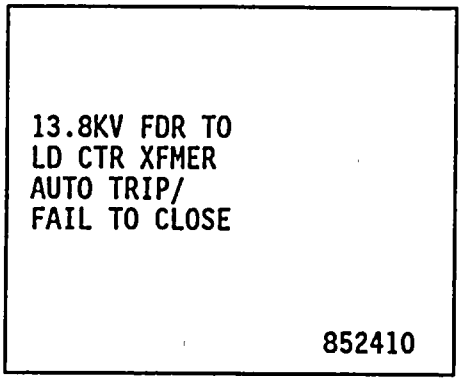
b. Check computer and panel, 2CES-PNL852 to determine which breaker tripped.

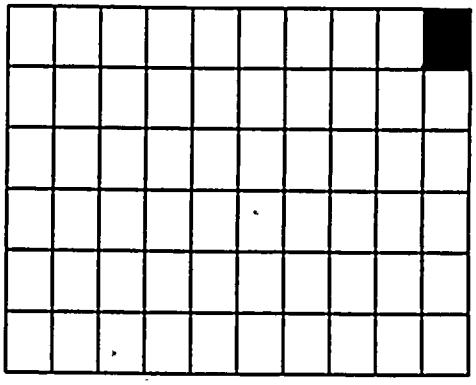
c. Investigate and determine reason for trip.

d. Return system to normal.

14.0 852410 13.8KV Feeder to Load Center Transformer Auto Trip/Failure to Close

Reflash: Yes





852410

14.1 Computer Point		Computer Printout	Source
a.	NJSUC03	NPS001 ACB 1-5 AT/F-T-C	2SWG-NPS001 Air Circuit Breaker 1-5 Auto Trip/ Failure to Close as sensed by 1 & 52 2NJSY01
b.	NJSUC04	NPS001 ACB 1-14 AT/F-T-C	2SWG-NPS001 Air Circuit Breaker 1-14 Auto Trip/ Failure to Close as sensed by 1 & 52 2NJSY04
c.	NJSUC07	NPS003 ACB 3-3 AT/F-T-C	2SWG-NPS003 Air Circuit Breaker 3-3 Auto Trip/ Failure to Close as sensed by 1 & 52 2NJSX07
d.	NJSUC08	NPS001 ACB 3-13 AT/F-T-C	2SWG-NPS003 Air Circuit Breaker 3-13 Auto Trip/ Failure to Close as sensed by 1 & 52 2NJSX10

14.2 Automatic Response

a. 13.8KV breaker 1-5 open and Ctrl Sw in Normal after close.

b. 13.8KV breaker 1-14 open and Ctrl Sw in Normal after close.

c. 13.8KV breaker 3-3 open and Ctrl Sw in Normal after close.

d. 13.8KV breaker 3-13 open and Ctrl Sw in Normal after close.

14.3 Corrective Action

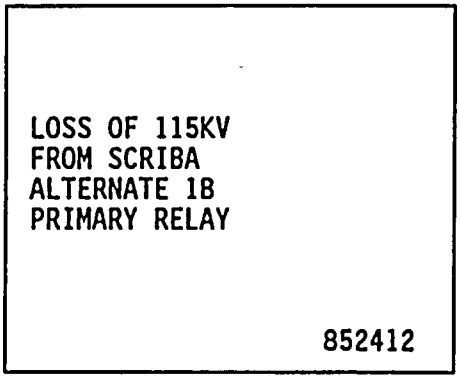
a. Investigate and determine reason for trip or failure to close.

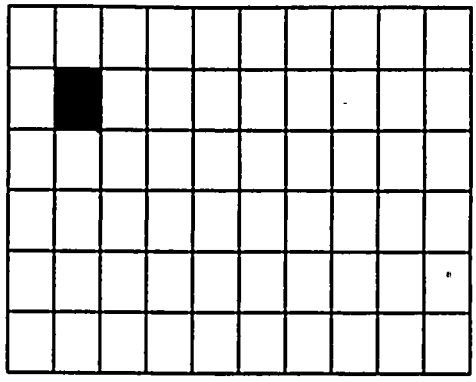
b. Return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

15.0 852412 Loss of 115KV From Scriba Alternate 1B Primary Relay

Reflash: No





852412

15.1 Computer Point	Computer Printout	Source
YUCBC08	115KV PWR SCRIBA ALT 1(B)	Scriba Station (B) 115KV Line #6 protection (alternate 1) operated as sensed by 94-2YUCB01

15.2 Automatic Response

NONE (unless 2YUL-MDS2, MDS20, MDS10 are closed then alarm window 852441 would also be lit.

15.3 Corrective Action

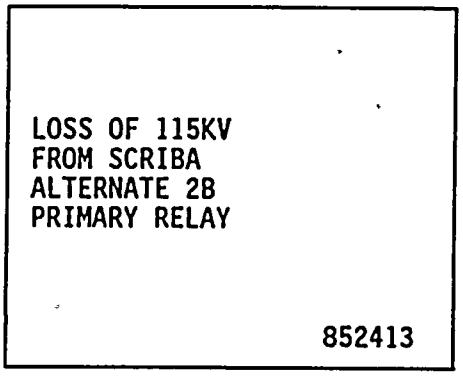
a. Determine the cause of the protection circuit actuation.

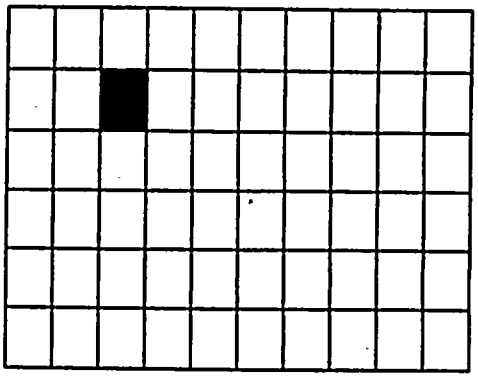
b. Restore to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

16.0 852413 Loss of 115KV From Scriba Alternate 2B Backup Relay

Reflash: No





852413

16.1 Computer Point	Computer Printout	Source
YUCBC10	115KV PWR SCRIBA ALT 2(B)	Scriba Station (B) 115KV Line #6 protection (alternate 2) operated as sensed by 94-2YUCB02

16.2 Automatic Response

NONE (unless 2YUL-MDS2, MDS20, MDS10 are closed then alarm window 852441 would also be lit.

16.3 Corrective Action

a. Determine the cause of the protection circuit actuation.

b. Restore to normal.

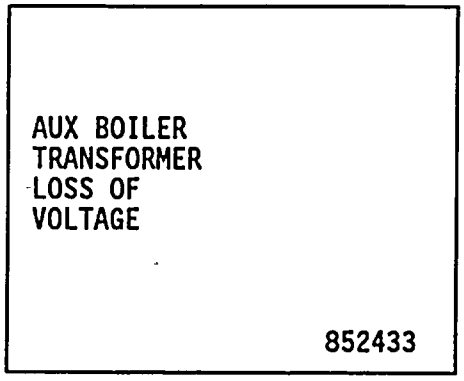
07-749-91

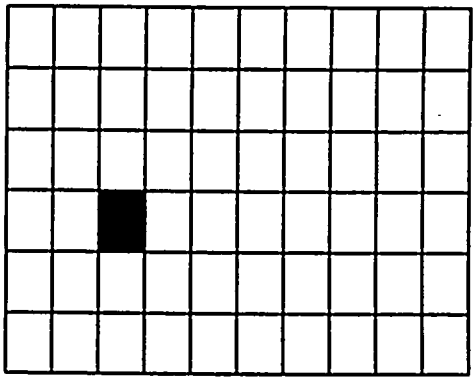
Now Safety Related

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

17.0 852433 Auxiliary Boiler Transformer Loss of Voltage

Reflash: No





852433

17.1 Computer Point	Computer Printout	Source
NPSEC12	AUX BLR XFMR LOSS OF VOLT	Auxiliary Boiler Transformer 2ABS-X1 Loss of Voltage as sensed by 59-2NPSZ17 (between 2ABS-X1 and 13.8KV Bus 2NPS-SWG002)

17.2 Automatic Response

NONE (unless 13.8KV Bus 2NPS-SWG002 Supply ACB 2-5 is closed, then annunciator 852519 would also be lit.

17.3 Corrective Action

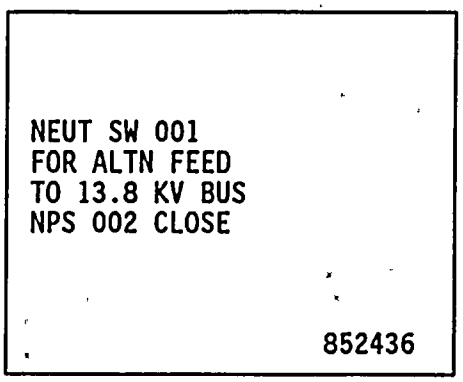
a. Determine the cause of the protection circuit actuation.

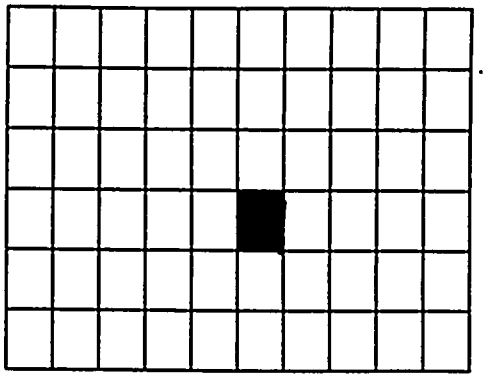
b. Restore to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

18.0 852436 Neutral Switch 001 for Alternate Feed to BUS 2NPS-SWG002 close

Reflash: No





852436

18.1 Computer Point	Computer Printout	Source
NPSZC01	Neut SW001 Altn. Fd. 002	Neutral Switch 2RTX-SW001 (Neutral Grounding Resistor Bypass) on 2RTX-XSR1A for Alternate Feed to 13.8KV Bus 2NPS-SWG002 closed, as sensed by 33-2NPSZ13

18.2 Automatic Response

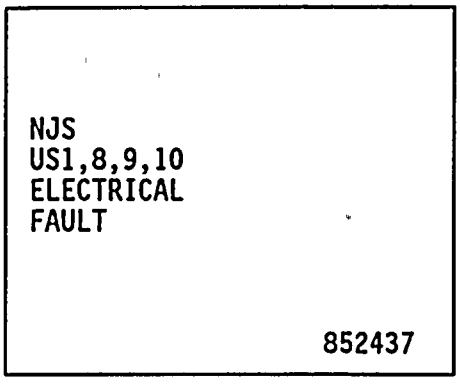
NONE

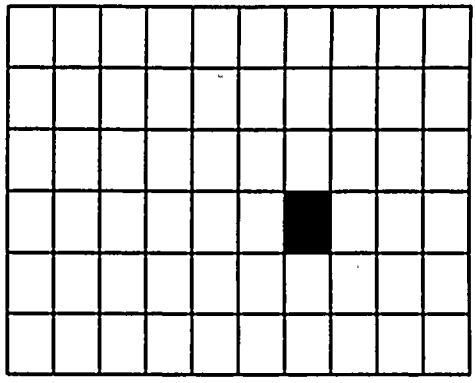
18.3 Corrective Action

a. Verify that 2NPS-SWG002 is the only 13.8KV bus to be connected to 2RTX-XSR1A.

19.0 852437 NJS US1, 8, 9, 10, Electrical Fault

Reflash: Yes





852437

19.1

	Computer Point	Computer Printout	Source
a.	NJSUC21	US1A ACB 1-3B Elec. Fault	2NJS-US1A Air Circuit Breaker 1-3B Electrical Fault as sensed by 520C-2NJSA01
b.	NJSUC22	US1B ACB 1-14B Elec. Fault	2NJS-US1B Air Circuit Breaker 1-14B Electrical Fault as sensed by 520C-2NJSB01
c.	NJSUC27	US1A & C ACB 1-8B Elec. Fault	2NJS-US1A &USIC Air Circuit Breaker ACB1-8B Electrical Fault as sensed by 520C-2NJSN28
d.	NJSUC29	US1B&C ACB 1-10B Elec. Fault	2NJS-US1B &USIC Air Circuit Breaker ACB1-10B Electrical Fault as sensed by 520C-2NJSN30
e.	NJSUC45	US8A Sply Brkr ACB 8-3B	2NJS-US8A Air Circuit Breaker ACB 8-3B Electrical Fault as sensed by 520C-2NJSA08

19.1	Computer Point	Computer Printout	Source (cont.)
f.	NJSUC45	US8B Sply Brkr ACB 8-13B	2NJS-US8B Air Circuit Breaker ACB 8-13B Electrical Fault as sensed by 520C-2NJSB08
g.	NJSUC44	US8 A & C Sply Brkr ACB 8-7B	2NJS-US8A & US8C Air Circuit Breaker ACB 8-7B Electrical Fault as sensed by 520C-2NJSN41
h.	NJSUC47	US8B & C Sply Brkr ACB 8-9B	2NJS-US8B & US8C Air Circuit Breaker ACB 8-9B Electrical Fault as sensed by 520C-2NJSN42
i.	NJSUC49	US9A Sply Brkr ACB 9-3B	2NJS-US9A Air circuit Breaker ACB 9-3B Electrical Fault as sensed by 520C-2NJSA09
j.	NJSUC50	US9B Sply Brkr ACB 9-13B	2NJS-US9B Air circuit Breaker ACB 9-13B. Electrical Fault as sensed by 520C-2NJSB09
k.	NJSUC48	US9A & US9C Sply Bkr ACB 9-7B	2NJS-US9A & US9C Air Circuit Breaker ACB 9-7B Electrical Fault as sensed by 520C-2NJSN43
l.	NJSUC51	US9B & US9C Sply Bkr ACB 9-9B	2NJS-US9A & US9C Air Circuit Breaker ACB 9-9B Electrical Fault as sensed by 520C-2NJSN44
m.	NJSUC52	US10A & C Tie Bkr ACB 10-6B	2NJS-US10A & US10C Air Circuit Breaker ACB 10-6B Electrical Fault as sensed by 520C-2NJSN45
n.	NJSUC53	US10A Sply Brkr ACB 10-3B	2NJS-US10A Air Circuit Breaker ACB 10-3B Electrical Fault as sensed by 520C-2NJSA10

19.1 Computer Point		Computer Printout	Source (cont.)
o	NJSUC54	US10B Sply Brkr ACB 10-12B	2NJS-US10B Air Circuit Breaker ACB 10-12B Electrical Fault as sensed by 520C-2NJSB10
p.	NJSUC55	US10B &C Bs Tbkr ACB 10-9B	2NJS-US10B &US10C Bus Tie Breaker Air Circuit Breaker ACB 10-9B Elec. Fault as sensed by 520C-2NJSN46

19.2 Automatic Response

a. Trip 600V. supply or tie breaker on 2NJSUS1, US8, US9, or US10 (whichever breaker fault occurred on).

19.3 Corrective Action

a. Check computer to determine which breaker is in alarm.

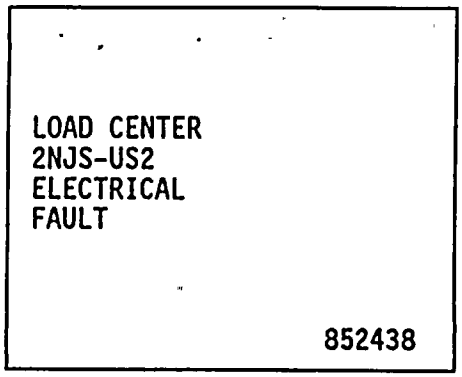
b. Dispatch operator to load center US1, US8, US9, US10.

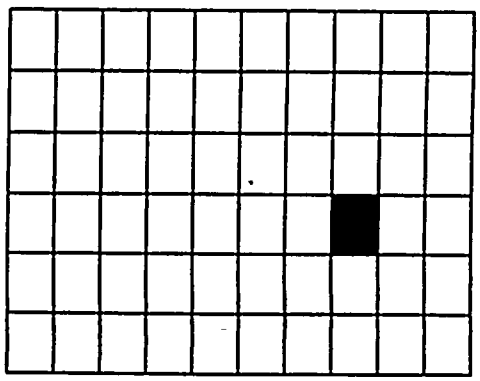
c. Investigate and determine reason for trip.

d. Return system to normal.

20.0 852438 - Load Center 2NJS-US2 Electrical Fault

Reflash: Yes





852438

20.1 Computer Point		Computer Printout	Source
a.	NJSUC32	US2A ACB 2-3B Elec. Flt	Load Center 2NJS-US2A Air Circuit Breaker ACB 2-3B Electrical Fault as Sensed by 520C-2NJSA02
b.	NJSUC33	US2B ACB 2-12B Elec. Flt	Load Center 2NJS-US2B Air Circuit Breaker ACB 2-12B Electrical Fault as Sensed by 520C-2NJSB02
c.	NJSUC36	US2A ACB 2-6B Elec. Flt	Load Center 2NJS-US2A Air Circuit Breaker ACB 2-6B Electrical Fault as Sensed by 520C-2NJSN33
d.	NJSUC38	US2B ACB 2-9B Elec. Flt	Load Center 2NJS-US2B Air Circuit Breaker ACB 2-9B Electrical Fault as Sensed by 520C-2NJSN35

20.2 Automatic Response

a. Trip 600V supply or tie breaker, load center 2NJS-US2.

20.3 Corrective Action

a. Check computer to determine which breaker is in alarm.

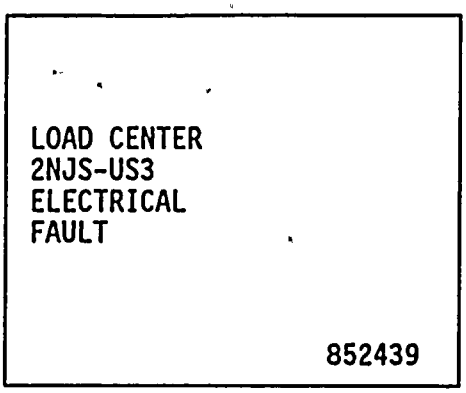
b. Dispatch operator to load center US2.

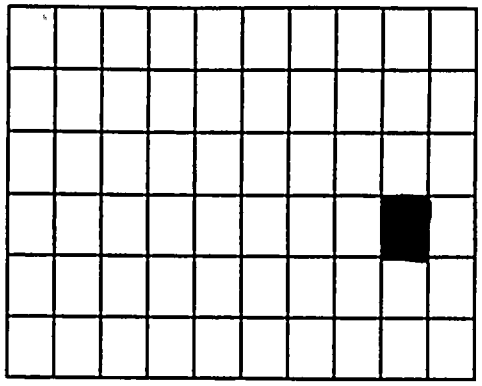
c. Investigate and determine reason for trip.

d. Return system to normal.

21.0 852439 Load Center 2NJS-US3 Electrical Fault

Reflash: Yes





852439

21.1 Computer Point		Computer Printout	Source
a.	NJSUC23	US3A ACB 3-3B Elec. Flt	Load Center 2NJS-US3A Air Circuit Breaker ACB 3-3B Electrical Fault as Sensed by 520C-2NJSA03
b.	NJSUC24	US3B ACB 3-14B Elec. Flt	Load Center 2NJS-US3B Air Circuit Breaker ACB 2-14B Electrical Fault as Sensed by 520C-2NJSB03
c.	NJSUC28	US3A & C ACB 3-7B Elec. Flt	Load Center 2NJS-US3A & US3C Air Circuit Breaker ACB 3-7B Electrical Fault as Sensed by 520C-2NJSN29
d.	NJSUC30	US3B&C ACB 32-11B Elec. Flt	Load Center 2NJS-US3B & US3C Air Circuit Breaker ACB 3-11B Electrical Fault as Sensed by 520C-2NJSN31

21.2 Automatic Response

a. Trip 600V supply or tie breaker, load center 2NJS-US3.

21.3 Corrective Action

a. Check computer to determine which breaker is in alarm.

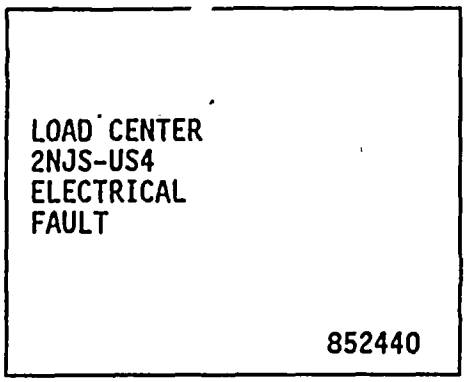
b. Dispatch operator to load center US3.

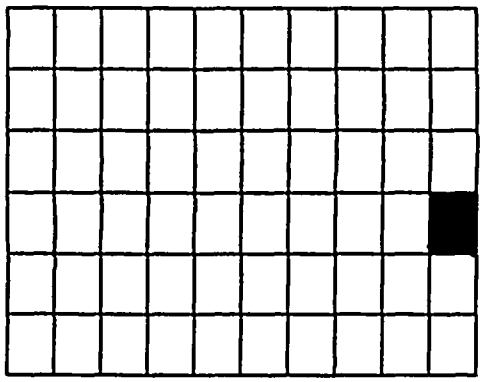
c. Investigate and determine reason for trip.

d. Return system to normal.

22.0 852440 Load Center 2NJS-US4 Electrical Fault

Reflash: Yes





852440

22.1 Computer Point		Computer Printout	Source
a.	NJSUC34	US4A ACB 4-3B Elec. Flt	Load Center 2NJS-US4A Air Circuit Breaker ACB 4-3B Electrical Fault as Sensed by 520C-2NJSA04
b.	NJSUC35	US4B ACB 4-15B Elec. Flt	Load Center 2NJS-US4B Air Circuit Breaker ACB 2-15B Electrical Fault as Sensed by 520C-2NJSB04
c.	NJSUC37	US4A ACB 4-8B Elec. Flt	Load Center 2NJS-US4A Air Circuit Breaker ACB 4-8B Electrical Fault as Sensed by 520C-2NJSN34
d.	NJSUC39	US4B ACB 4-11B Elec. Flt	Load Center 2NJS-US4B Air Circuit Breaker ACB 4-11B Electrical Fault as Sensed by 520C-2NJSN36

22.2 Automatic Response

a. Trip 600V supply or tie breaker, load center 2NJS-US4.

22.3 Corrective Action

a. Check computer to determine which breaker is in alarm.

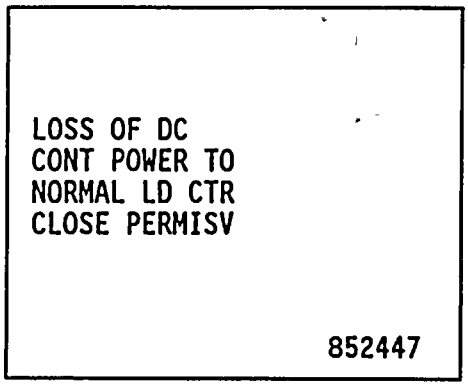
b. Dispatch operator to load center US4.

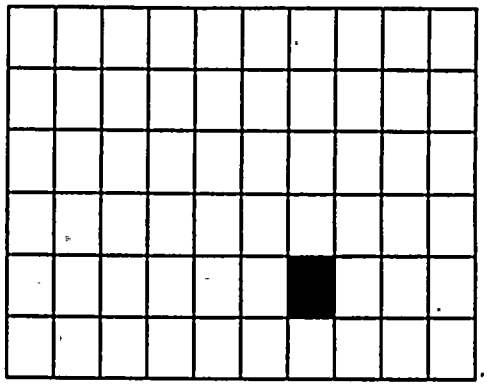
c. Investigate and determine reason for trip.

d. Return system to normal.

