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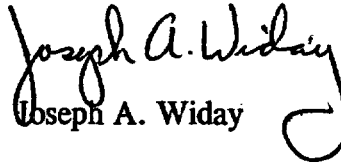
July 10, 2003

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Subject: Emergency Operating Procedures
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

As requested, enclosed are Ginna Station Emergency Operating Procedures.

Very truly yours,


Joseph A. Widay

JAW/jdw

xc: U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Ginna USNRC Senior Resident Inspector

Enclosure(s):

ECA Index
ECA-0.0, Rev 26

A002

INPUT PARAMETERS: TYPE: PRECA STATUS VALUE(S): EF, QU 5 YEARS ONLY:

PRECA EMERGENCY CONTINGENCY ACTIONS PROC

PROCEDURE NUMBER	PROCEDURE TITLE	REV	EFFECT DATE	LAST REVIEW	NEXT REVIEW	ST
ECA-0.0	LOSS OF ALL AC POWER	026	07/10/2003	03/24/2003	03/24/2008	EF
ECA-0.1	LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED	022	05/30/2003	03/24/2003	03/24/2008	EF
ECA-0.2	LOSS OF ALL AC POWER RECOVERY WITH SI REQUIRED	015	05/30/2003	03/24/2003	03/24/2008	EF
ECA-1.1	LOSS OF EMERGENCY COOLANT RECIRCULATION	022	05/30/2003	03/24/2003	03/24/2008	EF
ECA-1.2	LOCA OUTSIDE CONTAINMENT	006	05/30/2003	03/24/2003	03/24/2008	EF
ECA-2.1	UNCONTROLLED DEPRESSURIZATION OF BOTH STEAM GENERATORS	026	05/30/2003	03/24/2003	03/24/2008	EF
ECA-3.1	SGTR WITH LOSS OF REACTOR COOLANT SUBCOOLED RECOVERY DESIRED	026	05/30/2003	03/24/2003	03/24/2008	EF
ECA-3.2	SGTR WITH LOSS OF REACTOR COOLANT SATURATED RECOVERY DESIRED	027	05/30/2003	03/24/2003	03/24/2008	EF
ECA-3.3	SGTR WITHOUT PRESSURIZER PRESSURE CONTROL	029	05/30/2003	03/24/2003	03/24/2008	EF

PRECA TOTAL: 9

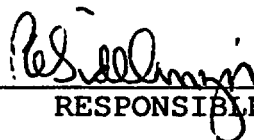
GRAND TOTAL: 9

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ROCHESTER GAS AND ELECTRIC CORPORATION

GINNA STATION

CONTROLLED COPY NUMBER 23



RESPONSIBLE MANAGER

7-10-2003

EFFECTIVE DATE

CATEGORY 1.0

REVIEWED BY: _____

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A. PURPOSE - This procedure provides actions to respond to a loss of all AC power.

B. ENTRY CONDITIONS/SYMPTOMS

1. ENTRY CONDITIONS - This procedure may be entered directly or from:

a. E-0, REACTOR TRIP OR SAFETY INJECTION, on the indication that both Bus 14 and Bus 16 are deenergized. |

2. SYMPTOMS - Which indicate a loss of all AC power are:

a. Neither 480 volt AC emergency bus 14 nor 16 available. |

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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CAUTION
 DUE TO POTENTIALLY EXTREME ENVIRONMENTAL CONDITIONS, CAUTION SHOULD BE USED WHEN ENTERING THE INTERMEDIATE BLDG FOR LOCAL ACTIONS.

NOTE:

- o CSFSTs should be monitored for information only. FR procedures should not be implemented.
- o Local actions may require portable lighting and communication devices.

<p>① Verify Reactor Trip:</p> <ul style="list-style-type: none"> o At least one train of reactor trip breakers - OPEN o Neutron flux - DECREASING o MRPI indicates - ALL CONTROL AND SHUTDOWN RODS ON BOTTOM 	<p>Manually trip reactor.</p> <p><u>IF</u> reactor trip breakers <u>NOT</u> open, <u>THEN</u> perform the following:</p> <ul style="list-style-type: none"> a. Open Bus 13 and Bus 15 normal feed breakers. b. Verify rod drive MG sets tripped. c. Close Bus 13 and Bus 15 normal feed breakers. d. Reset lighting breakers.
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<p>② Verify Turbine Stop Valves - CLOSED</p>	<p>Manually trip turbine.</p> <p><u>IF</u> turbine trip can <u>NOT</u> be verified, <u>THEN</u> close both MSIVs.</p>
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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NOTE: FOLDOUT page should be open and monitored periodically.

* 3 Adjust S/G ARVs To Control
Tavg At Approximately 547° F

4 Stop Both RCPs

NOTE: Adverse CNMT values should be used whenever CNMT pressure is greater than 4 psig or CNMT radiation is greater than 10⁺⁰⁵ R/hr.

5 Check If RCS Is Isolated:

a. PRZR PORVs - CLOSED

a. IF PRZR pressure less than 2335 psig. THEN manually close PORVs.

b. Verify RCS isolation valves closed:

1) Place letdown orifice valve switches to CLOSE

- AOV-200A
- AOV-200B
- AOV-202

2) Place letdown isolation valve switches to CLOSE

- AOV-371
- AOV-427

3) Place excess letdown isolation valve switch to CLOSE (AOV-310)

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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

6 Verify Adequate TDAFW Flow:

a. Verify TDAFW pump