23.0 852447 Load Center DC Control Power to Normal Load Center Close Permissive

Reflash: Yes





852447

23.1

Computer Point		Computer Printout	Source
a.	NJSBC13	LOSS of US1 DC CONT PWR	Loss of DC Control power, 13.8KV Brkr Intlk, to 2NJS-US1 as sensed by 74-2NJSN21
b.	NJSBC14	LOSS of US3 DC CONT PWR	Loss of DC Control power, 13.8KV Brkr Intlk, to 2NJS-US3 as sensed by 74-2NJSN23
c.	NJSBC15	LOSS of US2 DC CONT PWR	Loss of DC Control power, 13.8KV Brkr Intlk, to 2NJS-US2 as sensed by 74-2NJSN22
d.	NJSBC16	LOSS of US4 DC CONT PWR	Loss of DC Control power, 13.8KV Brkr Intlk, to 2NJS-US4 as sensed by 74-2NJSN24
e.	NJSBC18	LOSS of US7B NORM BRKR STATUS	Loss of DC Control power, 13.8KV Brkr Intlk, to 2NJS-US7 as sensed by 74-2NJSB07
f.	NJSBC19	LOSS of US8 CONT PWR	Loss of DC Control power, 13.8KV Brkr Intlk, to 2NJS-US8 as sensed by 74-2NJSN38

23.1 Computer Point		Computer Printout	Source (cont.)
g.	NJSBC20	LOSS of US9 CONT PWR	Loss of DC Control power, 13.8KV Brkr Intlk, to 2NJS-US9 as sensed by 74-2NJSN39
h.	NJSBC21	LOSS of US10 CONT PWR	Loss of DC Control power, 13.8KV Brkr Intlk, to 2NJS-US10 as sensed by 74-2NJSN40

23.2 Automatic Response

NONE

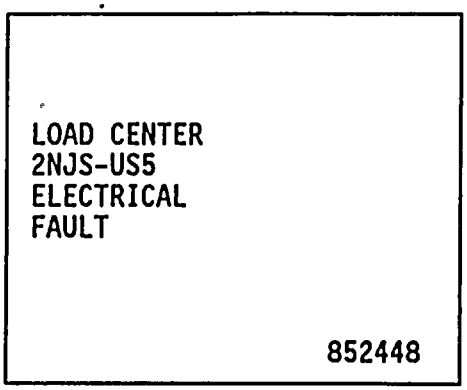
23.3 Corrective Action

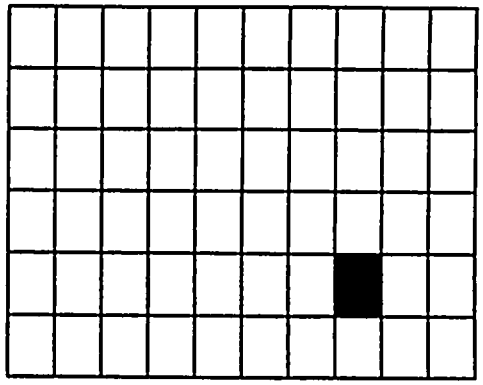
a. Check computer to determine which load center is in alarm.

b. Move fuses to Alternate Feed position (see Section H of N2-OP-73A).

24.0 852448 Load Center 2NJS-US5 Electrical Fault

Reflash: Yes





852448

24.1 Computer Point	Computer Printout	Source
a. NJSUC17	US5 NORM BRKR ELEC FAULT	2NJS-US5 Normal Breaker Electrical Fault as as sensed by 520C-2NJSX13
b. NJSUC19	US5 ALTN BRKR ELEC FAULT	2NJS-US5 Alternate Breaker Electrical Fault as sensed by 520C-2NJSX14

1712

24.2 Automatic Response

a. Trip 600V normal or alternate supply breaker to load center 2NJS-US5.

24.3 Corrective Action

a. Check computer to determine which breaker is in alarm.

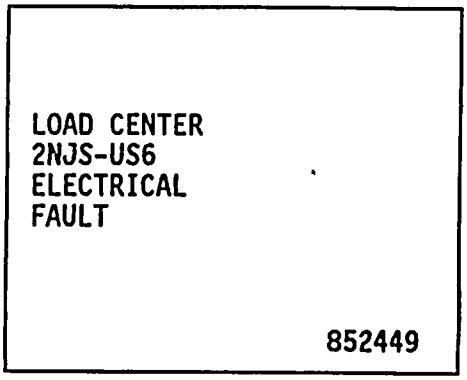
b. Dispatch operator to load center US5.

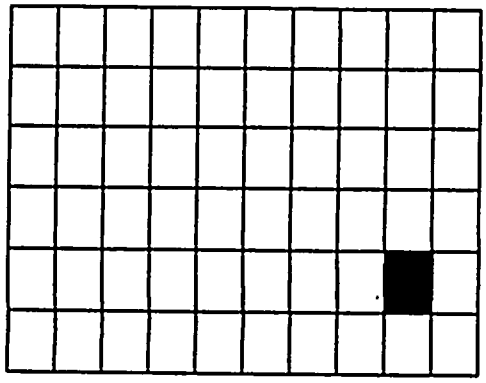
c. Investigate and determine reason for trip.

d. Return system to normal.

25.0 852449 Load Center 2NJS-US6 Electrical Fault

Reflash: Yes





852449

25.1 Computer Point		Computer Printout	Source
a.	NJSUC18	US6 NORM BRKR ELEC FAULT	2NJS-US6 Normal Breaker Electrical Fault as sensed by 520C-2NJSY13
b.	NJSUC20	US6 ALTN BRKR ELEC FAULT	2NJS-US6 Alternate Breaker Electrical Fault as sensed by 520C-2NJSY14

25.2 Automatic Response

a. Trip 600V normal or alternate supply breaker to load center 2NJS-US6.

25.3 Corrective Action

a. Check computer and panel 852 to determine which breaker tripped.

b. Dispatch operator to load center US65.

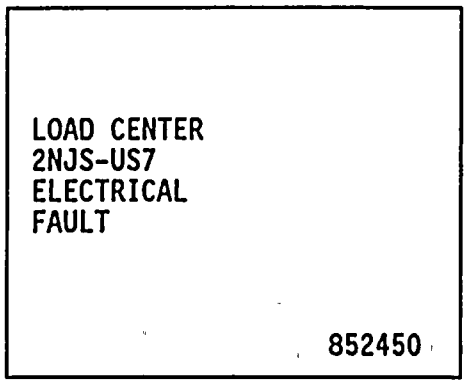
c. Investigate and determine reason for trip.

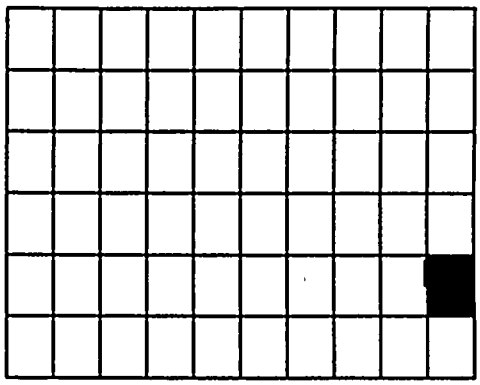
d. Return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

26.0 852450 Load Center 2NJS-US7 Electrical Fault

Reflash: Yes





852450

26.1	Computer Point	Computer Printout	Source
a.	NJSUC25	US7A ACB7-3B ELEC FAULT	2NJS-US7A Brkr ACB7-3B Electrical Fault as sensed by 520C-2NJSA07
b.	NJSUC26	US7B ACB7-7B ELEC FAULT	2NJS-US7B Brkr ACB7-7B Breaker Electrical Fault as sensed by 520C-2NJSB07
c.	NJSUC31	US7A & 7B ACB7-5B EL FLT	2NJS-US7A & B, Bkr ACB7-5B Brkr Electrical Fault as sensed by 520C-2NJSN32

17128

26.2 Automatic Response

a. Trip 600V normal or alternate supply breaker to load center 2NJS-US7.

26.3 Corrective Action

a. Check computer to determine which breaker is in alarm.

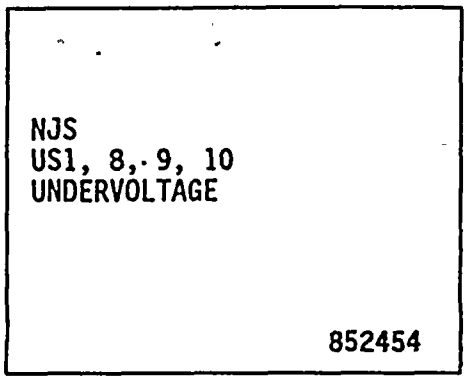
b. Dispatch operator to load center US7.

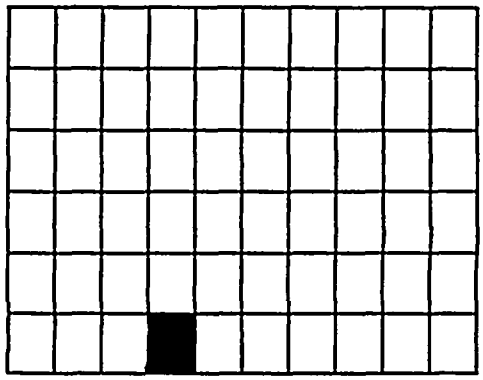
c. Investigate and determine reason for trip.

d. Return system to normal.

27.0 852454 Load Center 2NJS-US1, US8, US9, US10, Undervoltage

Reflash: Yes





852454

27.1	Computer Point	Computer Printout	Source
a.	NJSEC01	US1A Norm Sply Brkr Volt	2NJS-US1A Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSX15
b.	NJSEC02	US1B Norm Sply Brkr Volt	2NJS-US1B, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSY15
c.	NJSEC03	US1C Norm Sply Brkr Volt	2NJS-US1C, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSZ15
d.	NJSEC17	Bus 2NJS-US8A Undv Prot	2NJS-US8A, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSX37
e.	NJSEC18	Bus 2NJS-US8B Undv Prot	2NJS-US8B, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSY40
f.	NJSEC19	Bus 2NJS-US8C Undv Prot	2NJS-US8C, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSZ20

27.1	Computer Point	Computer Printout	Source
g.	NJSEC20	Bus 2NJS-US9A Undv Prot	2NJS-US9A, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSX38
h.	NJSEC21	Bus 2NJS-US9B Undv Prot	2NJS-US9B, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSY41
i.	NJSEC22	Bus 2NJS-US9C Undv Prot	2NJS-US9C, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSZ21
j.	NJSEC23	Bus 2NJS-US10A Undv Prot	2NJS-US10A, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSX39
k.	NJSEC24	Bus 2NJS-US10B Undv Prot	2NJS-US10B, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSY42
l.	NJSEC25	Bus 2NJS-US10C Undv Prot	2NJS-US10C, Normal Sply Brkr Phase Undervolt, as sensed by 27A & B 2NJSZ22

27.2 Automatic Response

a. The motor feeders on the respective sub bus are tripped after a .05 sec. time delay.

27.3 Corrective Action

a. Check computer to determine which section is de-energized.

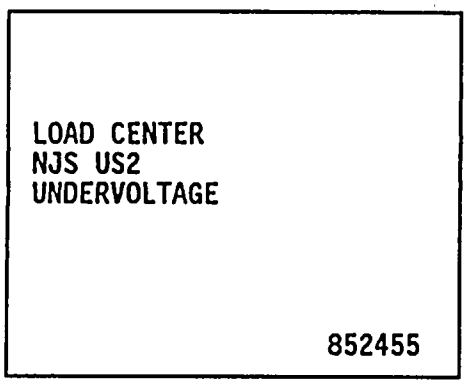
b. Investigate and determine reason for trip.

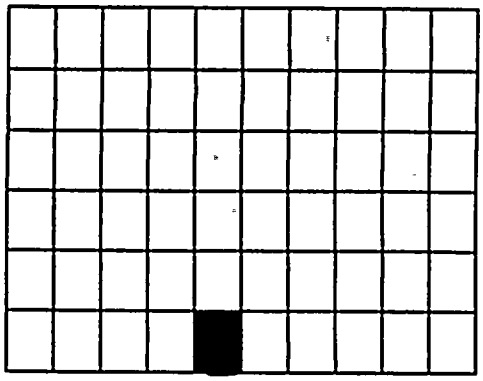
c. Return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

28.0 852455 Load Center 2NJS-US2 Undervoltage

Reflash: Yes





852455

28.1	Computer Point	Computer Printout	Source
a.	NJSEC04	US2A NORM SPLY BRKR VOLT	2NJS-US2A Norm Sply Brkr phase under volt, as sensed by 27A & B 2NJSX16
b.	NJSEC05	US2B NORM SPLY BRKR VOLT	2NJS-US2B Norm Sply Brkr phase under volt, as sensed by 27A & B 2NJSY16
c.	NJSEC06	US2C NORM SPLY BRKR VOLT	2NJS-US2C Norm Sply Brkr phase under volt, as sensed by 27A & B 2NJSZ16

28.2 Automatic Response

a. The motor feeders on the respective sub bus are tripped after a .05-3 second time delay.

28.3 Corrective Action

a. Check computer to determine which section is de-energized.

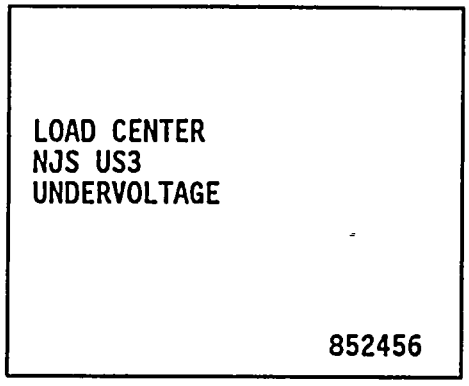
b. Investigate and determine reason for undervoltage.

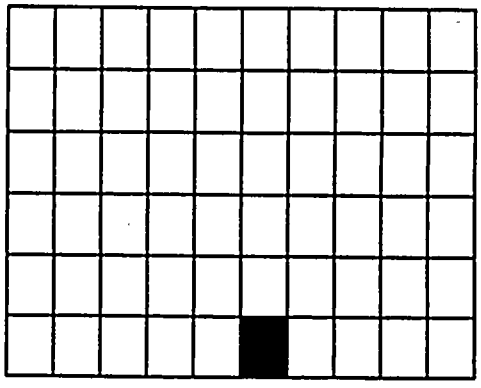
c. Identify the 86 devices, reset and return to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

29.0 852456 Load Center 2NJS-US3 Undervoltage

Reflash: Yes





852456

29.1	Computer Point	Computer Printout	Source
a.	NJSEC07	US3A NORM SPLY BRKR VOLT	2NJS-US3A Normal Sply Brkr Phase under volt as sensed by 27A&B 2NJSX17
b.	NJSEC08	US3B NORM SPLY BRKR VOLT	2NJS-US3B Norm Sply Brkr Phase under volt as sensed by 27A&B 2NJSY17
c.	NJSEC09	US3C NORM SPLY BRKR VOLT	2NJS-US3C Norm Sply Brkr Phase under volt as sensed by 27A&B 2NJSZ17

29.2 Automatic Response

a. The motor feeders on the respective sub bus are tripped after a .05-3 sec time delay.

29.3 Corrective Action

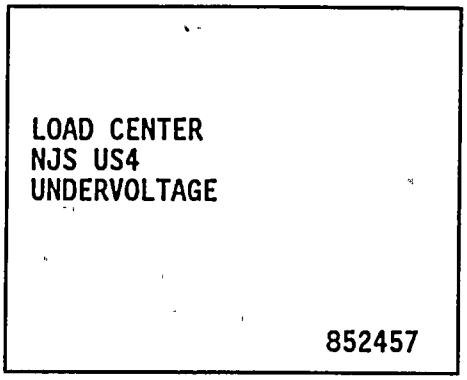
a. Check computer to determine which section is de-energized.

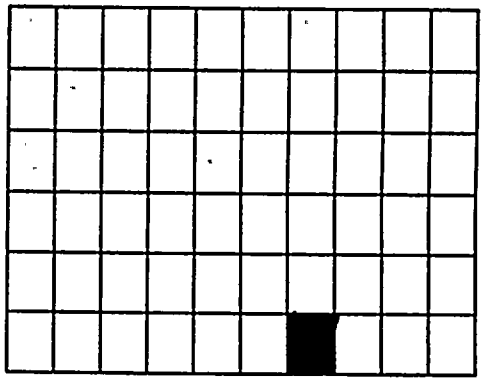
b. Investigate and determine reason for undervoltage.

c. Identify the 86 device, reset and return system to normal.

30.0 852457 Load Center 2NJS-US4 Undervoltage

Reflash: Yes





852457

30.1	Computer Point	Computer Printout	Source
a.	NJSEC10	US4A NORM SPLY BRKR VOLT	2NJS-US4A Norm Sply Brkr Phase under volt as sensed by 27A&B 2NJSX18
b.	NJSEC11	US4B NORM SPLY BRKR VOLT	2NJS-US4B Norm Sply Brkr Phase under volt as sensed by 27A&B 2NJSY18
C.	NJSEC12	US4C NORM SPLY BRKR VOLT	2NJS-US4C Norm Sply Brkr Phase under volt as sensed by 27A&B 2NJSZ18

30.2 Automatic Response

a. The motor feeders on the respective sub bus are tripped after a .05-3 sec time delay.

30.3 Corrective Action

a. Check computer to determine which section is de-energized.

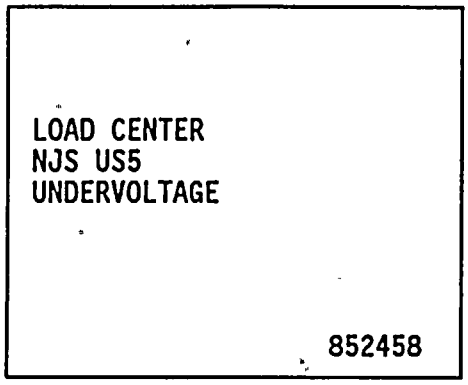
b. Investigate and determine reason for undervoltage.

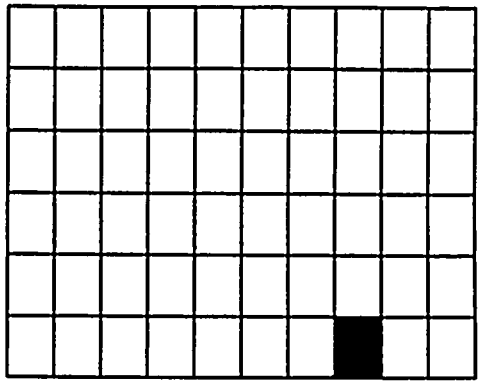
c. Identify the 86 device, reset and return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

31.0 852158 Load Center 2NJS-US5 Undervoltage

Reflash: No





852458

31.1	Computer Point	Computer Printout	Source
	NJSEC13	US5 NORM SPLY BRKR VOLT	2NJS-US5 Norm Sply Brkr Phase Undervolt as sensed by 27A&B 2NJSX19

31.2 Automatic Response

a. the motor feeders on 2NJS-US5 are tripped after a .05-3 sec. time delay.

31.3 Corrective Action

a. Check normal or Alt. feed to bus at panel 852.

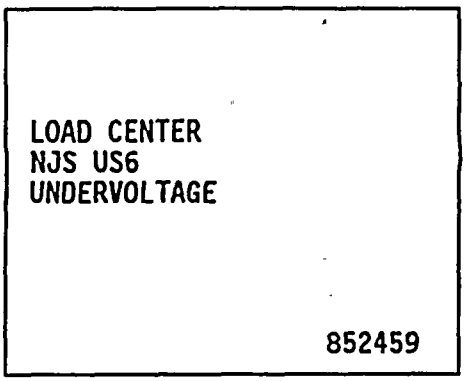
b. Investigate and determine reason for undervoltage.

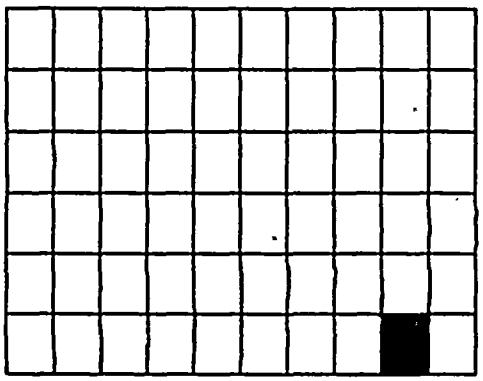
c. Identify the 86 device, reset and return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

32.0 852459 Load Center 2NJS-US6 Undervoltage

Reflash: No





852459

32.1

Computer Point	Computer Printout	Source
NJSEC14	US6 NORM SPLY BRKR VOLT	2NJS-US6 Norm Sply Brkr Phase Undervolt as sensed by 27A&B 2NJSY19

32.2 Automatic Response

a. The motor feeders on 2NJS-US6 are tripped, after a .05-3 second time delay.

32.3 Corrective Action

a. Check normal or Alt. feed to bus at panel 852.

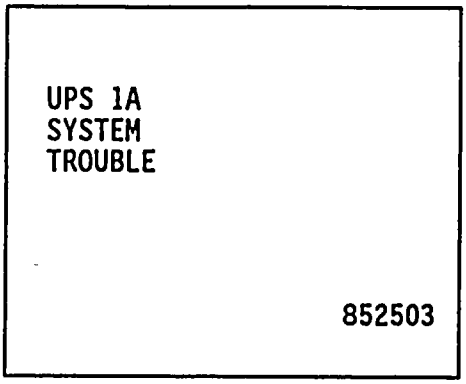
b. Investigate and determine reason for undervoltage.

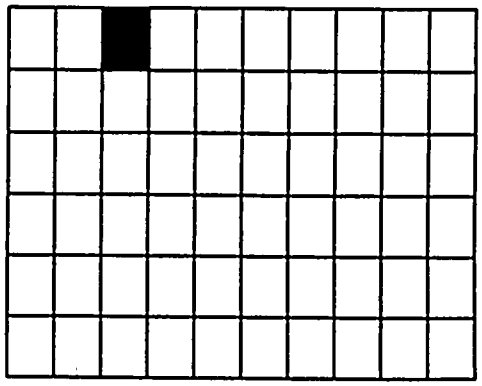
c. Identify the 86 device, reset and return system to normal.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

33.0 852503 Uninterruptable Power Supply 2VBB-UPS1A System Trouble

Reflash: No





852503

33.1

Computer Point	Computer Printout	Source
VBBTC09	UPS1A SYSTEM TROUBLE	UPS1A-K6 sensing: Ground on battery, over temperature on the inverter or charger, over current on the inverter, DC Low Voltage/Battery Operation Loss of DC input, Loss of maintenance AC input, Loss of Sync, Loss of inverter output.

33.2 Automatic Response

UPS1A will realign power supplies to provide power to vital bus.

33.3 Corrective Action

a. Dispatch an operator to the local 2VBB-UPS1A panel to record indications on the UPS front panel.

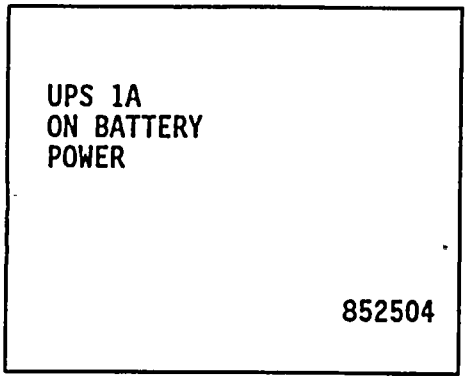
b. Refer to Section H to align power supplies to the desired off normal configuration.

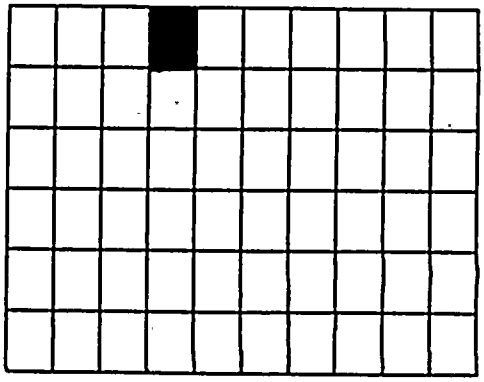
c. Initiate maint. activities if the unit needs repair.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

34.0 852504 Uninterruptable Power Supply UPS1A on Battery Power

Reflash: No





852504

34.1

Computer Point	Computer Printout	Source
VBBTC10	UPS1A ON BATT PWR	UPS1A-K2 (On Battery Power)

34.2 Automatic Response

2VBB-UPS1A Auto Transfer to DC battery power.

34.3 Corrective Action

a. Dispatch an operator to 2VBB-UPS1A to record indications on the UPS front panel.

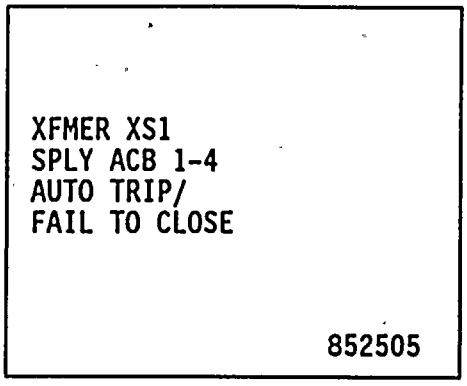
b. Refer to Section H to align power supplies to the desired off normal configuration.

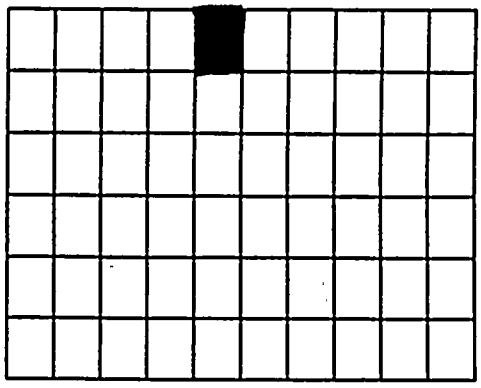
c. Initiate maint. activities if the unit needs repair.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

35.0 852505 XFMR XS3 Sply ACB 1-4 Auto Trip/Fail to Close | 17128

Reflash: No





852505

35.1	Computer Point	Computer Printout	Source	
	NNSUC01	XS1 SPLY ACB1-4 AUTO TRIP	XFMR 2ATX-XS1 SUPPLY ACB 1-4 Auto trip or Fail to Close as sensed by 1 & 52.2NNSY07 (SW ACB 1-4 Normal After Close & ACB 1-4 Open)	17128

35.2 Automatic Response

a. Trip or fail to close breaker ACB-1-4.

b. Loss of 4160V powerboards 2NNS-SWG011, 2NNS-SWG012, 2NNS-SWG014.

35.2 Corrective Action

a. Verify automatic response.

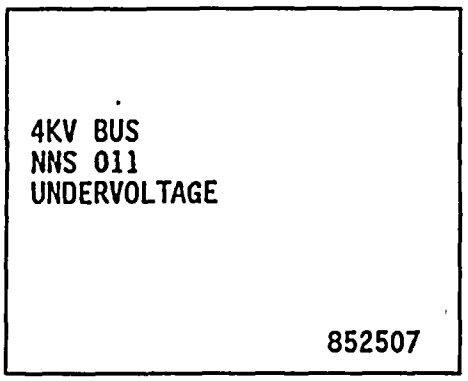
b. Investigate and determine reason for alarm.

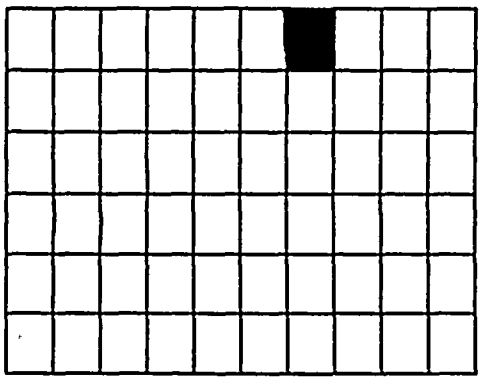
c. Return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

36.0 852507 4KV Bus NNS011 Undervoltage

Reflash: No





852507

36.1	Computer Point	Computer Printout	Source
	NNSEC01	4KV BUS NNS011 UNDERVOLTAGE	2NNS-SWG011 Undervoltage as sensed by 27A & B 2NNSX09

36.2 Automatic Response

a. Loss of voltage to 4160V bus 2NNS-SWG011.

b. Trip turb. Bldg. closed loop cooling pump A or block Auto Start.

c. Trip condensate pump C or block auto start.

d. Trip fourth point Htr drain pump A.

e. Trip condensate pump A or block auto start.

36.3 Corrective Action

a. Verify automatic response.

b. Check auto start or standby pumps.

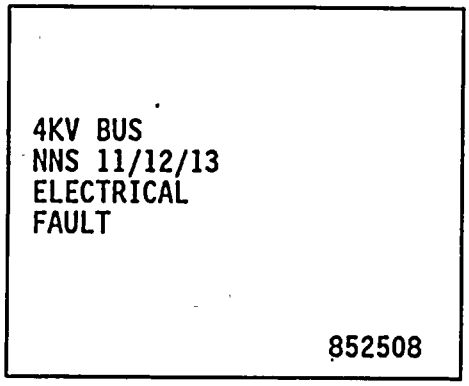
c. Investigate and determine reason for undervoltage.

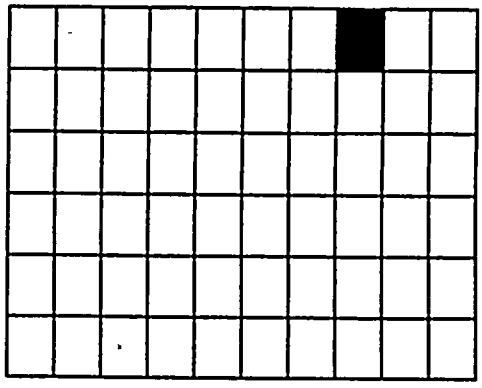
d. Return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

37.0 852508 4KV Bus NNS 11/12/13 Electrical Fault

Reflash: Yes





852508

37.1

	Computer Point	Computer Printout	Source
a.	NNSUC14	4KV BUS E12 LO RLY TRIP	2NNS-SWG012 Lock Out Relay Trip as sensed by 86-2NNSZ01 on bus 11/12/13 phase time OC or grnd OC.
b.	NNSUC15	4KV BUS E11 LO RLY TRIP	2NNS-SWG011 Lock Out Relay Trip as sensed by 86-2NNSX01 on bus 11 phase time OC or grnd OC.
c.	NNSUC16	4KV BUS E13 LO RLY TRIP	2NNS-SWG013 Lock Out Relay Trip as sensed by 86-2NNSY04
d.	NNSUC17	4KV BUS E12 LO RLY TRIP	2NNS-SWG012 Lock Out Relay Trip as sensed by 86-2NNSX05 (Backup protection when SWG012 is being fed from SWG013).
e.	NNSUC18	4KV BUS E12 LO RLY TRIP	2NNS-SWG012 Lock Out Relay Trip as sensed by 86-2NNSY01 (Backup protection when SWG012 is being fed from SWG011).

37.2 Automatic Response

a. Trip and lockout (cross ties from 2NNS-SWG011 and SWG-13) ACB 11-1 and ACB 13-10; Trip or block auto start of: 2CCP-P1A, 2CCS-P1C; Fire Pump 2FPW-P2 undervoltage; trip 2HDL-P1C.

b. Trip and lockout ACB 11-1 and ACB 11-3 on 2NNS-SWG011; prevent the auto transfer of 2CNM-P1C on to NNS-SWG011; trip or block the auto start of: 2CCS-P1A, 2CNM-P1A and 2CNM-P1C on the 2NNS-SWG011; trip 2HDL-P1A.

c. Trip and lockout ACB 13-6 and ACB 13-10 on 2NNS-SWG013; trip or block the auto start of: 2CCS-P1B, 2CNM-P1B, 2CCP-P3A, 2CNM-P1C on to 2NNS-SWG013; trip 2HDL-P1B.

d. Trip and lockout ACB 13-6 which in this circumstance would trip the loads on busses 2NNS-SWG012 and 2NNS-SWG013 (a combination of the loads on a and c above). | 171

e. Trip and lockout ACB 11-3 which in this circumstance would trip the loads on busses 2NNS-SWG011 and 2NNS-SWG012 (a combination of the loads on a and b above).

37.3 Corrective Action

a. Check the computer to determine which bus tripped.

b. Verify automatic response.

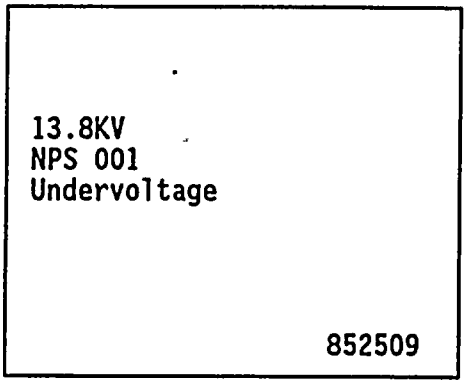
c. Investigate and determine the reason for the trip.

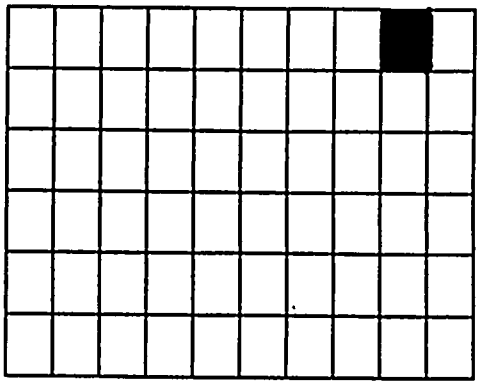
d. Return the system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

38.0 852509 13.8KV Bus NPS001 Undervoltage

Reflash: No





852509

38.1

Computer Point	Computer Printout	Source
NPSEC01	13.8KV BUS NPS1 UNDER VLT	NPS-SWG001 Undervoltage as sensed by 27A & B - 2NPSX09

38.2 Automatic Response

a. Trip the normal supply breaker ACB 1-3 (2STX-XNS1) to 2NPS-SWG001.

b. Trip condensate booster pump 'A', ACB 1-7, on 2NPS-SWG001.

c. Trip condensate booster pump 'C', ACB 1-12 or prevent auto start.

d. Trip reactor feed pump 'A', ACB 1-8, on 2NPS-SWG001.

e. Trip reactor feed pump 'C', ACB 1-13, or prevent auto start.

f. Trip reactor recirc pump 'A', ACB 1-6 on 2NPS-SWG001.

g. Trip Circulating Water Pumps 'A', 'C', E, (ACB 1-9, 1-10, 1-11) on 2NPS-SWG001. 17128

h. Trip the Supply breaker to 4160V bus 2NNS-SWG011, ACB 1-3 on 2NPS-SWG001.

i. Permits residual transfer to reserve breaker ACB 1-1 (2RTX-XSR1A) or ACB 1-16 (2RTX-XSR1B).

38.2 Automatic Response

j. Loss of loads on 2NPS-SWG001; 2NNS-SWG011, 12, 14; 2NJS-US1A, C & US2A, C, and US3A, C and US4A, C and US5 & US7A and US8A, C and US9A and C; US10A and C; Alternate Access substation.

38.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby equipment.

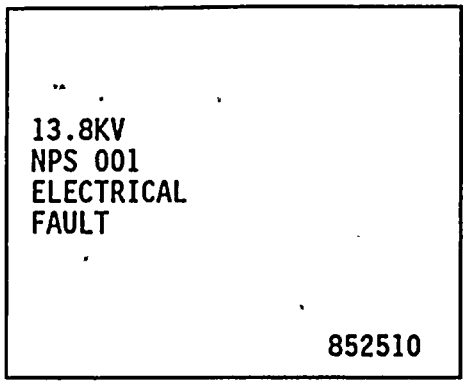
c. Reduce power to less than 65%, per N2-OP-101D Section H.1.0.

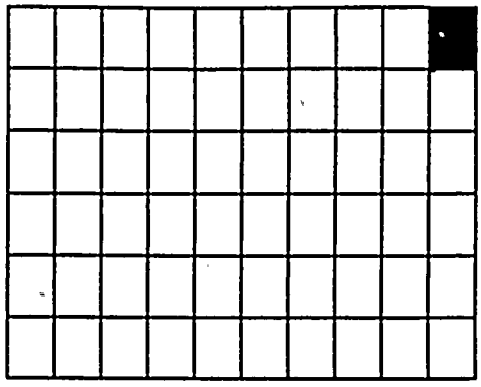
f. Investigate and determine the reason for the undervoltage.

g. Return the plant to normal operation.

39.0 852510 13.8KV Bus NPS001 Electrical Fault

Reflash: No





852510

39.1

Computer Point	Computer Printout	Source
NPSUC09	13.8KV BUS NPS 01 LO RLY TRP	NPS-SWG001 Lock Out Relay Trips on Transformers 2ATX-XS1 Time OC & Grnd OC;SWG001 Dir Grnd OC & Time OC; Transformers 2NJS-X1C, -X1D, -X1A, -X1B or -X1G as sensed by 86-2NPSX01

39.2 Automatic Response

a. Trip and lockout reserve supply breakers ACB 1-1 and 1-16.

b. Trip and lockout normal supply breaker ACB 1-3.

c. Lockout "A" and "C" condensate booster pumps (ACB 1-7 and ACB 1-13).

d. Loss of loads on: 2NPS-SWG001, 2NNS-SWG011, 12, 14, 2NJS-US1A,C & -US2A, C & -US3A,C & -US4A,C & -US5 and -US7A & -US8A,C & US9A,C & US10A,C; Alt. Access Substation.

39.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby equipment.

c. Reduce power to less than 65%, per N2-OP-101D Section H.1.0.

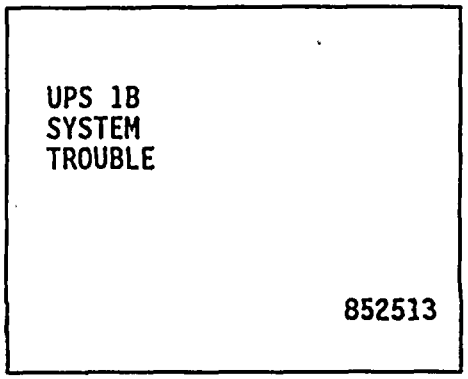
d. Investigate and determine reason for trip.

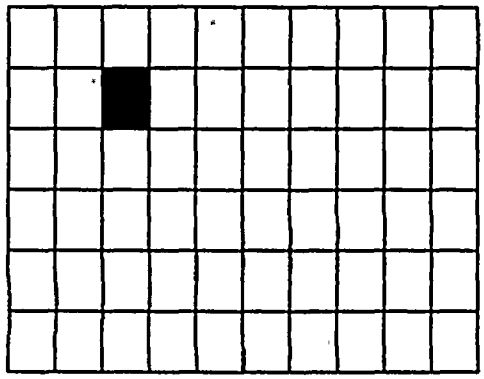
e. Return plant to normal operation.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

40.0 852513 Uninterruptable Power Supply 2VBB-UPS1B System Trouble

Reflash: No





852513

40.1 Computer Point	Computer Printout	Source
VBBTC11	UPS1B SYSTEM TROUBLE	UPS1B-K6 sensing: Ground on battery, over temperature on the inverter or charger, over current on the inverter, DC Low Voltage/Battery Operation Loss of DC input, Loss of maintenance AC input, Loss of Sync, Loss of inverter output.

40.2 Automatic Response

UPS1B will realign power supplies to provide power to vital bus.

40.3 Corrective Action

a. Dispatch an operator to the local 2VBB-UPS1B panel to record indications on the UPS front panel.

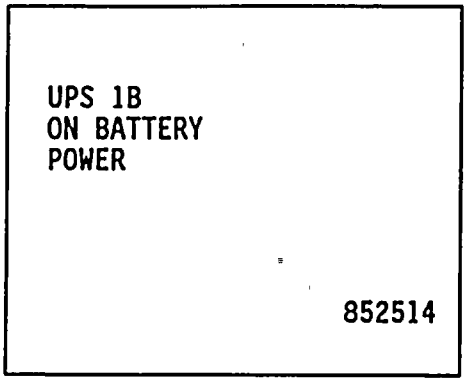
b. Refer to Section H to align power supplies to the desired off normal configuration.

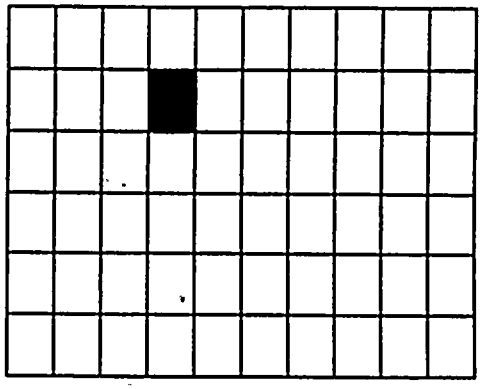
c. Initiate maint. activities if the unit needs repair.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

41.0 852514 Uninterruptable Power Supply UPS1B on Battery Power

Reflash: No





852514

41.1

Computer Point	Computer Printout	Source
VBBTC12	UPS1B ON BATT PWR	UPS1B-K2 (On Battery Power)

41.2 Automatic Response

2VBB-UPS1B Auto Transfer to DC battery power.

41.3 Corrective Action

a. Dispatch an operator to 2VBB-UPS1B to record indications on the UPS front panel.

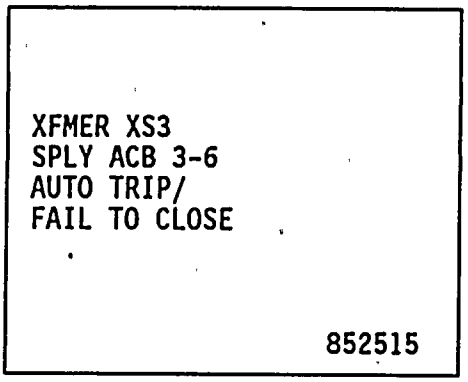
b. Refer to Section H to align power supplies to the desired off normal configuration.

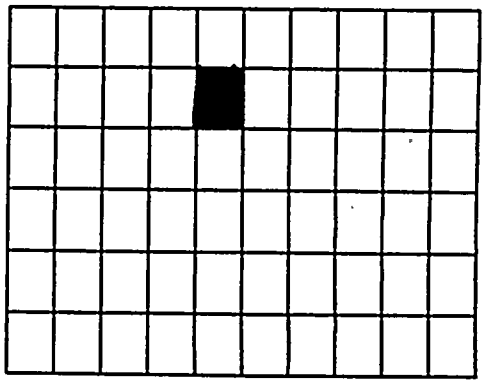
c. Initiate maint. activities if the unit needs repair.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

42.0 852515 XFMR XS3 SPLY ACB3-6 Auto Trip/Fail to Close

Reflash: No





852515

42.1	Computer Point	Computer Printout	Source
	NNSUC02	XS3 Supply ACB 3-6 AUTO TRIP	XFMR 2ATX-XS3 Supply ACB 3-6 Auto Trip or Fail to Close as sensed by 1 & 52 2NNSX06 (ACB 3-6 open & SW ACB 3-6 Normal After Close)

42.2 Automatic Response

a. Trip or fail to close of ACB 3-6.

b. Loss of power to busses NNS-SWG013 & 015.

42.3 Corrective Action

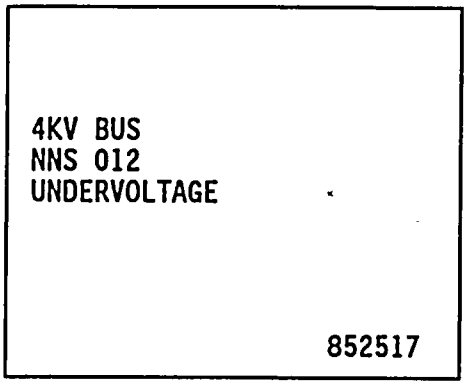
a. Verify automatic response.

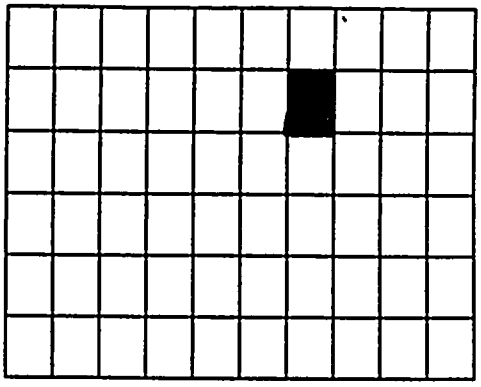
b. Investigate and determine reason for alarm.

c. Return system to normal.

43.0 852517 4KV Bus NNS012 Undervoltage

Reflash: No





852517

43.1	Computer Point	Computer Printout	Source
	NNSEC03	4KV bus NNS012 Undervolt	2NNS-SWG012 undervoltage as sensed by 27A&B 2NNSX18

43.2 Automatic Response

a. Loss of voltage to 4160V bus NNS-SWG012.

b. Trip or block auto start of 2CCS-P1C.

c. Trip 2HDL-P1C.

d. Trip or block auto start of 2CCP-P1A.

e. Fire pump 2FPW-P2 undervoltage.

43.3 Corrective Action

a. Verify automatic response.

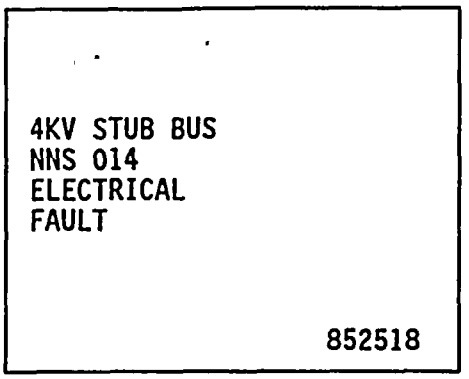
b. Check auto start of standby pumps.

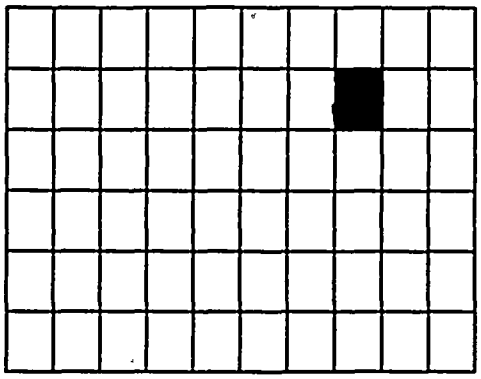
c. Investigate and determine reason for undervoltage.

d. Return system to normal.

44.0 852518 4KV Stub Bus NNS 014 Electrical Fault

Reflash: No





852518

44.1	Computer Point	Computer Printout	Source
	NNSUC19	4KV BUS E14 LO RLY TRIP	NNS-SWG014 Lockout Relay Tripped on High time or Ground Overcurrent as sensed by 86-2NNSX15

44.2 Automatic Response

a. Trips and lockout breakers 14-1 and 14-2.

b. Loss of voltage to 4160V stub bus 014.

c. Loss of voltage to 600V load center 2NJS-US5.

d. Trip or block auto start of Rx bldg. closed loop cooling pump "C", 2CCP-P1C (ACB 14-9).

e. Trip control rod drive pump "A", 2RDS-P1A (ACB 14-7).

f. Trip or block auto start of Rx bldg. closed loop cooling booster pump "C", 2CCP-P3C (ACB 14-6).

44.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby pumps.

c. Investigate and determine reason for trip.

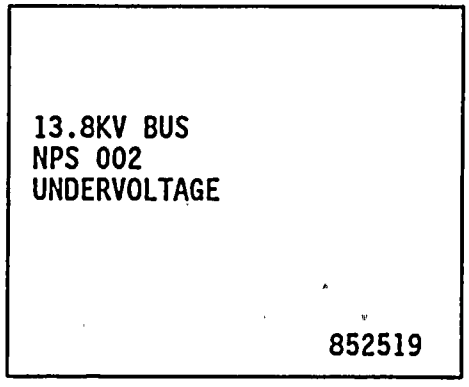
d. If necessary, supply bus 014 from emergency bus ENS*SWG101.

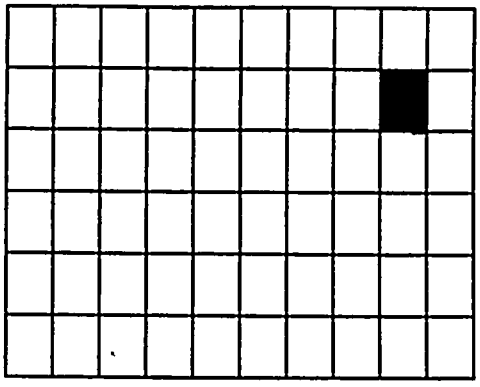
e. Return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

45.0 852519 13.8KV Bus NPS002 Undervoltage

Reflash: No





852519

45.1

Computer Point	Computer Printout	Source
NPSEC13	13.8KV BUS NPS 2 UNDR VLT	2NPS-SWG002 sustained bus undervoltage as sensed by 27A&B-2NPSZ18

45.2 Automatic Response

a. 2NPS-SWG002 supply air circuit breaker, ACB 2-5, Trip.

b. 2NPS-SWG002 supply air circuit breaker, ACB 2-1, Trip.

c. The loads on 2NPS-SWG002, Auxiliary Boiler A&B will trip.

d. If either 2NPS-SWG001 or SWG003 is connected to 2NPS-SWG002, they will trip their loads (unusual lineup).

e. If either emergency bus 2ENS*SWG101 or *SWG103 is being powered from 2NPS-SWG002 via 2NNS-SWG018, their emergency diesels will start (unusual line up).

45.3 Corrective Actions

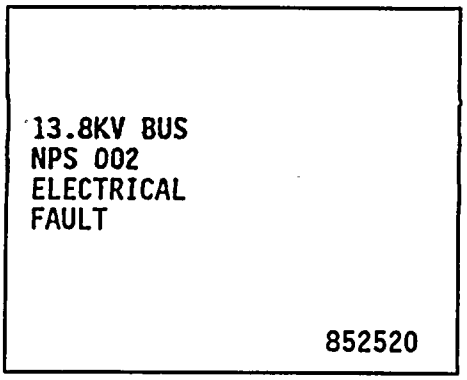
a. Determine the cause of the undervoltage (loss of 115KV from Scriba or Auxiliary Boiler electrical fault).

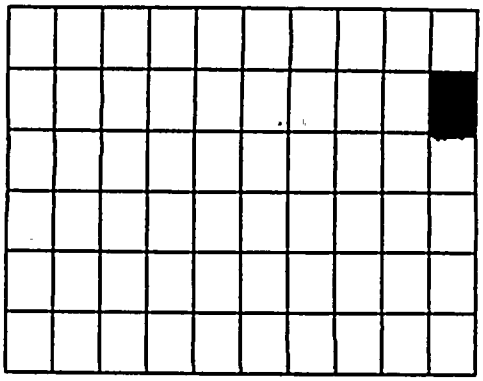
b. Restore power to 2NPS-SWG002 as required using Mds-20 (or Mds-10).

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

46.0 852520 13.8KV Bus NPS002 Electrical Fault

Reflash: No





852520

46.1

Computer Point	Computer Printout	Source
NPSUC11	13.8KV BUS 02 LO RLY TRIP	NPS-SWG002 Lockout Relay Trip on time ground OC or Phase OC as sensed by 86-2NPSZ01.

46.2 Automatic Response

a. Trip and lockout normal and alternate supply breakers to 13.8KV bus 002 (ACB 2-5, & ACB 2-1).

b. Loss of voltage to the bus.

c. Auxiliary boilers will trip if operating.

d. If either 2NPS-SWG001 or SWG003 is connected to 2NPS-SWG002 (unusual lineup), their loads will trip.

46.3 Corrective Action

a. Verify automatic resonse.

b. Dispatch operator to aux. boilers (if operating)

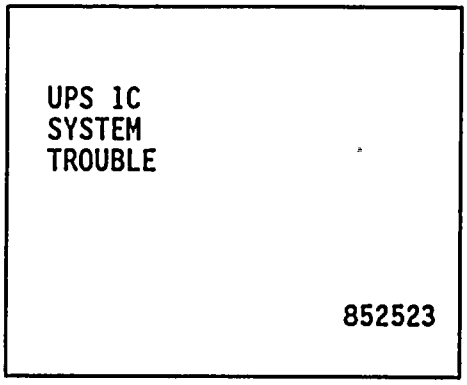
c. Investigate and determine reason for trip.

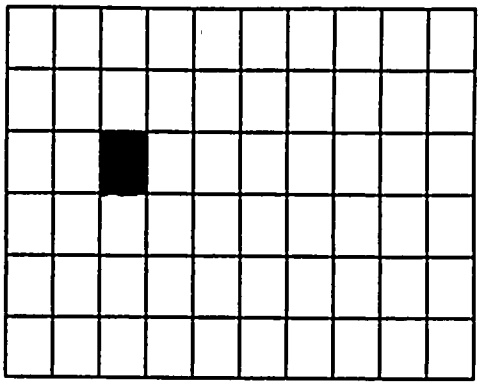
d. Return system to normal.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

47.0 852523 Uninterruptable Power Supply 2VBB-UPS1C System Troubl

Reflash: No





852523

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47.1 Computer Point	Computer Printout	Source
VBBTC05	UPS1C SYSTEM TROUBLE	2VBB-UPS1C Relay K-6 sensing: Ground on battery, over temperature on the inverter or charger, over current on the inverter, DC Low Voltage/Battery Operation Loss of DC input, Loss of maintenance AC input, Loss of Sync, Loss of inverter output.

47.2 Automatic Response

UPS1C will realign power supplies to provide power to vital bus.

47.3 Corrective Action

a. Dispatch an operator to the local 2VBB-UPS1C panel to record indications on the UPS front panel.

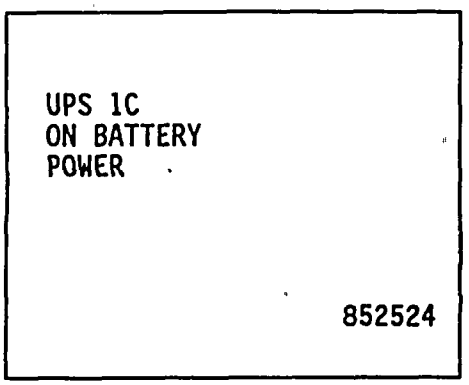
b. Refer to Section H to align power supplies to the desired off normal configuration.

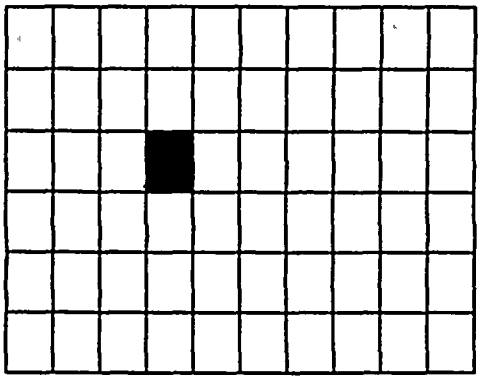
c. Initiate maint. activities if the unit needs repair.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

48.0 852524 Uninterruptable Power Supply 2VBB-UPS1C on Battery Power

Reflash: No





852524

48.1

Computer Point	Computer Printout	Source
VBBTC06	UPS1C ON BATT PWR	2VBB-UPS1C Relay K-2; (On Battery Power)

48.2 Automatic Response

2VBBUPS1C Auto Transfer to DC battery power.

48.3 Corrective Action

a. Dispatch an operator to 2VBB-UPS1C to record indications on the UPS front panel.

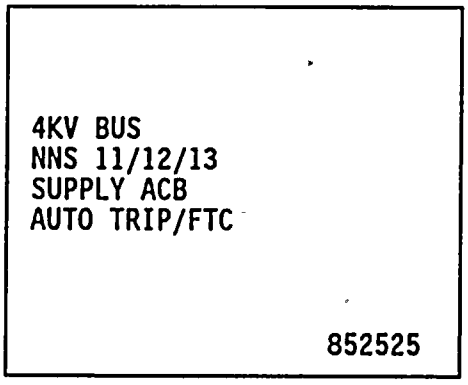
b. Refer to Section H to align power supplies to the desired off normal configuration.

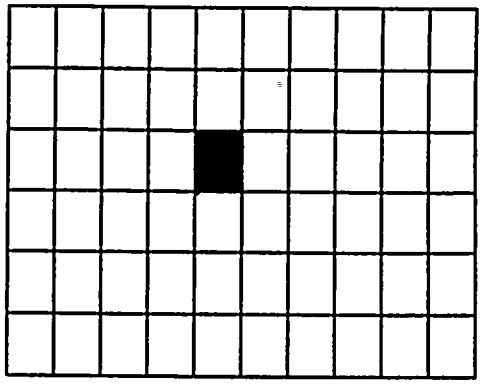
c. Initiate maint. activities if the unit needs repair.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

49.0 852525 4KV Bus NNS 11/12/13 Supply ACB Auto Trip/FTC

Reflash: Yes





852525

49.1

	Computer Point	Computer Printout	Source
a.	NNSUC03	4KV BUS 011 ACB 11-3 AT	NNS-SWG011 ACB 11-3 Auto Trip or Fail to Close as sensed by 1 & 52 2NNSX20
b.	NNSUC04	4KV BUS 13 ACB 13-6 AT	NNS-SWG013 ACB 13-6 Auto Trip or Fail to Close as sensed by 1 & 52 2NNSY20
c.	NNSUC05	4KV BUS 12 ACB 13-10 AT	NNS-SWG012 ACB 13-10 Auto Trip or Fail to Close as sensed by 1 & 52 2 NNSY08
d.	NNSUC06	SWG012 ACB 11-1 AT	NNS-SWG012 ACB 11-1 Auto Trip or Fail to Close as sensed by 1 & 52 2NNSX07.

49.2 Automatic Response

a. Auto trip of supply breakers to 4160V powerboards 011, 012, 013.

b. Auto trip of the motor feeders on the respective bus.

49.3 Corrective Action

a. Verify automatic response.

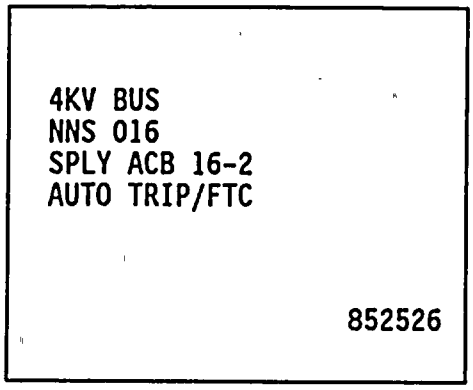
b. Check computer point to determine which breaker tripped.

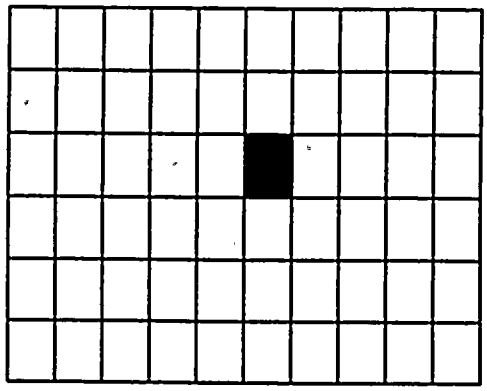
c. Investigate and determine reason for trip.

d. Return system to normal.

50.0 852526 4KV Bus NNS016 SPLY ACB 16-2 Auto Trip/FTC

Reflash: No





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50.1	Computer Point	Computer Printout	Source
	NNSUC08	4KV BUS 016 ACB 16-2 AT	NNS-SWG016 Supply ACB 16-2 Auto Trip or Fail to Close as sensed by 1 & 52 2NNSX40 (ACB 16-2 open, SW ACB 16-2 Normal After Close)

50.2 Automatic Response

a. Trip or fail to close-breaker 16-2.

50.3 Corrective Action

a. Verify automatic response.

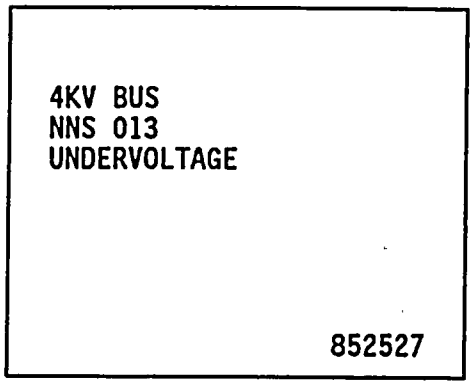
b. Verify auto start and diesel generator supplying emergency bus 101. (If breaker 16-2 is supplying bus 102, check bus 102 energized by it's diesel generator).

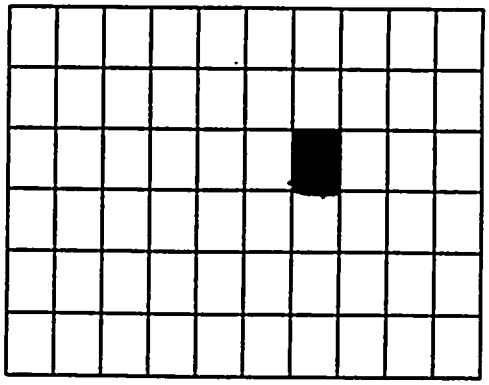
c. Investigate and determine reason for trip.

d. Return system to normal.

51.0 852527 4KV Bus NNS013 Undervoltage

Reflash: No





852527

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51.1

Computer Point	Computer Printout	Source
NNSEC05	4KV BUS NNS013 UNDERVOLT	NNS SWG013 Undervoltage as sensed by 27 A & B 2NNSY09

51.2 Automatic Response

a. Loss of voltage to 4160V bus 2NNS-SWG013.

b. Trip turb. bldg. closed loop cooling pump "B", 2CCS-P1B, ACB-13-8.

c. Trip condensate pump "C", 2CNM-P1C, ACB-13-2.

d. Trip condensate pump "B", 2CNM-P1B, ACB-13-3.

e. Trip fourth point Htr drain pump "B", 2HDL-P1B, ACB 13-4.

f. Trip Reactor Bldg. closed loop cooling booster pump 2CCP-P3A, ACB 13-9. 17128

51.3 Corrective Action

a. Verify automatic response.

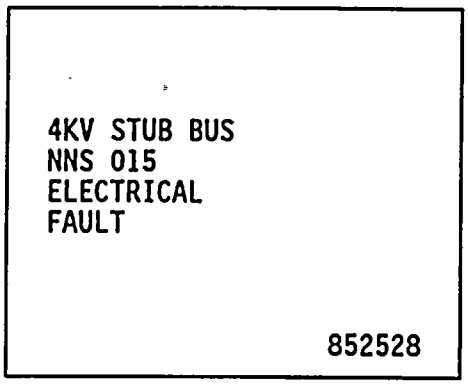
b. Check auto start of standby pumps.

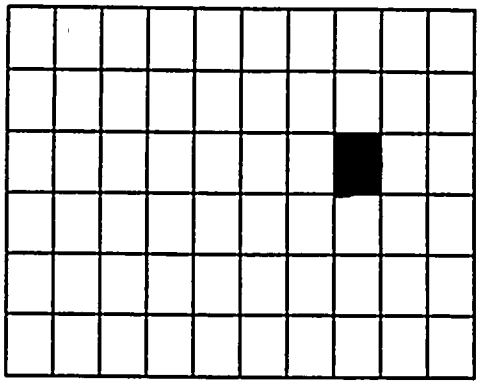
c. Investigate and determine reason for undervoltage.

d. Return system to normal.

52.0 852528 4KV Stub Bus NNS015 Electrical Fault

Reflash: No





852528

52.1	Computer Point	Computer Printout	Source
	NNSUC20	4KV BUS 015 LO RLY TRIP	NNS-SWG015 Lockout Relay tripped on phase or ground overcurrent as sensed by 86-2NNSY15

52.2 Automatic Response

a. Trip and lock out breakers 15-3 and 15-8.

b. Loss of voltage to 4160V stub bus 015.

c. Loss of voltage to 600V load center 2NJS-US6.

d. Trip Rx bldg. closed loop cooling pump "B", 2CCP-P1B, ACB 15-4.

e. Trip control rod drive pump "B", 2RDS-P1B, ACB 15-2.

f. Trip Rx bldg. closed loop cooling booster pump "B", 2CCP-P3B, ACB 15-6.

52.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby pumps.

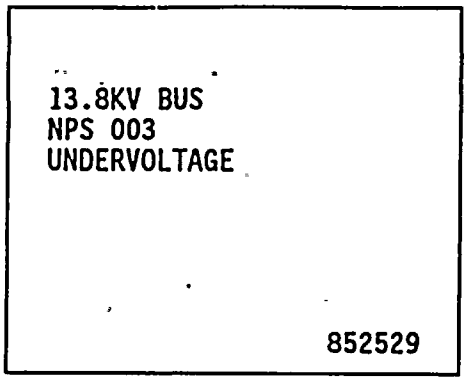
c. Investigate and determine reason for trip.

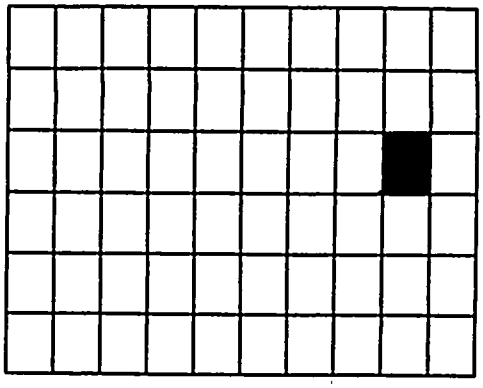
d. If necessary, supply bus 015 from emergency bus ENS*SWG103.

e. Return system to normal.

53.0 852529 13.8KV Bus NPS003 Undervoltage

Reflash: No





852529

53.1

Computer Point	Computer Printout	Source
NPSEC05	13.8KV BUS NPS003 UNDR VLT	NPS-SWG003 Undervolt as sensed by 27 A & B-2NPSY09

53.2 Automatic Response

a. Trip normal supply breaker ACB 3-14.

b. Trip condensate booster pumps "B" & "C" (ACB 3-5, 3-11) prevent auto closure.

c. Trip reactor feed pumps "B" & "C" (ACB 3-7, 3-12).

d. Trip reactor recirc pump "B", ACB 3-4.

e. Trip circ. water pumps "B", "D", & "F" (ACB3-10, 3-9, 3-8).

f. Trip supply breaker to 4160V bus 013, ACB 3-6.

g. Permit residual transfer to reserve breaker ACB3-1 or ACB3-16.

h. Loss of loads on: 2NPS-SWG003; 2NNS-SWG013, 15; 2NJS-US1B & US-2B & US-3B & US-4B & US6 & US7B & US8B & US9B & US10B.

53.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby equipment.

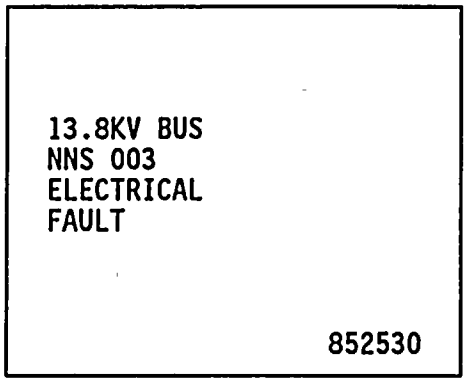
c. Reduce power to less than 65% per N2-OP-101D Section H.1.0.

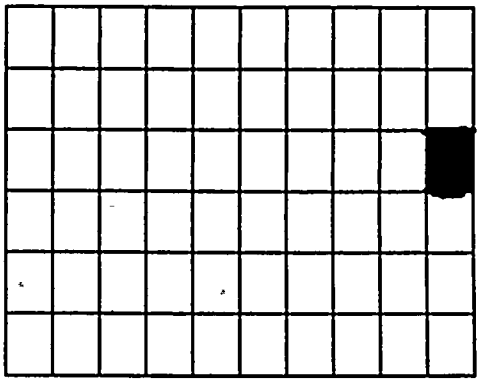
d. Investigate and determine reason for undervoltage.

e. Return plant to normal operation.

54.0 852530 13.8KV Bus NPS003 Electrical Fault

Reflash: No





852530

54.1	Computer Point	Computer Printout	Source
	NNSUC10	13.8KV BUS 03 LO RLY TRP	NPS-SWG003 Lockout Relay Trip as sensed by 86-2NPSY01.

54.2 Automatic Response

a. Trip and lockout reserve supply breakers 3-1 and 3-16.

b. Trip and lockout normal supply breaker 3-14.

c. Lockout "B" and "C" condensate booster pumps (ACB 3-5, 3-11).

d. Loss of loads on: 2NPS-SWG003; 2NNS-SWG013, 015, 2NJS-US1B & US2B & US3B & US4B & US6 & US7B & US8B & US9B & US10B.

54.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby equipment.

c. Reduce power to less 65% per N2-OP-101D Section H.1.0.

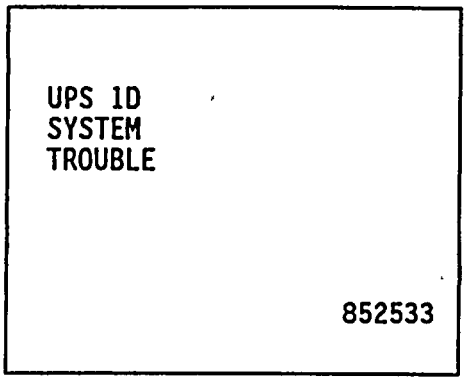
d. Investigate and determine reason for trip.

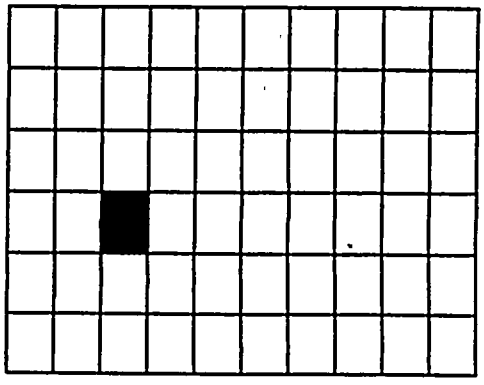
e. Return system to normal operation.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

55.0 852533 Uninterruptable Power Supply 2VBB-UPS1D System Trouble

Reflash: No





852533

55.1

Computer Point	Computer Printout	Source
VBBTC07	UPS1D SYSTEM TROUBLE	2VBB-UPS1D Relay K-6 sensing: ground on battery, over temperature on the inverter or charger, over current on the inverter, DC Low Voltage/Battery Operation Loss of DC input, Loss of maintenance AC input, Loss of Sync, Loss of inverter output.

55.2 Automatic Response

UPS1D will realign power supplies to provide power to vital bus.

55.3 Corrective Action

a. Dispatch an operator to the local 2VBB-UPS1D panel to record indications on the UPS front panel.

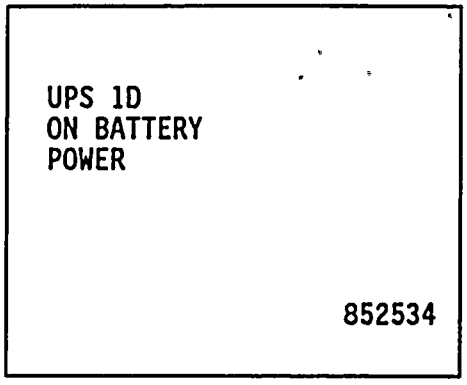
b. Refer to Section H to align power supplies to the desired off normal configuration.

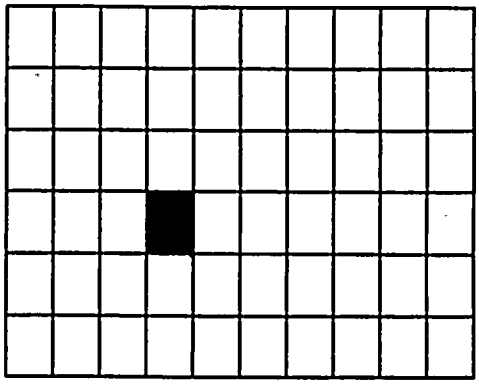
c. Initiate maint. activities if the unit needs repair.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

56.0 852534 Uninterruptable Power Supply 2VBB-UPS1D on Battery Power

Reflash: No





852534

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56.1

Computer Point	Computer Printout	Source
VBBTC08	UPS1C ON BATT PWR	2VBB-UPS1D Relay K-2; (On Battery Power)

56.2 Automatic Response

2VBBUPS1C Auto Transfer to DC battery power.

56.3 Corrective Action

a. Dispatch an operator to 2VBB-UPS1D panel to record indications on the UPS front panel.

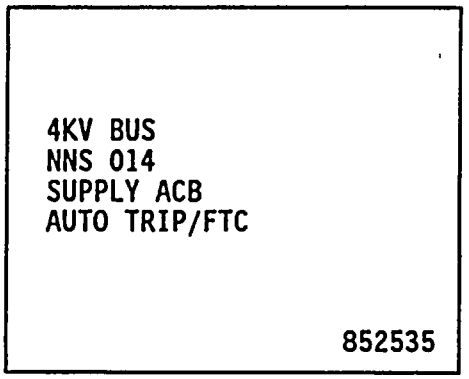
b. Refer to Section H to align power supplies to the desired off normal configuration.

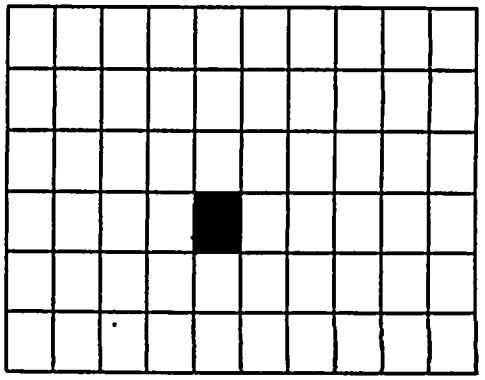
c. Initiate maint. activities if the unit needs repair.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

57.0 852535 4KV Bus NNS014 Supply ACB Auto Trip/FTC

Reflash: Yes





852535

57.1

	Computer Point	Computer Printout	Source
a.	NNSUC10	SWG014 ACB 14-2 Auto Trip	2NNS-SWG014 Supply ACB 14-2, Auto Trip or Failure to Close as sensed by 1 & 52 2NNSX11 (ACB 14-2 open & SW for ACB 14-2 normal after close).
b.	NNSUC11	SWG014 ACB 14-1 Auto Trip	2NNS-SWG014 Supply ACB 14-1, Auto Trip or Fail to Close, as sensed by 1 & 52 2NNSX10 (ACB 14-1 open & SW for ACB 14-1 normal after close).

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57.2 Automatic Response

a. Trip or fail to close breaker 14-1 or 14-2.

b. Loss of voltage to 4160V stub bus 014.

c. Loss of voltage to 600V load center 2NJS-US5.

d. Trip or block auto start Rx Bldg. closed loop cooling pump "C", 2CCP-P1C (ACB 14-9).

e. Trip control rod drive pump "A", 2RDS-P1A (ACB 14-7).

f. Trip or block auto start of Rx bldg. closed loop cooling booster pump "C:, 2CCP-P3C (ACB 14-6).

57.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby pumps.

c. Investigate and determine reason for trip.

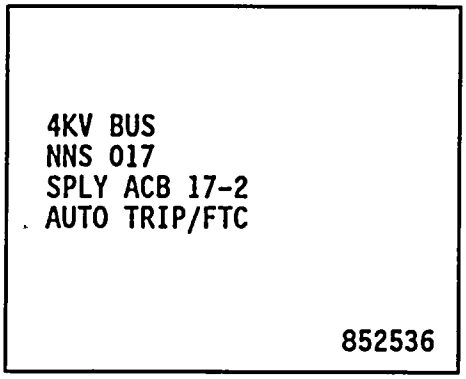
d. If necessary, supply bus 014 from emergency bus.

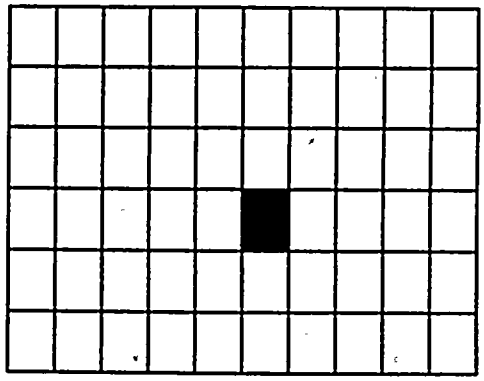
e. Return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

58.0 852536 4KV Bus NNS017 SPLY ACB 17-2 Auto Trip/FTC

Reflash: No





852536

1712

58.1

Computer Point	Computer Printout	Source
NNSUC09	4KV BUS 017 ACB 17-2 AT	2NNS-SWG017 Supply ACB 17-2, Auto Trip or Fail to Close as sensed by 1 & 52 2NNSY40 (ACB 17-2 open and Ctrl SW for 17-2 normal after closed)

58.2 Automatic Response

a. Trip or fail to close - breaker 17-2.

58.3 Corrective Action

a. Verify automatic response.

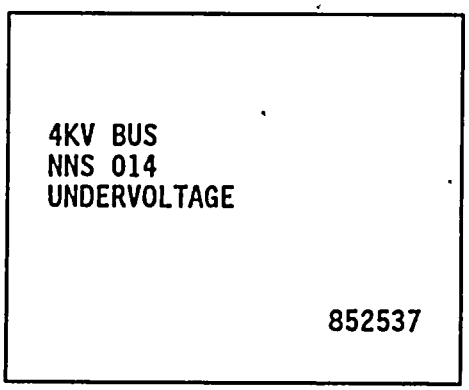
b. Verify auto start and diesel generator supplying emergency bus 103. (If breaker 17-2 is supplying bus 102, check bus 102 energized by it's diesel generator).

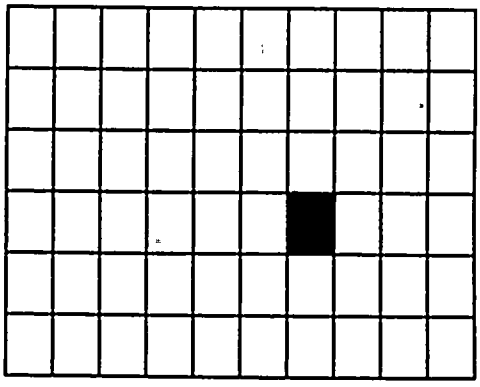
c. Investigate and determine reason for trip.

d. Return system to normal.

59.0 852537 4KV Bus NNS014 Undervoltage

Reflash: No





852537

59.1	Computer Point	Computer Printout	Source
	NNSEC07	4KV BUS NNS014 UNDERVOLT	NNS-SWG014 Norm Sply Brkr Undervolt, as sensed by 27 A & B 2NNSX29

59.2 Automatic Response

a. Loss of voltage to 4160V stub bus NNS014.

b. Loss of voltage to 600V load center 2NJS-US5.

c. Trip or block auto start of Rx bldg. closed loop cooling pump "C:, 2CCP-P1C (ACB 14-9).

d. Trip control rod drive pump "A", 2RDS-P1A (ACB 14-7).

e. Trip or block auto start of Rx bldg. closed loop cooling booster pump "C", 2CCP-P3C (ACB 14-6).

59.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby pumps.

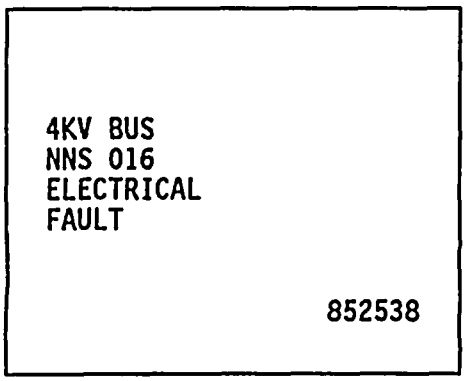
c. Investigate and determine reason for trip.

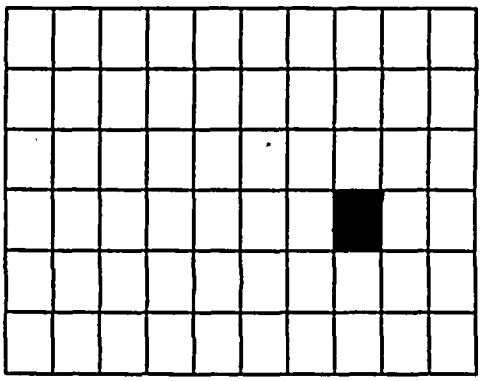
d. Return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

60.0 852538 4KV Bus NNS016 Electrical Fault

Reflash: Yes





852538

60.1

	Computer Point	Computer Printout	Source
a.	NNSUC21	4KV BUS 016 LO RLY 1 TRIP	2NNS-SWG016 Lockout Relay Tripped as sensed by 86-1-2NNSX28
b.	NNSUC22	4KV BUS 016 LO RLY 2 TRIP	2NNS-SWG016 Lockout Relay Tripped as sensed by 86-2-2NNSX28
c.	NNSUC23	4KV BUS 016 LO RLY 3 TRIP	2NNS-SWG016 Lockout Relay Tripped as sensed by 86-3-2NNSX28

60.2 Automatic Response

a. Trip and lockout breaker 16-2.

b. Trip and lockout breaker 101-13 and 102-4.

60.3 Corrective Action

a. Verify automatic response.

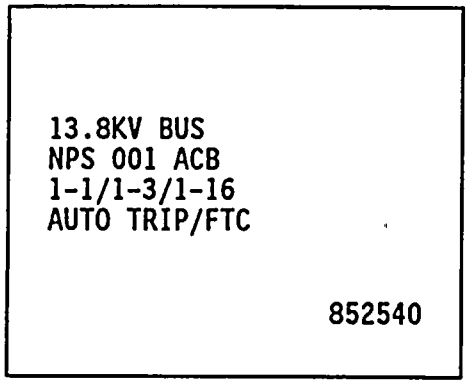
b. Verify auto start and diesel generator supplying emergency bus 101. (If breaker 16-2 is supplying bus 102, check bus 102 energized by it's diesel generator.

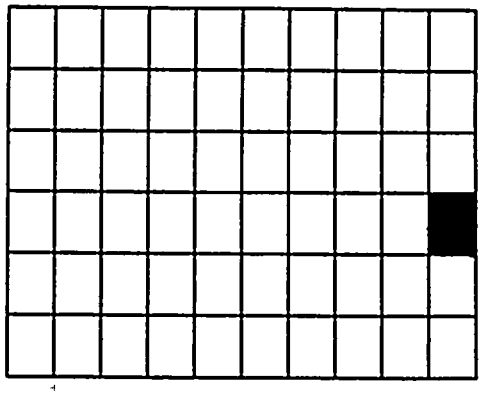
c. Investigate and determine reason for trip.

d. Return system to normal.

61.0 852540 13.8KV Bus NPS001 Air Circuit Breaker 1-1/1-3/1-16/Auto Trip/Failure to Close

Reflash: Yes





852540

61.1

	Computer Point	Computer Printout	Source
a.	NPSUC01	SWG001 ACB 1-3 AUTO TRIP	NPS-SWG001 Air Circuit Breaker, 1-3 Auto Trip or Failure to Close as sensed by 1 & 52 2NPSX04
b.	NPSUC02	SWG001 ACB 1-16 AUTO TRIP	NPS-SWG001 Air Circuit Breaker, 1-16 Auto Trip or Failure to Close as sensed by 1 & 52 2NPSX06
c.	NPSUC07	SWG001 ACB 1-1 AUTO TRIP	NPS-SWG001 Air Circuit Breaker, 1-1 Auto Trip or Failure to Close as sensed by 1 & 52 2NPSX05

61.2 Automatic Response

a. Auto trip or fail to close of reserve or normal supply breaker to 13.8KV bus 001. This could result in 2NPS-SWG001 undervoltage check for annunciator 852509.

61.3 Corrective Action

a. Verify automatic response.

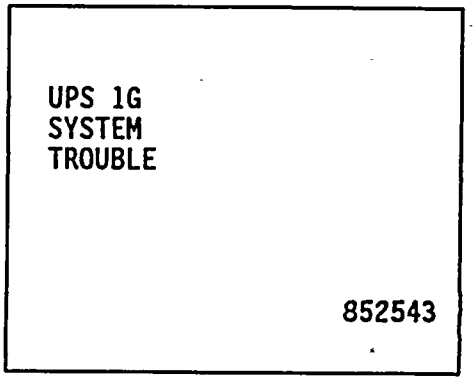
b. Investigate and determine reason for trip.

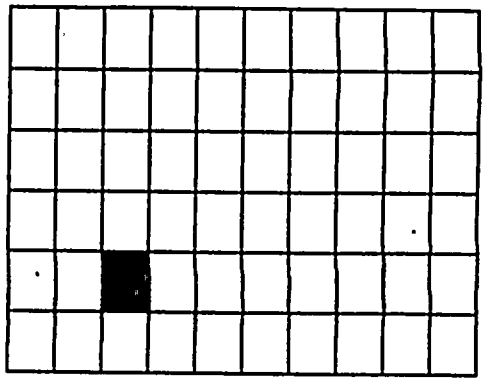
c. Return system to normal operation.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

6..0 852543 Uninterruptable Power Supply 2VBB-UPS1G System Trouble

Reflash: No





852543

62.1

Computer Point	Computer Printout	Source
VBBTC01	UPS1G SYSTEM TROUBLE	UPS1G-K6 sensing: Ground on battery, over temperature on the inverter or charger, over current on the inverter, DC Low Voltage/Battery Operation Loss of DC input, Loss of maintenance AC input, Loss of Sync, Loss of inverter output.

62.2 Automatic Response

UPS1G will realign power supplies to provide power to vital bus.

62.3 Corrective Action

a. Dispatch an operator to the local 2VBB-UPS1G panel to record indications on the UPS front panel.

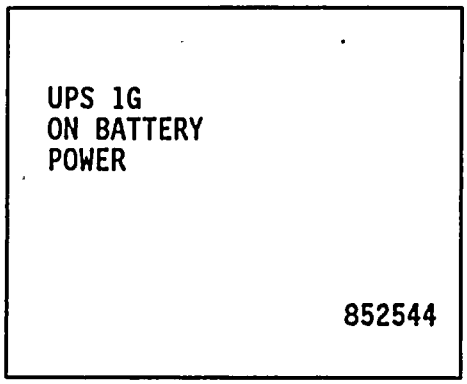
b. Refer to Section H to align power supplies to the desired off normal configuration.

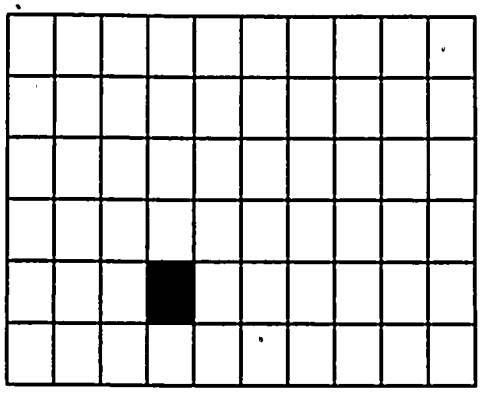
c. Initiate maint. activities if the unit needs repair.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

63.0 852544 Uninterruptable Power Supply UPS1G on Battery Power

Reflash: No





852544

63.1

Computer Point	Computer Printout	Source
VBBTC02	UPS1G ON BATT PWR	UPS1G-K2 (On Battery Power)

63.2 Automatic Response

2VBB-UPS1G Auto Transfer to DC battery power.

63.3 Corrective Action

a. Dispatch an operator to 2VBB-UPS1G to record indications on the UPS front panel.

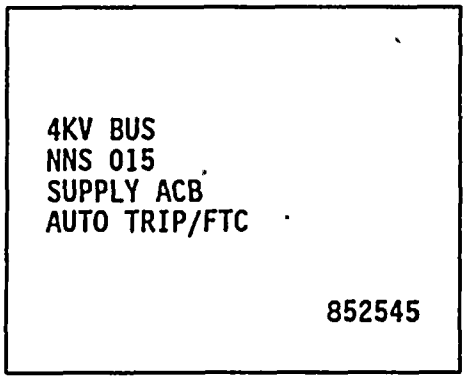
b. Refer to Section H to align power supplies to the desired off normal configuration.

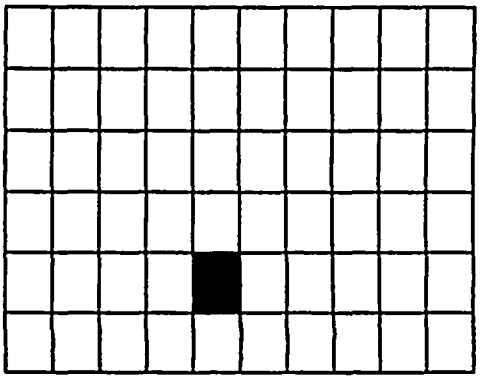
c. Initiate maint. activities if the unit needs repair.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

64.0 852545 4KV Bus NNS015 Supply ACB Auto Trip/FTC

Reflash: Yes





852545

64.1

	Computer Point	Computer Printout	Source
a.	NNSUC12	SWG015 ACB 15-3 AUTO TRIP	NNS-SWG015 ACB 15-3 Auto Trip or fail to close as sensed by 1 & 52 2NNSY11
b.	NNSUC13	SWG015 ACB 15-8 AUTO TRIP	NNS-SWG015 ACB 15-8 Auto Trip or fail to close as sensed by 1 & 52 2NNSY21

64.2 Automatic Response

a. Trip and lock out breakers 15-3 or 15-8.

b. Loss of voltage to 4160V stub bus 015.

c. Loss of voltage to 600V load center 2NJS-US6.

d. Trip Rx bldg. closed loop cooling pump "B", 2CCP-P1B, ACB 15-4.

e. Trip control rod drive pump "B", 2RDS-P1B, ACB 15-2.

f. Trip Rx bldg. closed loop cooling booster pump "B", 2CCP-P3B, ACB 15-6.

64.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby pumps.

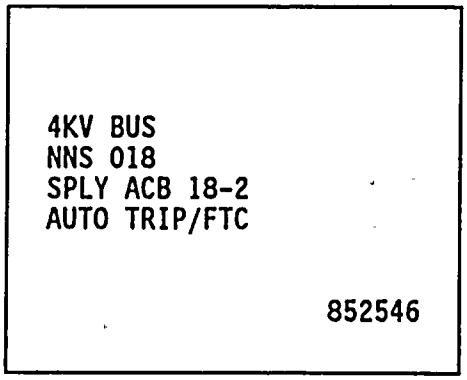
c. Investigate and determine reason for trip.

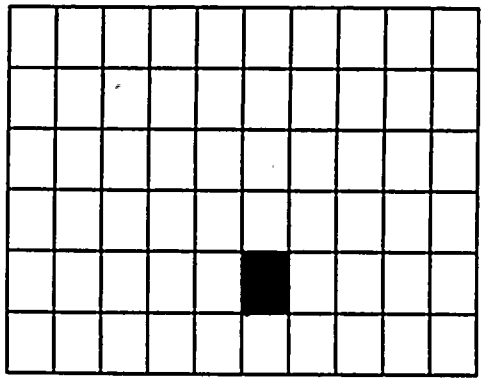
d. If necessary, supply bus 015 from emergency bus ENS*SWG103.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

65.0 852546 4KV Bus NNS018 SPLY ACB 18-2 Auto Trip/FTC

Reflash: No





852546

65.1	Computer Point	Computer Printout	Source
	NNSUC07	4KV BUS 018 ACB 18-2 AT	NNS-SWG018 Supply ACB 18-2 Auto Trip or Failure to Close as sensed by 1 & 52 2NNSZ40 (ACB 18-2 open and SW ACB 18-2 in normal after close)

65.2 Automatic Response

a. Trip or fail to close - Breaker 18-2.

65.3 Corrective Action

a. Verify automatic response.

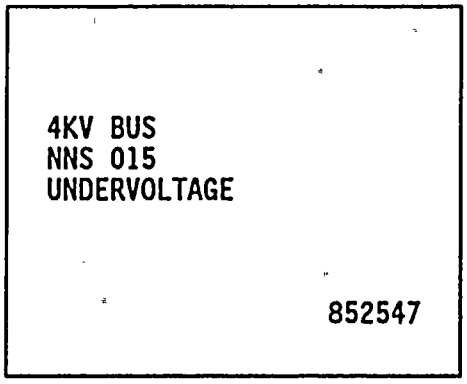
b. If aux. boiler transformer is supplying emergency bus 2ENS*SWG101 or *SWG103, check auto start of emergency diesel gen.

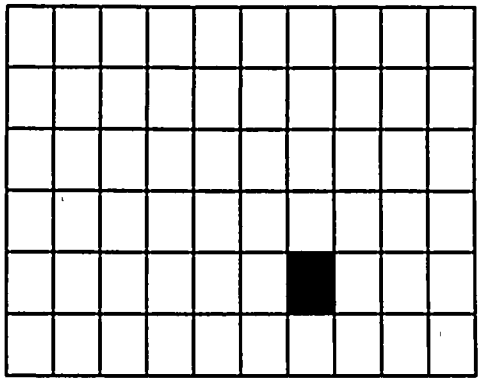
c. Investigate and determine reason for trip.

d. Return system to normal.

66.0 852547 4KV Bus NNS015 Undervoltage

Reflash: No





852547

66.1

Computer Point	Computer Printout	Source
NNSEC09	4KV BUS NNS015 UNDERVOLT	2NNS-SWG015 undervoltage as sensed by 27A & B 2NNSY17

66.2 Automatic Response

a. Loss of voltage to 4160V stub bus 015.

b. Loss of voltage to 600V load center 2NJS-US6.

c. Trip Rx bldg. closed loop cooling pump "B", 2CCP-P1B, ACB 15-4.

d. Trip control rod drive pump "B", 2RDS-P1B, ACB 15-2.

e. Trip Rx bldg. closed loop cooling booster pump "B", 2CCP-P3B, ACB 15-6.

66.3 Corrective Action

a. Verify automatic response.

b. Check auto start of standby pumps.

c. Investigate and determine reason for undervoltage.

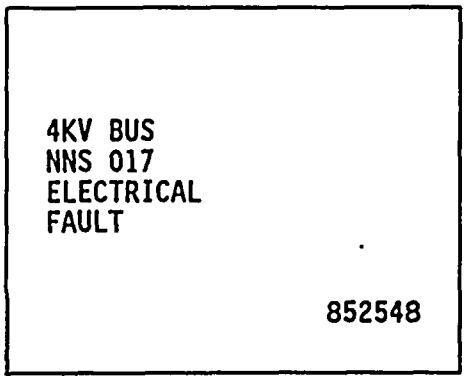
d. If necessary, supply bus 2NNS-SWG015 from emergency bus ENS*SWG103.

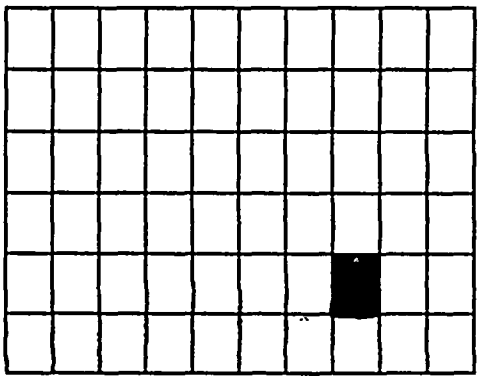
e. Return system to normal.

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

67.0 852548 4KV Bus NNS017 Electrical Fault

Reflash: Yes





852548

67.1	Computer Point	Computer Printout	Source
a:	NNSUC24	4KV BUS E17 LO RLY 1 TRIP	NNS-SWG017 Lockout Relay Tripped as sensed by 86-1 2NNSY28
b.	NNSUC25	4KV BUS E17 LO RLY 2 TRIP	NNS-SWG017 Lockout Relay Tripped as sensed by 86-2 2NNSY28
c.	NNSUC26	4KV BUS E17 LO RLY 3 TRIP	NNS-SWG017 Lockout Relay Tripped as sensed by 86-3 2NNSY28

67.2 Automatic Response

a. Trip and lockout breaker 17-2.

b. Trip and lockout breaker 103-4 and 102-5.

67.3 Corrective Action

a. Verify automatic response.

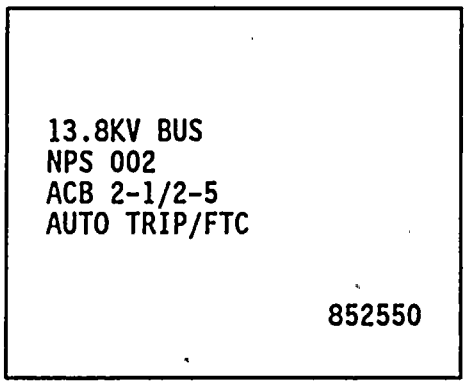
b. Verify auto start and diesel generator supplying emergency bus 2ENS*SWG103. (If breaker 17-2 is supplying bus 2ENS*SWG102, ensure that bus 102 is energized by it's diesel generator. | 17128

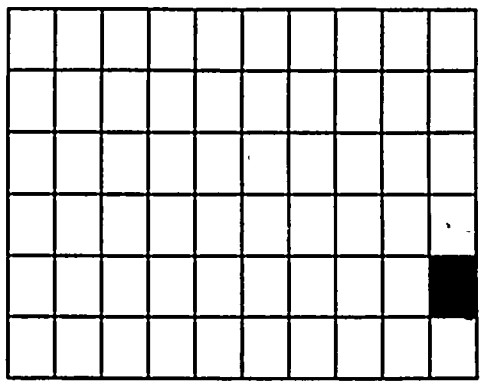
c. Investigate and determine reason for trip.

d. Return system to normal.

68.0 852550 13.8KV Bus NPS002 Air Circuit Breaker 2-1/2-5 Auto Trip/Failure to Close

Reflash: Yes





852550

68.1

	Computer Point	Computer Printout	Source
a.	NPSUC06	SWG002 ACB 2-1 AUTO TRIP	NPS-SWG002 Air Circuit Breaker 2-1 Auto Trip/ Failure to Close sensed by 1 & 52-2NPSZ13
b.	NPSUC05	SWG002 ACB 2-5 AUTO TRIP	NPS-SWG002 Air Circuit Breaker 2-5 Auto Trip/ Failure to Close sensed by 1 & 52-2NPSZ15

68.2 Automatic Response

a. Trip or fail to close normal or alternate supply breakers to 13.8KV bus 002. Check for the undervoltage annunciator 852519.

68.3 Corrective Action

a. Verify automatic response.

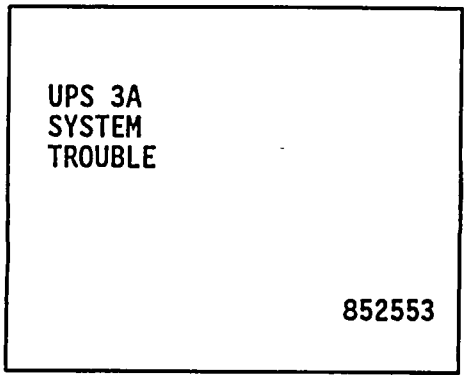
b. Investigate and determine reason for trip.

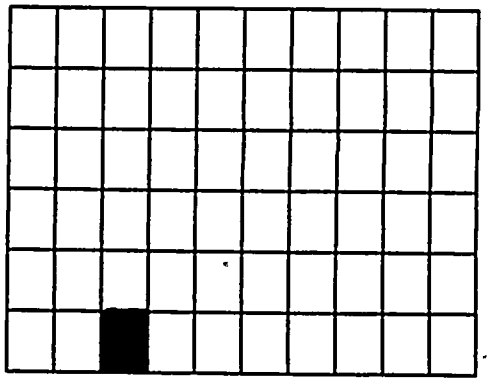
c. Return system to normal.

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

69.0 852553 Uninterruptable Power Supply 2VBB-UPS3A System Trouble

Reflash: No





852553

69.1

Computer Point	Computer Printout	Source
VBBEC13	UPS3A SYSTEM TROUBLE	UPS3A-K2

NOTE: UPS3A-K2 is energized by initiation of any local alarm (See Section 69.3). 17128

69.2 Automatic Response

UPS3A wil realign power supplies to provide power to vital bus.

69.3 Corrective Action

a. Dispatch an operator to the local 2VBB-UPS3A panel to record indications on the UPS front panel.

b. Refer to Section H to align power supplies to the desired off normal configuration, if required.

c. Initiate maint. activities if the unit needs repair.

69.3 Corrective Action (Cont'd)

d. Evaluate local alarm indication per description below:

Local Alarm Description - Corrective Action

Alarm	Description	Corrective Action
Sync Loss	a) Maintenance AC is out of frequency tolerance	Notify maintenance
	b) Maintenance AC is not present	Restore Alt. AC (if fuse is blown in maintenance supply regulator, notify maintenance)
	c. UPS inverter out of freq. tolerance	Verify Freq. meter - notify maintenance
Low Inverter Voltage	UPS inverter output voltage is 15% low	Verify on voltmeter - Notify maintenance - if EPA was tripped with this alarm in, manually transfer to maintenance A.C. power
Inverter Overtemp	Unit overheating	Maintenance required
Fuse Blown	Fuse within UPS blown	Maintenance to replace fuses
Rectifier DC Grounded	UPS internal D.C. Bus grounded	Maintenance required
Low D.C. Bus	UPS internal D.C. Bus voltage is low	Notify Elec./I&C for Repair/adjustment
Overload	UPS inverter supplying over 100% rating of unit	Check output ammeter - if unit loaded, clear non-essential load If alarm false, contact Elec./I&C
Low Battery	UPS internal D.C. Bus voltage is below 110 volts	If batteries connected, (CB-2 Closed) Check battery volts, if battery volts OK, contact Elect/I&C
Battery Drain/Charge	Current being drawn from batteries caused by: a) Loss of normal A.C. to UPS b) Voltage on associated D.C. switchgear higher than UPS internal D.C. voltage	a) Restore normal AC. b) If associated charger on equalize, verify UPS D.C. setpoint @ 140.5, charger @ 139.9 VDC - notify Elect./I&C

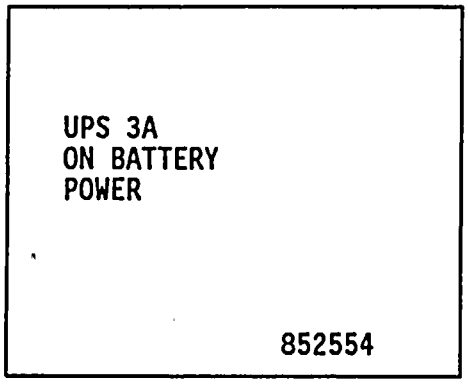
Local Alarm Description - Corrective Action (Cont'd)

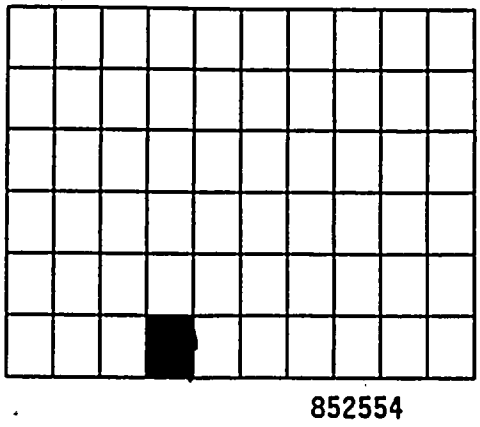
Alarm	Description	Corrective Action
Rectifier AC Loss	Loss of normal AC to Unit	a) Verify CB-1 not tripped - if tripped, notify Elect/I&C b) If CB-1 is closed, restore upstream normal AC supply
Reverse Transfer	Static switch is in maintenance position	a) If other alarms present, correct other alarms first b) If all other alarms clear, verify UPS AC output voltage present (meter), then push forward transfer (to inverter) push button

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

70.0 852554 Uninterruptable Power Supply UPS3A on Battery Power

Reflash: No





70.1 Computer Point | Computer Printout | Source

VBBBC11 | UPS3A ON BATT PWR | UPS3A-K3

NOTE: UPS3A-K3 initiated by local alarm "Battery drain/charge" (See Section 69.3) | 17128

70.2 Automatic Response

2VBB-UPS3A will operate on DC battery power.

70.3 Corrective Action

a. Dispatch an operator to 2VBB-UPS3A to record indications on the UPS front panel.

b. Refer to Section H to align power supplies to the desired off normal configuration, if required.

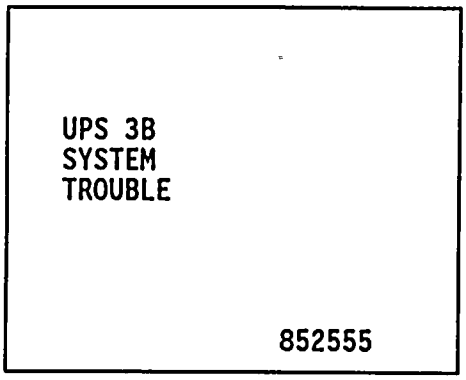
c. Initiate maint. activities if the unit needs repair.

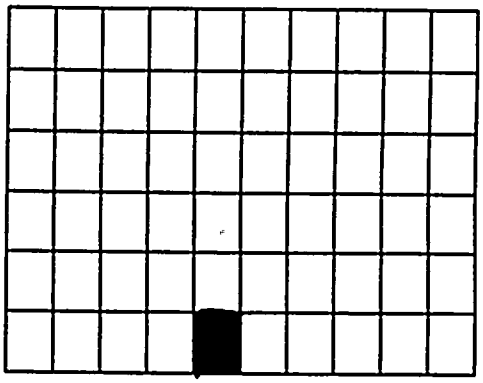
d. Evaluate cause of local alarm "Battery drain/charge" per Section 69.3. | 17128

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

71. 852555 Uninterruptable Power Supply 2VBB-UPS3B System Trouble

Reflash: No





852555

71.1

Computer Point	Computer Printout	Source
VBBEC14	UPS3B SYSTEM TROUBLE	UPS3B-K2

NOTE: UPS3B-K2 initiated by any local alarm (See Section 69.3) |17

71.2 Automatic Response

UPS3B will realign power supplies to provide power to vital bus.

71.3 Corrective Action

a. Dispatch an operator to the local 2VBB-UPS3B panel to record indications on the UPS front panel.

b. Refer to Section H to align power supplies to the desired off normal configuration, if required.

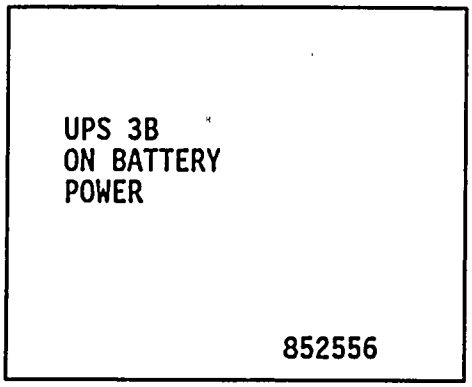
c. Initiate maint. activities if the unit needs repair.

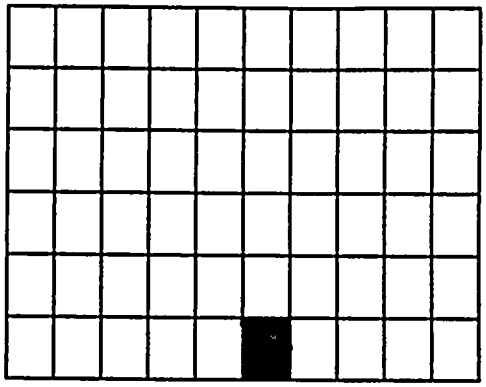
d. Evaluate local alarm indication per Section 69.3. |17128

I. PROCEDURES FOR CORRECTING ALARM CONDITIONS

72.0 852556 Uninterruptable Power Supply UPS3B on Battery Power

Reflash: No





852556

1712

72.1 Computer Point | Computer Printout | Source

Computer Point	Computer Printout	Source
VBBBC12	UPS3B ON BATT PWR	UPS3B-K3

NOTE: UPS3B-K3 is initiated by local alarm: "Battery drain/charge" (See Section 69.3).

1712

72.2 Automatic Response

2VBB-UPS3B will operate on DC battery power.

72.3 Corrective Action

a. Dispatch an operator to 2VBB-UPS3B to record indications on the UPS front panel.

b. Refer to Section H to align power supplies to the desired off normal configuration, if required.

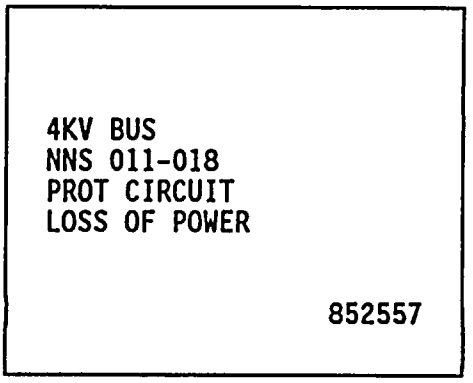
c. Initiate maint. activities if the unit needs repair.

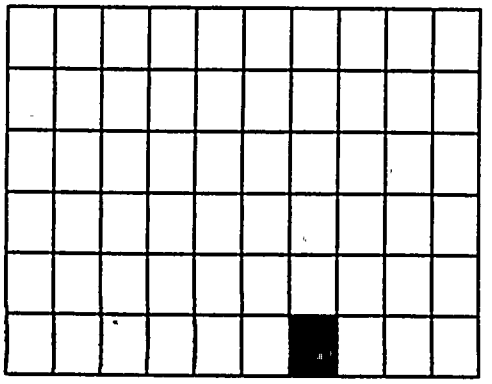
d. Evaluate local alarm "Battery drain/charge" per Section 69.3. 1712

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (cont.)

73.0 852557 4KV Bus NNS011 through 018 Protection Circuit Loss of Power

Reflash: Yes





852557

73.1

	Computer Point	Computer Printout	Source
a.	NNSBC14	125VDC CONT PWR PNL814	Loss of 125VDC Power to 2NNS-SWG012, Incoming from SWG011; protection circuits for: GND DIR OC, Phase OC, DIR OC sensed by 74-2NNSZ01
b.	NNSBC15	125VDC CONT PWR PNL814	Loss of 125VDC Power to 2NNS-SWG011, Protection Circuits for: Phase OC, Gnd OC, DIR OC
c.	NNSBC16	125VDC CONT PWR PNL813	Loss of 125VDC Power to 2NNS-SWG013, Protection Circuits for: Phase OC, GND OC, DIR OC
d.	NNSBC17	125VDC CONT PWR PNL815	Loss of 125VDC Power to 2NNS-SWG012, (incoming from SWG013) Protection Circuits for: Grnd OC, Dir OC
e.	NNSBC18	125VDC CONT PWR PNL815	Loss of 125VDC Power to 2NNS-SWG012, protection Circuits for: Grnd OC, Dir OC

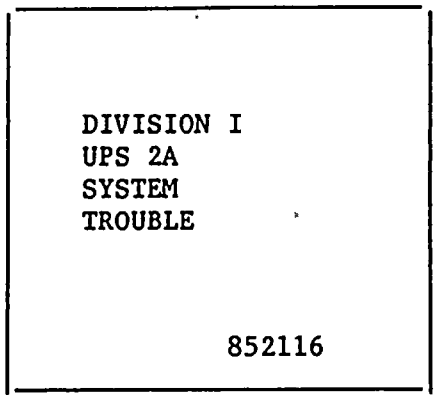
07-749-91 continued

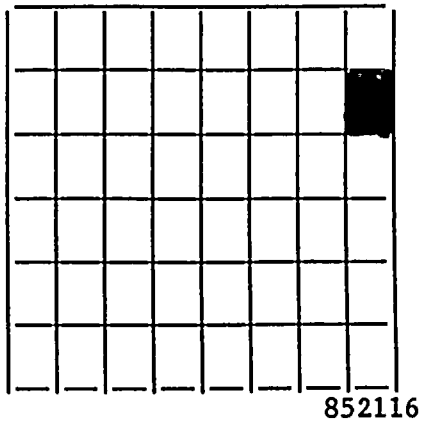
Safety Related

I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (Cont.)

5.0 852116 Division I UPS 2A System Trouble

Reflash: No





5.1

Computer Point	Computer Printout	Source
VBABC03	UPS2A SYSTEM TROUBLE	UPS2A/A9-K51

NOTE: A9-K51 is initiated by any local alarm. This relay will stay de-energized as long as any local alarm exists. This annunciator will not reflash if another local alarm comes in.

TCN-13

5.2 Automatic Response

a. UPS may realign to power the vital bus from either backup D.C., or maintenance supply dependent on the local alarm.

5.3 Corrective Action

a. Check the UPS output voltage on Control Room panel 852 meter labelled "Vital bus 2VBS*UPS2A 125VAC Output," or computer point VBSVA100.

b. Send an operator to record meter readings and status light indications at the UPS.

NOTE: Consult Tech. Spec. 3.8.3.1 if the UPS is on maintenance power or if the local alarm response indicates that the UPS is inoperable and the plant is in Mode 1, 2 or 3.

c. Notify electrical maintenance for repair or adjustments to the UPS.

TCN-13

d. See Section H of this procedure for operation of the UPS with the loss of a source, or sources.

e. Take corrective action as required per following Table:

(NCTS) Local Alarm Description - Corrective Action

Alarm	Description	Corrective Action
Synch Loss	1. Maintenance AC frequency is out of tolerance	a. Initiate a WR
	or	
	2. Maintenance AC is not present	a. Restore maint. AC (if fuse is blown in the maintenance AC supply regulator, initiate a WR)
	or	
	3. UPS inverter output frequency is out of tolerance (60Hz±3Hz)	a. Verify on Frequency meter
		b. If valid declare INOP and if the plant is in Mode 1, 2 or 3 refer to Tech. Spec. 3.8.3.1
		c. Initiate a WR

Alarm	Description	Corrective Action
Battery Drain/Charge	Current being drawn from batteries caused by:	
	1. Loss of normal AC to UPS or	a. Restore normal AC
	2. Voltage on DC switchgear higher than UPS internal DC voltage	a. If the charger is on equalize, notify Electrical to check charger equalize voltage b. If the charger is not on equalize, initiate a WR
	NOTE: Refer to Tech. Specs. 3.8.2.1 or 3.8.2.2	
Rectifier AC Loss	Loss of normal AC to UPS	a. If CB-51 has tripped, initiate a WR b. If CB-51 is closed, restore upstream normal AC supply
Reverse Transfer	Static switch is in maintenance position	a. Declare the UPS INOP and if the plant is in Mode 1, 2 or 3 refer to Tech. Spec. 3.8.3.1 b. If other alarms are present, correct the other alarms prior to restoring the UPS to normal AC power c. If all other alarms clear, verify UPS AC output voltage present on AC voltmeter, then push "Forward" static switch pushbutton
Fan Fail	One or more fans have stopped	a. Visually check, if possible, to determine which fan is off b. Initiate a WR
	NOTE: This alarm may be concurrent with a Blown Fuse Alarm	

TCN-13

Alarm	Description	Corrective Action
Low Inverter Voltage	UPS inverter output voltage is 15% low (~103 Vac)	a. Verify on AC voltmeter b. If valid declare INOP and if the plant is in Mode 1, 2 or 3 refer to Tech Spec. 3.8.3.1
Inverter Over Temp	Unit overheating	a. Initiate a WR
Fuse Blown	Fuse within UPS blown	a. Initiate a WR to replace fuses
	NOTE: This alarm alone does not INOP the UPS. The operability determination must be made based on other local alarms (eg. "Low Battery", "Reverse Transfer", etc.)	
Rectifier DC Grounded	UPS internal DC Bus grounded	a. Initiate a WR
Low DC Bus	UPS internal DC Bus voltage is low (DC Bus Low)	a. Initiate a WR for Repair/adjustment
Overload	UPS inverter supplying over 100% rating of unit (~165 Amps)	a. Check output ammeter i) If unit loaded, clear non-essential loads ii) If alarm false, initiate a WR
Low Battery	UPS-internal DC Bus voltage is below 110 volts (DC Bus Lo/Lo)	a. Place S-51, the DC voltmeter selector switch in "Battery" i) If battery voltage indicates ≤110 VDC declare the UPS INOP and if the plant is in Mode 1, 2 or 3 refer to Tech. Spec. 3.8.3.1 ii) If battery voltage indicates >110 VDC, notify Electrical Maintenance
	NOTE: With DC Bus below 105 VDC, CB-52 will trip	

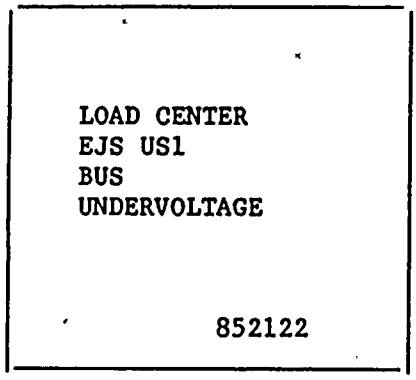
TCN-13

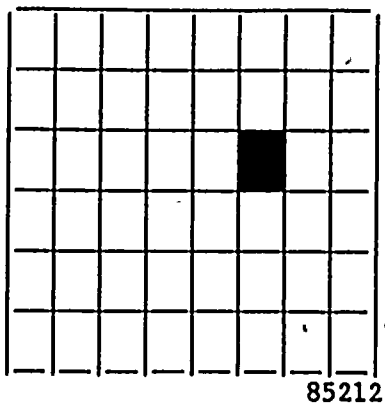
I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (Cont.)

6.0 852122 Load Center EJS*US1 Bus Undervoltage

Reflash: No

TCN-12





6.1	Computer Point	Computer Printout	Source
	a. EJSEC01	LCUS1 NORM SPLY BRKR UV	Undervoltage Relays 27A-2EJSA11 AND 27B-2EJSA11 Setpoint: 400V for 3 sec.

6.2 Automatic Response

a. Trip Reactor Bldg Recirc. Fan A, 2HVR*VC413A. Breaker 1-4C.

b. Trip Control Bldg Chiller Compressor, 2HVK*CHL1A. Breaker 1-4D.

6.3 Corrective Action

a. Verify auto-start of redundant units per N2-OP-52 for HVR*UC413A/B, and N2-OP-53A for HVK*CHL1A/B.

b. Check the voltage on the Div I 4160V bus, 2ENS*SWG101.

c. Check the voltage on the Div I Load center, 2EJS*US1.

NOTE: Loss of offsite power for 3 sec. will also bring in this annunciator.

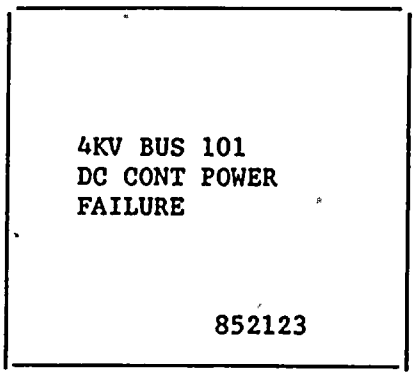
d. If the 4160 Div I bus is nominally 4160V, trip the load center incoming line breaker in service (bkr 1-3B, or 1-9B), and close the other feeder breaker (bkr 1-9B, or 1-3B).

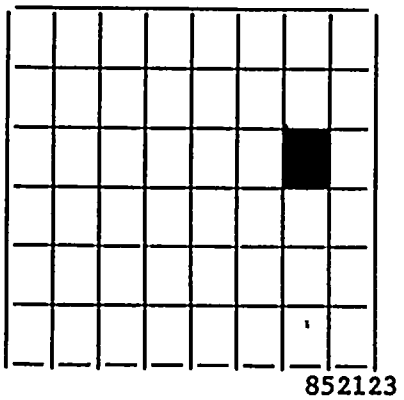
e. Notify elect. maint. of the event, and any tripped breakers.

7.0 852123 4KV BUS101 DC Control Power Failure

Reflash: Yes

TCN-12





7.1	Computer Point	Computer Printout	Source
	ENSBC11	125VDC CONT PWR DI BUS A	Loss of protective relaying power to trip 101-10,101-13, & 101-1 (offsite feeders, and Dies. Gen bkr) due to: phase overcurrent; Dies. Gen. gnd. overcurrent; bus gnd. overcurrent; incoming line XFMR neutral gnd. over-current. Emerg. SWGR DC bus A 74-2ENSX01
	ENSBC12	125VDC CONT PWR DI BUS B	Loss of protective relaying power to trip 101-10, 101-13, & 101-1 (offsite feeders, and. Dies. Gen. bkr) due to: phase overcurrent; Dies. Gen. gnd overcurrent; bus gnd overcurrent; incoming line XFMR neutral gnd over-overcurrent. Emer. SWGR DC bus B 74-2ENSX02.

7.1 (Cont'd)

Computer Point	Computer Printout	Source
ENSBC15	125VDC CONT PWR DI BUS B	Loss of protective relaying power to trip 101-10, 101-13, & 101-N1 (offsite feeders, and Dies. Gen neut. bkr) due to: Stub bus (SWG0014) gnd overcurrent; load center XFMR EJS*X1A phase overcurrent; load center XFMR EJS*X1B phase overcurrent. emer. SWGR DC bus B 74-2ENSX03.

3

7.2 Automatic Response

NONE

7.3 Corrective Action

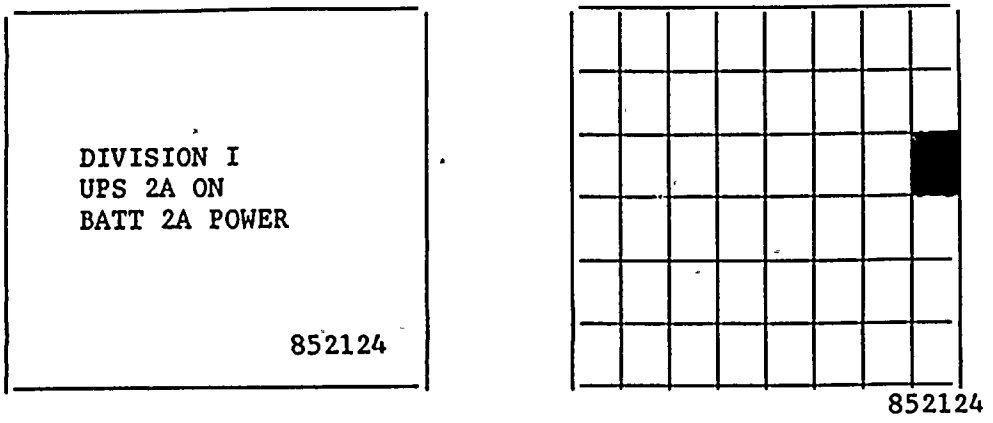
a. Send an operator to the Div I swgr to check the D.C. bus fuses in cubicle 101-2.

b. If both D.C. buses are alarming, check the D.C. switchgear 2BYS*SWG002A cubicle 2D.

c. Notify elect. maint. of the event, the relay number, and any tripped breakers.

8.0 852124 Division I UPS 2A On Battery 2A Power

Reflash: No



8.1

Computer Point	Computer Printout	Source
a. VBABC03	DIV I UPS2A ON BATT PWR	UPS2A/A9-K52

NOTE: UPS2A/A9-K52 is initiated by local alarm "Battery Drain/ Charge".

8.2 Automatic Response

NONE

8.3 Corrective Action

a. Notify the SSS.

b. IF required by Tech Specs 3.8.2.1 or 3.8.2.2, place the second battery charger in service per OP-74 Sect H.4. TCN-13

c. Check the UPS output voltage on cont. rm. panel 852 "Vital Bus 2VBS*UPS2A 125VAC Output," or computer point VBSVA100.

d. Dispatch operator to UPS2A (in the Div I swgr room) to record parameters on front panel of UPS.

e. Check corrective action for annunciator 852116, local alarm "Battery Drain/Charge".

f. Check for tripped feeder, panel 2EJS*PNL100A bkr #7.

g. Check UPS front panel breaker #CB-51 is closed. TCN-13

h. Check the 125VDC switchgear for proper voltage and current. There should be no battery current if the charger is operating within its load range.

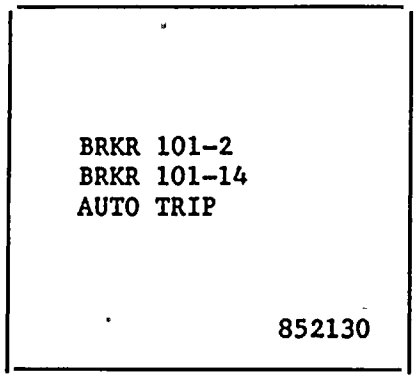
i. Refer to Section H of this procedure to align the UPS for Off Normal operation.

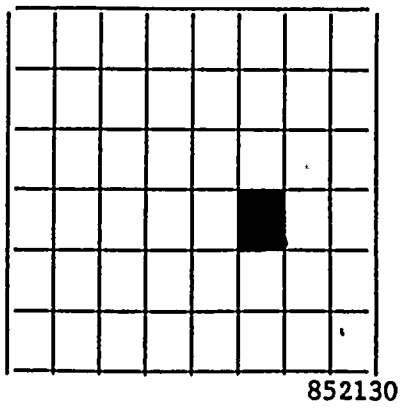
j. If necessary contact Electrical Maintenance to align, or repair UPS.

9.0 852130 Breaker 101-2 or Breaker 101-14 Auto Trip

Reflash: Yes

TCN-12





9.1	Computer Point	Computer Printout	Source
a.	EJSUC05	XFMR1A BRKR 101-14 AUTO TRP	52-2EJSX03 4160V bkr to load center 2EJS*US1
b.	EJSUC06	XFMR1B BRKR 101-2 AUTO TRP	52-2EJSX04 4160V bkr to load center 2EJS*US1

9.2 Automatic Response

None

9.3 Corrective Action

a. At control room panel 852, close the alternate feeder breaker to load center 2EJS*US1.

This is:
load center breaker 1-9B if breaker 101-14 tripped, or
load center breaker 1-3B if breaker 101-2 tripped.

b. Notify elect. maint. of the event, and any breakers tripped.

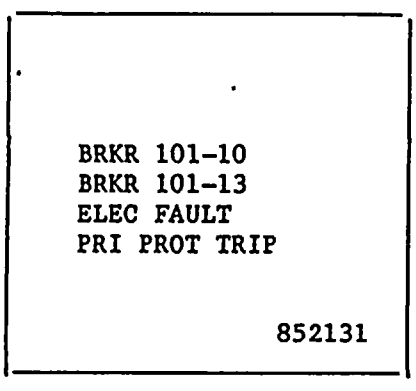
c. Refer to tech. specs. if unable to maintain feed to the load center.

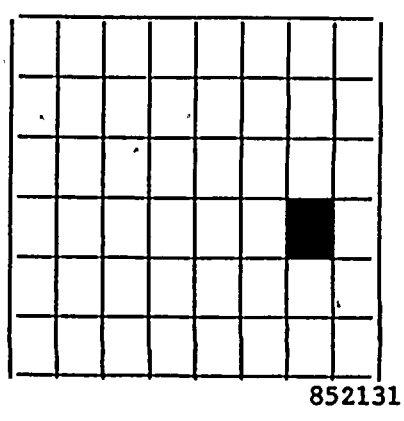
I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (Cont.)

10.0 852131 Breaker 101-10 or 101-13 Electrical Fault or Primary Protection Trip

Reflash: Yes

TCN-1





10.1	Computer Point	Computer Printout	Source
	a. ENSUC09	EM SWGR ACB 101-13 LO RLY	50/51-2ENSA01 Emer. bus feeder overcurrent
	b. ENSUC10	EM SWGR ACB 101-10 LO RLY	50/51-2ENSA02 Emer. bus feeder overcurrent

10.2 Automatic Response

ENSUC09 Trips and locks out ACB101-13 (Normal bus feeder), locks out ACB101-10 (alternate bus feeder) and locks out auto closing of ACB 101-1 (Diesel Gen. Bkr.).

ENSUC10 Trips and locks out ACB101-10 (alternate bus feeder), locks out ACB101-13 (Normal bus feeder) and locks out auto closing of ACB 101-1 (Diesel Gen. Bkr.).

Both Category II service water separates from Category I.

10.3 Corrective Action

a. Restart the switchgear per Section E1.0. | 3

b. Notify elect. maint. of the trip and any breakers remaining tripped. | 3

c. See N2-OP-71 Section H15.0, or H16.0 to place the switchgear on alternate feed. | 3

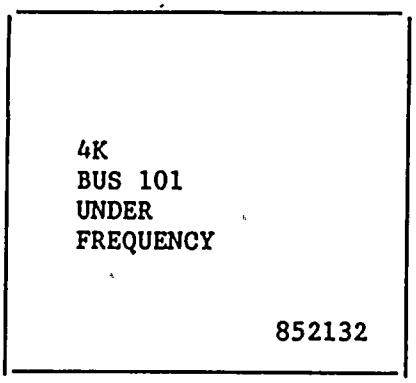
d. Refer to tech. specs. for possible LCO due to loss of Div. I power. | 3

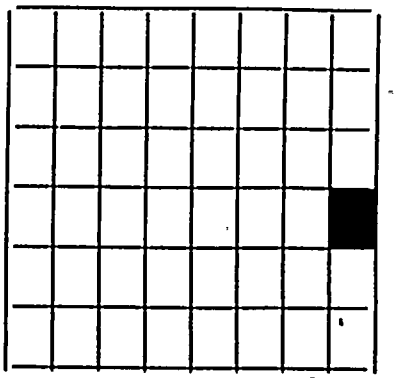
I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (Cont.)

11.0 852132 4KV BUS 101 Underfrequency

Reflash: No

TCN-1 2





11.1	Computer Point	Computer Printout	Source
	a. ENSBC17	4KV EM BUS 101 UNDER FREQ	81-2ENSA24 Mtr and relay cubicle at swgr.

11.2 Automatic Response

a. Trips ACB 101-10 and 101-13 (offsite feeder breakers).

b. Auto starts Diesel Generator 2EGS*EG1.

c. Load shed trips all loads except the load center.

d. Auto load sequence commences.

e. Category II service water separates from Category I.

f. Manual loading of the bus is blocked for aprox. 1 min.

11.3 Corrective Action

a. Verify auto station response.

b. Refer to N2-OP-71 Section H15.0 or H16.0 to place the bus on alternate offsite feed.

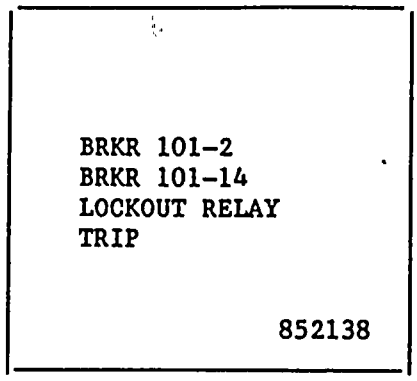
c. Notify elect. maint. of the trip.

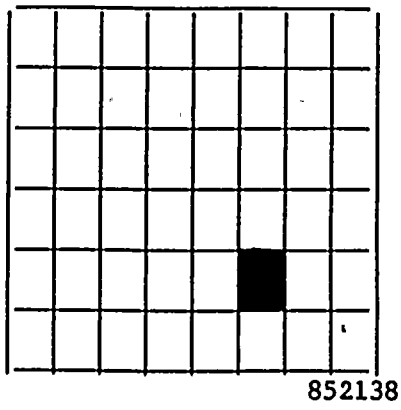
d. Refer to tech. specs. for possible LCO.

12.0 852138 Breaker 101-2 or 101-14 Lockout Relay Trip

Reflash: Yes

| TCN-1





12.1

	Computer Point	Computer Printout	Source
a.	EJSUC01	EM LC XFMR1A LOCKOUT RLY	50G-2EJSA03 or 50/51-2EJSA02 Gnd or phase overcurrent on the 4160V side of load center transformer
b.	EJSUC02	EM LC XFMR1B LOCKOUT RLY	50G-2EJSA06 or 50/51-2EJSA05 Gnd or phase overcurrent on the 4160V side of load center transformer
c.	EJSUC13	EMLC XFMR1A FDR FAULT-BU	51-2EJSA01 backup overcurrent on the 4160V side of load center transformer
d.	EJSUC14	EMLC XFMR1B FDR FAULT-BU	51-2EJSA04 backup overcurrent on the 4160V side of load center transformer

12.2 Automatic Response | 3

EJSUC01 Trips & Locks Out US1-3B and ACB101-14. Isolates the load center transformer.

EJSUC02 Trips & Locks Out US1-9B and ACB101-2. Isolates the load center transformer. | 3

EJSUC13 Trips & Locks Out ACB 101-13 and 101-10 and prevents auto closing of ACB101-1. Diesel Gen. auto starts and the Div I 4160V bus remains de-energized. Loss of voltage load sheds the bus. Category II service water separates from Category I. | 3

EJSUC14 Trips & Locks Out ACB-101-13 and 101-10 and prevents auto closing of ACB 101-1. Diesel Gen. auto starts and the Div I 4160V bus remains de-energized. Loss of voltage load sheds the bus. Category II service water separates from Category I. | 3

12.3 Corrective Action

EJSUC01
EJSUC02

a. Verify the trips by checking computer points: EJSUC05 for 101-14 and EJSUC09 for US1-3B | 3
OR
EJSUC06 for 101-2 and EJSUC10 for US1-9B

b. Close the alternate load center incoming line breaker, at control room panel 852. US1-3B, or US1-9B.

c. Notify elect. maint. of the trip, and any breakers remaining tripped.

NOTE: Refer to tech. specs. if unable to maintain feed to the load center.

NOTE: The load center powers MOV's associated with pumps which may remain running on the 4160V bus.

EJSUC13
EJSUC14

aa. Trip the 4160V breakers feeding the load center. Breaker 101-14, and 101-2.

bb. At control room panel 852, place the diesel generator breaker 101-1 control switch in pull-to-lock.

cc. At Div I switchgear, reset lockout relays: 86-2-2EGPX02 (101-1); 86C-2ENSX01 (101-N2); 86C-2ENSX02 (101-N2).

12.3 (Cont'd)

dd. Close the offsite feeder breaker to the Div I 4160V bus, breaker 101-10, or 101-13. 3

ee. Close the alternate 4160V breaker to the load center, breaker 101-14, or 101-2.

ff. Close the 600V incoming line breaker to the load center, breaker US1-3B, or US1-9B.

gg. At control room panel 852, remove the Div I diesel generator breaker (101-1) control switch from pull-to-lock.

hh. Close in selected loads on the Div I 4160V bus.

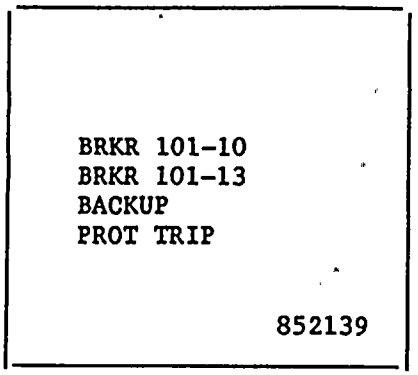
ii. Place the diesel generator in stand-by per N2-OP-100A.

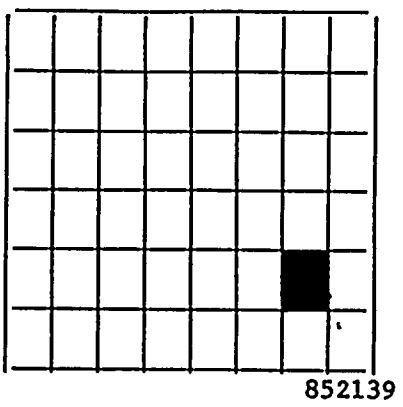
jj. Notify Electrical Maintenance of the trip, and any breakers remaining tripped.

13.0 852139 Breaker 101-10 or 101-13 Backup Protection Trip

Reflash: Yes

1 TCN-1 2





13.1	Computer Point	Computer Printout	Source
	a. ENSUC17	EM SWGR ACB 101-13 LO RLY	67N1-2ENSA05 Diesel Gen. gnd directional overcurrent
	b. ENSUC18	EM SWGR ACB 101-10 LO RLY	67N3-2ENSA05 Diesel Gen. gnd directional overcurrent

13.2 Automatic Response

ENSUC17 Trips and locks out ACB101-13
ENSUC18 Trips and locks out ACB101-10

a. Load shed trips all loads except loadcenter.

b. Div I diesel gen. auto starts.

c. Auto load sequence commences.

d. Category II service water separates from Category I.

13.3 Corrective Action

a. Verify the trip by checking computer point ENSUC08 for 101-10, or ENSUC05 for 101-13. 3

b. Trip breakers 101-1 and 101-N1.

c. Reset lockout relays 86C-2ENSX01, and 86C-2ENSX02, at switchgear 101-N2.

d. Close the offsite feeder breaker, 101-10, or 101-13.

e. Notify elect. maint. of the trip.

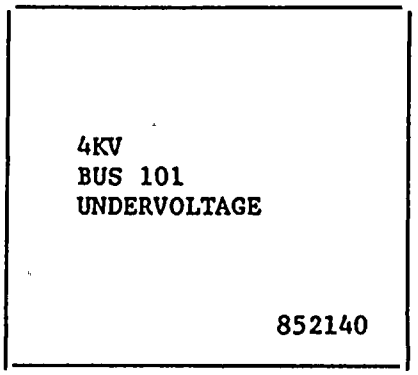
f. Refer to tech. specs. if unable to maintain feed to the Div I bus.

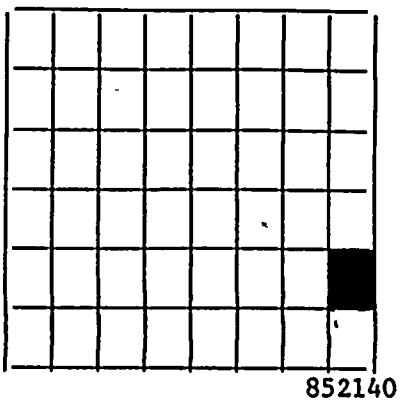
I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (Cont.)

14.0 852140 4KV Bus 101 Undervoltage

Reflash: Yes

TCN-12





14.1	Computer Point	Computer Printout	Source
a.	ENSEC01	BUS ENS 101 UNDV	27AA, AB, AC Phase to ground undervoltage relays.
b.	ENSEC03	BUS 101 DEGRADED VOLT	27BA, BB, BC Phase to ground undervoltage relays.

14.2 Automatic Response

a. For one device on either computer point, NONE.

b. For two devices on either computer point, loss of offsite power.

1. Offsite supply breaker ACB101-10 or 101-13 is tripped.
2. Emergency diesel generator EGS*EG1 starts.
3. Manual loading is blocked for approx. 1 min.
4. Load shed trips all loads except the load center.

5. Auto load sequence commences.

6. Category II service water separates from Category I.

14.3 Corrective Action

a. Refer to N2-OP-71 Section H15.0, or H16.0 to place the bus on alternate offsite power.

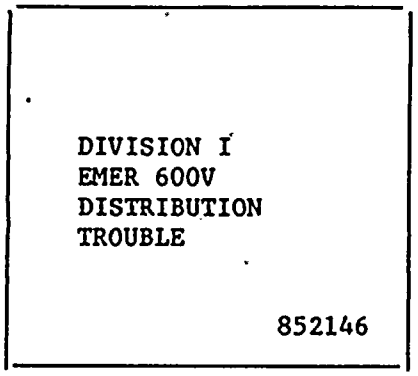
b. Notify elect. maint. of the trip.

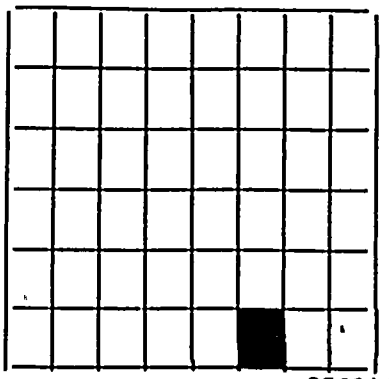
NOTE: Refer to tech. specs. for conditions associated with loss of offsite power.

15.0 852146 Division I emergency 600V distribution trouble

Reflash: Yes

TCN- 1 2





15.1

Computer Point	Computer Printout	Source
EJSBC19	LC US1 SPLY BRKR 1-3C	Breaker Overcurrent
EJSBC20	LC US1 SPLY BRKR 1-4B	Breaker Overcurrent
EJSBC21	LC US1 SPLY BRKR 1-5D	Breaker Overcurrent
EJSBC22	LC US1 SPLY BRKR 1-7D	Breaker Overcurrent
EJSBC23	LC US1 SPLY BRKR 1-8C	Breaker Overcurrent
EJSBC24	LC US1 SPLY BRKR 1-9C	Breaker Overcurrent
EJSBC31	LC US1 SPLY BRKR 1-6D	Breaker Overcurrent
EJSBC32	LC US1 SPLY BRKR 1-7C	Breaker Overcurrent

15.2 Automatic Response

Trip and lockout the switchgear breaker

15.3 Corrective Action

a. Verify the automatic response. At MCC's observe the voltmeter, for power distribution panels, check the load center breaker.

b. At MCC's trip the breaker shown in the "LOAD" column (incoming line breaker).

c. Remove the interlock key, and energize the MCC from the alternate feed breaker.

d. For power distribution panels:

1. Trip the panel main breaker.

2. Reset and close the load center breaker.

3. If the load center breaker stays closed, trip the panel branch breakers, and close the panel main breaker.

4. If the main breaker, and load center breaker remain closed, close in branch breakers.

e. Notify electrical maint. of the event, and any breakers tripped and/or unable to reclose.

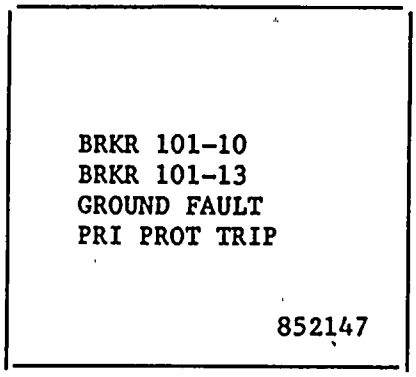
f. Refer to tech. specs. for possible LCO's due to loss of power to an emergency load.

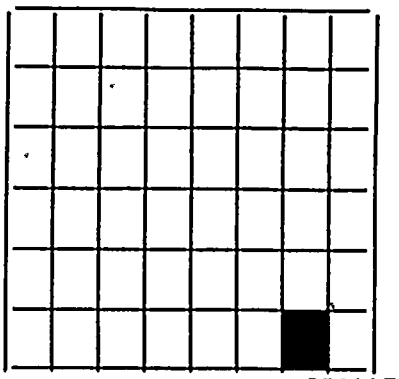
Computer Point	Load	Location	Alternate Feed
EJSBC19	2EHS*MCC102 Bus A Cub 1A	Aux Bay North EL 240	Tie breaker 13A
EJSBC20	2EHS*MCC101 Cub 1A	Screenwell Bldg	Breaker 10A
EJSBC21	2EHS*MCC103 Bus A Cub 1A	Cntl Bldg West St-by Swgr Rm	Tie breaker 16A
EJSBC22	2EHS*MCC103 Bus C Cub 27A	Cntl Bldg West St-by Swgr Rm	Tie breaker 16A
EJSBC23	2EHS*MCC102 Bus C Cub 22A	Aux Bay North EL 240	Tie breaker 13A
EJSBC24	2EHS*MCC101 Cub 10A	Screenwell Bldg	Breaker 1A
EJSBC31	2EJS*PNL100A	Cntl Bldg West St-by Swgr Rm	No alternate feed
EJSBC32	2LAC*PNL100A	Cntl Bldg West St-by Swgr Rm	No alternate feed

16.0 852147 Breaker 101-10 or Breaker 101-13 Ground Fault Primary Protection Trip

Reflash: Yes

| TCN- 1





16.1	Computer Point	Computer Printout	Source
	a. ENSUC13	EM SWGR ACB 101-13 LO RLY	Switchgear 2NNS-SWG016 (16-2) Neutral directional overcurrent (67N2-2ENSA09) (load side) OR Switchgear 2ENS*SWG101 (101-13 Lineside) gnd overcurrent (50G-2ENSA32)
	b. ENSUC14	EM SWG ACB 101-10 LO RLY	Switchgear 2NNS-SWG018 (18-2 loadside) Neutral directional overcurrent (67N4-2ENSA10) OR Switchgear 2ENS*SWG101 Feeder (101-10 lineside) gnd overcurrent (50G-2ENSA33)

16.2 Automatic Response

ENSUC13 Trips and locks out ACB 101-13, and locks out ACB 101-10
ENSUC14 Trips and locks out ACB 101-10, and locks out ACB 101-13

a. Diesel generator 2EGS*EG1 Auto Starts.

b. Load shed trips all loads except the load center.

c. Diesel generator breaker (101-1) closes.

d. Load sequencing commences.

e. Manual loading of the bus is blocked for approx. 1 minute.

f. Category II service water separates from Category I.

16.3 Corrective Action

NOTE: Refer to tech. specs. for operating conditions associated with loss of offsite power.

a. Notify elect. maint. of the trip.

b. Refer to N2-OP-71 Section H15.0, or 16.0 to place the bus on alternate offsite feed.

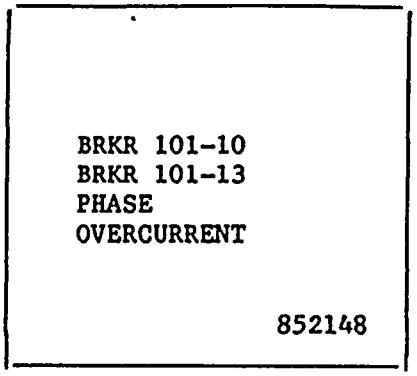
c. Reset the lockout relays: 86B-2ENSX01 (at switchgear 101-13), and 86B-2ENSX02 (at switchgear 101-10).

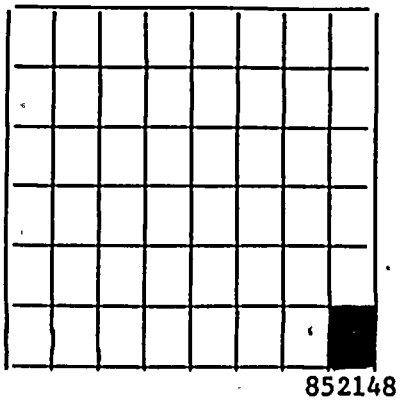
I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (Cont.)

17.0 852148 Breaker 101-10 or 101-13 Phase Overcurrent

Reflash: Yes

TCN-1 2





17.1	Computer Point	Computer Printout	Source
	a. ENSIC01	RTX-XSR1A OC ACB 101-13	67-1-2ENSA25 Directional overcurrent interlock to stub bus
	b. ENSIC04	XFMR ABS-X1 OC ACB 101-10	67-2-2ENSA26 Directional overcurrent interlock to stub bus

17.2 Automatic Response

ENSIC01 Any one device trips ACB 101-13
ENSIC04 Any one device trips ACB 101-10

a. Load shed trips all loads except the load center.

b. Div I diesel generator auto starts.

c. Diesel generator breaker 101-1 closes on the bus.

d. Manual loading on the bus is blocked for approx. 1 minute.

e. Auto load sequence commences.

f. Category II service water separates from Category I.

17.3 Corrective Action

a. Verify the automatic response.

b. Sync the offsite breaker to the bus.

c. Open the diesel generator breaker, 101-1.

d. Notify elect. maint. of the trip, and of the device that caused the trip.

e. See N2-OP-100A to return the diesel generator to stand-by after offsite power is restored.

NOTE: See N2-OP-71 Section H15.0 or H16.0 to place the bus on alternate offsite feed.

NOTE: Refer to tech. specs. if unable to maintain offsite feed to the bus.

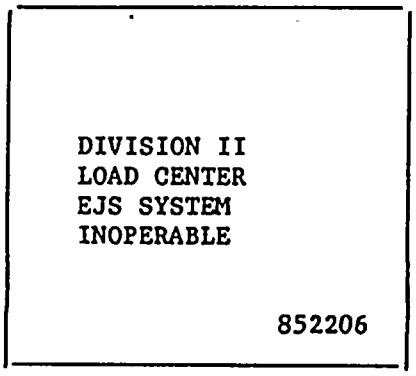
NOTE: Refer to Section H2.0 before closing the stub bus breaker.

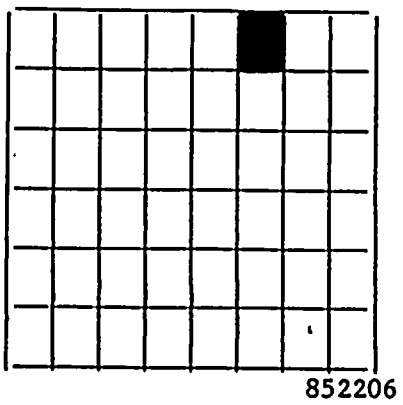
I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (Cont.)

18.0 852206 Division II Load Center EJS System Inoperable

Reflash: No

| TCN-12





18.1	Computer Point	Computer Printout	Source
	a. EJSBC16	DIV 2 LD CTR EJS SYS	1)EMER US3 NORM FEED ACB 3-3B
		AND	2)EMER US3 ALT FEED ACB 3-9B
		OR	3)EMER SWGR XFMR FDR ACB 103-1
		AND	4)EMER SWGR XFMR FDR ACB 103-13
		OR	5)EMER US3 MAN OUT OF SER

18.2 Corrective Action

a. Refer to the following INOP windows for response.

18.2 (Cont'd)

Window	Source	Automatic Action
1. EMER US3 NORM FEED ACB3-3B	(74-2EJSY05) a)Loss of DC Control Power	ANNUN. for any event in both inop windows
2. EMER US3 ALT FEED ACB 3-9B	b)Control Room Fire disconnect c)Control Room switch PTL d)Breaker racked out (74-2EJSY06)	

Corrective Action

a. For loss of 125VDC control power check fuses in cubicle 3-3A, and breaker 4C in 2BYS*SWG002B, D.C. switchgear.

b. For control room fire, return switch 2CESB20 to normal in control room fire disconnect panel 2CES*PNL416.

c. For control room panel 852 control switches in pull-to-lock, remove one, or both switches from pull-to-lock.

d. For breakers not in operate Position, rack in breaker 3-3B and/or 3-9B.

Window	Source	Automatic Action
3. EMER SWGR XFMR FDR ACB 103-1	(74-2EJSY03) a)Loss of DC Control Power	Annun. for any event in both inop windows
4. EMER SWGR XFMR FDR ACB 103-13	b)Control Room Fire Disconnect c)Control Room Control switch PTL d)Breaker racked out (74-2EJSY04)	

Corrective Action

a. For loss of 125VDC control power, check fuses in cubicle 103-13, and breaker 2D in 2BYS*SWG002B, D.C. switchgear.

b. For Control Room fire, return switches 2CESB15 and 2CESB16 to normal in Control Room Fire Disconnect Panel 2CES*PNL416.

c. For breakers not in operate position, rack in breaker 103-1 and/or 103-13.

d. For Control Room Panel 852 control switches in pull-to-lock, remove one switch, or both switches from pull-to-lock.

18.2 (Cont'd)

Window	Source	Automatic Action
5. EMER US3 MAN OUT OF SER	EMER US3 MAN OUT OF SER PUSHBUTTON	None

Corrective Action

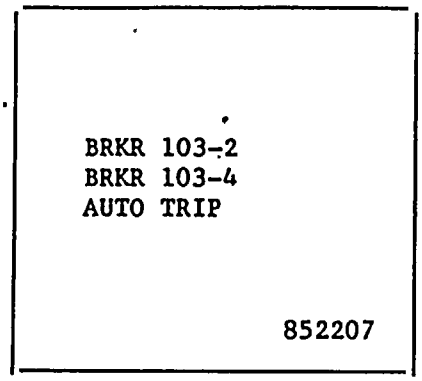
a. Restore the pushbutton to normal.

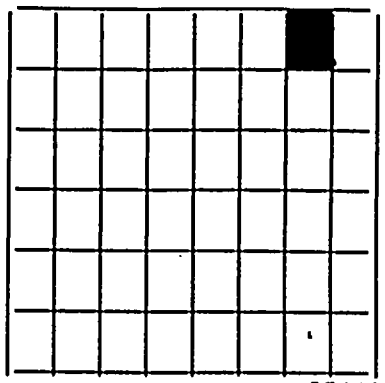
I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (Cont.)

19.0 852207 Breaker 103-2 or 103-4 Auto Trip

Reflash: Yes

| TCN-12





19.1	Computer Point	Computer Printout	Source
a.	ENSUC06	2ABS-XS1 ACB 103-2 TRIP	52-2ENSY11
	TRIP SIGNALS ORIGINATE FROM:		
	ENSBC04	FDR-XFMR ACB 103-2	52-2ENSY11
	ENSBC18	4KV EM BUS 103 UNDER FREQ	SEE 852232
	ENSBC33	LOSS OF BUS 103 VOLTAGE	62X-2ENSY05
	ENSBC34	DEGRADED BUS*103 UNDV	62Y-2ENSY06
	ENSBC35	LD SHED SIGNAL BUS 103	27X3-2ENSY04
	ENSEC02	BUS ENS*103 UNDV	SEE 852240
	ENSEC04	BUS 103 DEGRADED VOLT	SEE 852240
	ENSIC02	2ABS-X1 PH OC ACB 103-2	SEE 852248
	ENSUC12	EM SWGR ACB 103-2 LO RLY	SEE 852231
	ENSUC16	EM SWGR ACB 103-2 LO RLY	SEE 852247
	ENSUC20	EM SWGR ACB 103-2 LO RLY	SEE 852239
	NNSUC28	4KV BUS E18 LO RLY 2 TRIP	SEE 852558

19.1 (Cont'd)

	Computer Point	Computer Printout	Source
b.	ENSUC07	2RTX-XSR1B ACB 103-4 TRIP	52-2ENSY10
	TRIP SIGNALS ORIGINATE FROM:		
	ENSBC06	FDR XFMR ACB 103-4	52-2ENSY10
	ENSBC18	4KV EM BUS 103 UNDER FREQ	SEE 852232
	ENSBC33	LOSS OF BUS 103 VOLTAGE	62X-2ENSY05
	ENSBC34	DEGRADED BUS*103 UNDV	62Y-2ENSY06
	ENSBC35	LD SHED SIGNAL BUS 103	27X3-2ENSY04
	ENSEC02	BUS ENS*103 UNDV	SEE 852240
	ENSEC04	BUS 103 DEGRADED VOLT	SEE 852240
	ENSIC03	RTX-XSRIB PH OC ACB 103-4	SEE 852248
	ENSUC11	EM SWGR ACB 103-4 LO RLY	SEE 852231
	ENSUC15	EM SWGR ACB 103-4 LO RLY	SEE 852247
	ENSUC19	EM SWGR ACB 103-4 LO RLY	SEE 852239
	NNSUC25	4KV BUS E17 LO RLY2 TRIP	SEE 852548

19.2 Automatic Response

a. Diesel Generator start.

b. Load shed all but load center breakers.

c. Auto load sequence commences.

d. Manual loading blocked for approx. 1 min.

e. Category II service water separates from Category I.

19.3 Corrective Action

a. See N2-OP-71 Section H17 and H18 to transfer feeders to the emergency bus.

b. Place the emergency bus on offsite power.

c. Notify elect. maint. of the event.

d. See N2-OP-100A to return the diesel generator to stand-by after offsite power is restored.

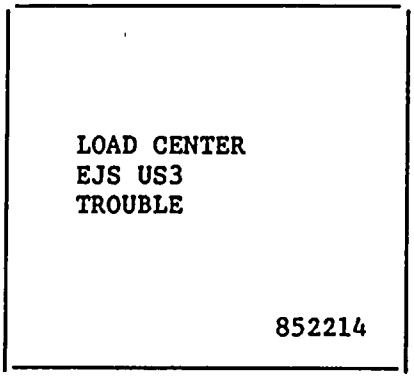
NOTE: If computer point ENSBC40 alarms (DIV 2 LOCA SIGNAL), before the bus is restored to offsite power, trip breaker 103-14.

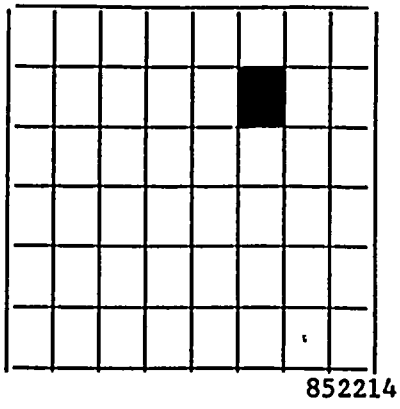
I. PROCEDURE FOR CORRECTING ALARM CONDITIONS (Cont.)

20.0 852214 Load Center EJS*US3 Trouble

Reflash: Yes

TCN-1 2





20.1	Computer Point	Computer Printout	Source
	a. EJSBC18	UV PROT US3 LOSS DC PWR	74-2EJSY08
	b. EJSUC11	2EJS US3 NORM BRKR EL FLT	52-2EJSY05 Bkr overcurrent
	c. EJSUC12	2EJS US3 ALTN BRKR EL FLT	52-2EJSY06 Bkr overcurrent

20.2 Automatic Response

EJSBC18 None
EJSUC11 Trips breaker ACB3-3B
EJSUC12 Trips breaker ACB3-9B

2.3 Corrective Action

EJSBC18 For loss of control power, check fuses in load center cubicle 3-3A, and breaker 4C at 2BYS*SWG002B, DC switchgear.

EJSUC11 For breaker overcurrent trip, check annunciator 852246 for a
EJSUC12 branch breaker trip, and close in the other load center feeder breaker.

a. If both feeder breakers trip, send an operator to the east stand-by switchgear room.

1. Open all branch breakers on US3.

2. Reset both feeder breakers.

3. Close feeder breaker 3-3B.

4. Close breaker 3-9B, if breaker 3-3B fails to close.

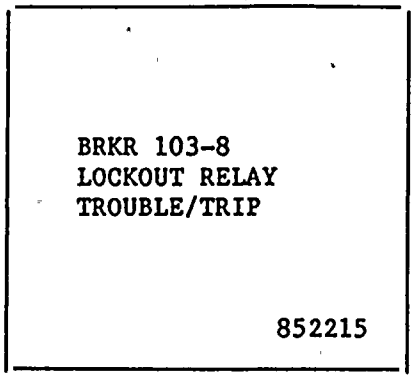
5. Close in branch breakers.

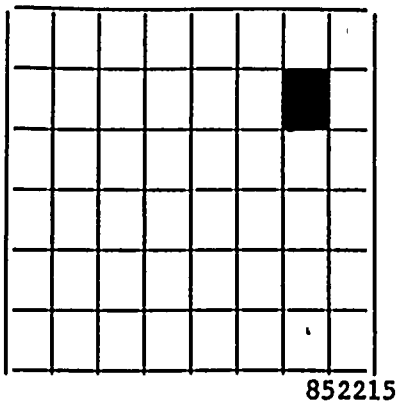
a. Notify elect. maint. of the event, and any branch breakers which are tripped, or fail-to-close.

21.0 852215 Breaker 103-8 Lockout Relay Trouble or Trip

Reflash: Yes

TCN-12





21.1	Computer Point	Computer Printout	Source
a.	ENSUC02	EM SWGR ACB 103-8 LO RLY	2NNS-SWG015 Phase or Ground overcurrent 50/51-2ENSB03 50G-2ENSB04
b.	ENSUC04	EM SWGR ACB 103-8 TRIP	52-2ENSX12 (also brings in ENSBC02)
		TRIP SIGNALS ORIGINATE FROM:	
	ENSBC35	LD SHED SIGNAL BUS 103	27X3-2ENSY04
	ENSBC40	DIV 2 LOCA SIGNAL	K-110B
c.	ENSUC24	BUS 103 STUB FDR GND RLT	Back-Up Ground overcurrent 50G-2ENSB08

21.2 Automatic Response

ENSUC02 None
ENSUC04 None
ENSUC24 a. Trips 103-4 and 103-2, both offsite feeder breakers, see 852239.

b. Trips 103-N1, Diesel Gen. Neutral breaker, see 852227.

c. Category II service water separates from Category I.

d. Load shed trips all loads except load center.

e. Auto start Diesel generator.

f. Auto load sequence commences.

g. Manual loading of the bus is blocked for approx. 1 minute.

21.3 Corrective Action

a. Verify the stub bus breaker trip. Check computer point ENSBC02.

b. See Section H2.0 to re-energize the stub bus after loss of offsite power.

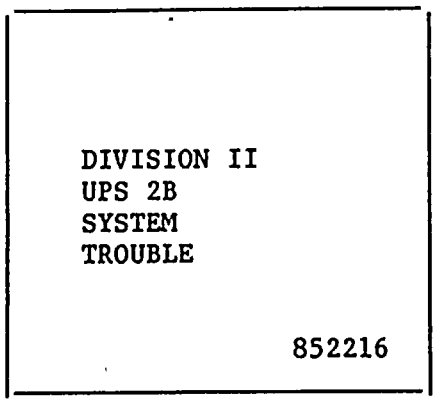
c. Reset lockouts on tripped breakers.

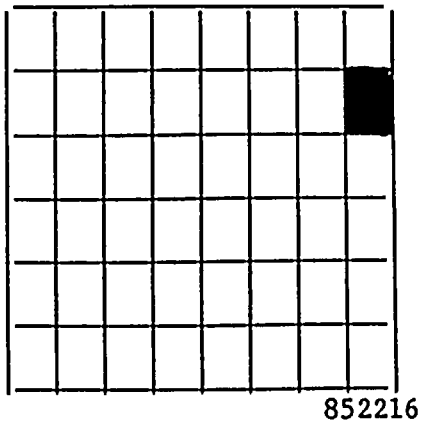
d. Notify elect. maint. of the event and any breakers which remain tripped.

e. See N2-OP-100A to return the diesel gen. to stand-by after offsite power is restored.

22.0 852216 Division II UPS 2B System Trouble

Reflash: No





22.1	Computer Point	Computer Printout	Source
	a. VBABC04	UPS2B SYSTEM TROUBLE	UPS2B/A9-K51

NOTE: A9-K51 is initiated by any local UPS2B alarm. This relay will stay de-energized as long as any local alarm exists. This annunciator will not reflash if another local alarm comes in.

TCN- 1

22.2 Automatic Response

a. UPS may realign to power the vital bus from either backup D.C., or maintenance supply dependent on the local alarm.

22.3 Corrective Action

a. Check the UPS output voltage on Control Room panel 852 meter labelled "Vital bus 2VBS*UPS2B 125VAC Output," or computer point VBSVA101.

b. Send an operator to record meter readings and status light indications at the UPS.

NOTE: Consult Tech. Spec. 3.8.3.1 if the UPS is on maintenance power or if the local alarm response indicates that the UPS is inoperable and the plant is in Mode 1, 2 or 3.

TCN-13

c. Notify electrical maintenance for repair or adjustments to the UPS.

d. See Section H of this procedure for operation of the UPS with the loss of a source, or sources.

e. Take corrective action as required per following Table:

(NCTS) Local Alarm Description - Corrective Action

Alarm	Description	Corrective Action
Synch Loss	1. Maintenance AC frequency is out of tolerance	a. Initiate a WR
	or	
	2. Maintenance AC is not present	a. Restore maint. AC (if fuse is blown in the maintenance AC supply regulator, initiate a WR)
	or	
	3. UPS inverter output frequency is out of tolerance (60Hz±3Hz)	a. Verify on Frequency meter
		b. If valid declare INOP and if the plant is in Mode 1, 2 or 3 refer to Tech. Spec. 3.8.3.1
		c. Initiate a WR

Alarm	Description	Corrective Action
Battery Drain/Charge	Current being drawn from batteries caused by:	
	1. Loss of normal AC to UPS or	a. Restore normal AC
	2. Voltage on DC switchgear higher than UPS internal DC voltage	a. If the charger is on equalize, notify Electrical to check charger equalize voltage b. If the charger is not on equalize, initiate a WR
	NOTE: Refer to Tech. Specs. 3.8.2.1 or 3.8.2.2	
Rectifier AC Loss	Loss of normal AC to UPS	a. If CB-51 has tripped, initiate a WR b. If CB-51 is closed, restore upstream normal AC supply
Reverse Transfer	Static switch is in maintenance position	a. Declare the UPS INOP and if the plant is in Mode 1, 2 or 3 refer to Tech. Spec. 3.8.3.1 b. If other alarms are present, correct the other alarms prior to restoring the UPS to normal AC power c. If all other alarms clear, verify UPS AC output voltage present on AC voltmeter, then push "Forward" static switch pushbutton
Fan Fail	One or more fans have stopped	a. Visually check, if possible, to determine which fan is off b. Initiate a WR
	NOTE: This alarm may be concurrent with a Blown Fuse Alarm	

TCN-13

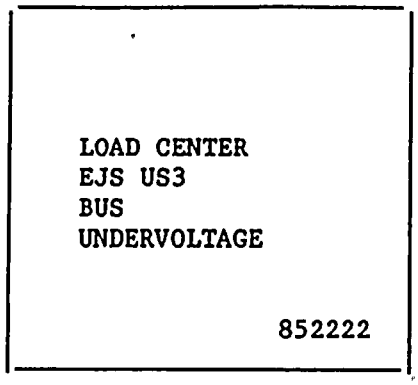
Alarm	Description	Corrective Action
Low Inverter Voltage	UPS inverter output voltage is 15% low (~103 Vac)	a. Verify on AC voltmeter b. If valid declare INOP and if the plant is in Mode 1, 2 or 3 refer to Tech Spec. 3.8.3.1
Inverter Over Temp	Unit overheating	a. Initiate a WR
Fuse Blown	Fuse within UPS blown	a. Initiate a WR to replace fuses
	NOTE: This alarm alone does not INOP the UPS. The operability determination must be made based on other local alarms (eg. "Low Battery", "Reverse Transfer", etc.)	
Rectifier DC Grounded	UPS internal DC Bus grounded	a. Initiate a WR
Low DC Bus	UPS internal DC Bus voltage is low (DC Bus Low)	a. Initiate a WR for Repair/adjustment
Overload	UPS inverter supplying over 100% rating of unit (~165 Amps)	a. Check output ammeter i) If unit loaded, clear non-essential loads ii) If alarm false, initiate a WR
Low Battery	UPS-internal DC Bus voltage is below 110 volts (DC Bus Lo/Lo)	a. Place S-51, the DC voltmeter selector switch in "Battery" i) If battery voltage indicates ≤110 VDC declare the UPS INOP and if the plant is in Mode 1, 2 or 3 refer to Tech. Spec. 3.8.3.1 ii) If battery voltage indicates >110 VDC, notify Electrical Maintenance
	NOTE: With DC Bus below 105 VDC, CB-52 will trip	

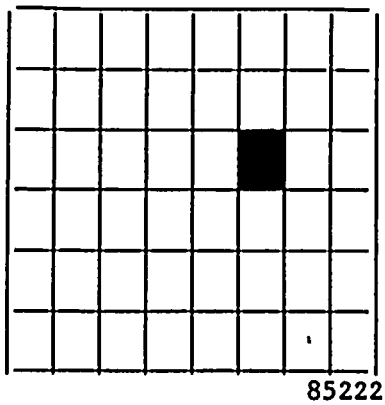
TCN 13

23.0 852222 Load Center EJS*US3 Bus Undervoltage

Reflash: No

TCN-12





23.1	Computer Point	Computer Printout	Source
	a. EJSEC02	LD CTR US3 BUS UNDERVOLT	Undervoltage relays 27A-2EJSB11 and 27B-2EJSB11 Setpoint: 400V for 3 Sec.

23.2 Automatic Response

a. Trip Reactor Bldg. Recirc. Fan B, 2HVR*UC413B. Breaker 3-4C.

b. Trip Control Bldg. Chiller Compressor, 2HVK*CHL1B. Breaker 3-4D.

23.3 Corrective Action

a. Verify auto-start of redundant units per N2-OP-52 for HVR*UC413A/B, and N2-OP-53A for HVK*CHL1A/B.

b. Check the voltage on the DIV II 4160V bus 2ENS*SWG103.

c. Check the voltage on the DIV II load center, 2EJS*US3.

NOTE: Loss of offsite power for 3 sec. will also bring in this annunciator.

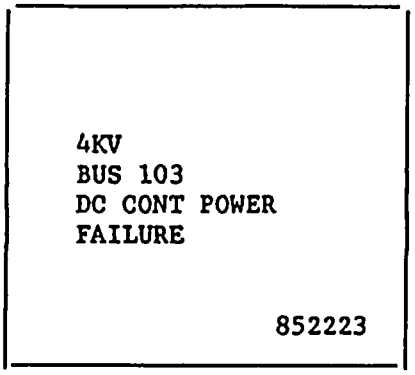
d. If the 4160 DIV II bus in nominally 4160V, trip the load center incoming line breaker inservice (bkr 3-3B, or 3-9B), and close the other feeder breaker (bkr 3-9B, or 3-3B).

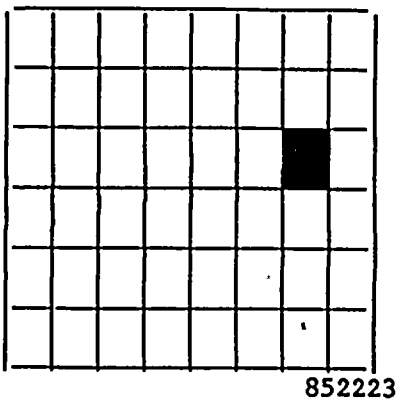
e. Notify elect. maint. of the event, and any tripped breakers.

24.0 852223 4KV Bus 103 DC Control Power Failure

Reflash: Yes

TCN-1





24.1	Computer Point	Computer Printout	Source
	a. ENSBC13	125 VDC CONT PWR DII BUS A	Loss of protective relaying power to trip 103-2, 103-4, & 103-14 (offsite feeders, and Dies. Gen. bkr) due to: phase overcurrent; Dies. Gen. gnd overcurrent; bus gnd overcurrent; incoming line XFMR neutral gnd overcurrent. emer. swgr DC bus A 74-2ENSY01
	ENSBC14	125VDC CONT PWR D II BUS B	Loss of protective relaying power to trip 103-2, 103-4, & 103-14 (offsite feeders, and Dies. Gen bkr) due to: phase overcurrent; Dies. Gen. gnd overcurrent; bus gnd overcurrent; incoming line XFMR neutral gnd overcurrent. emer. swgr DC bus B 74-2ENSY02.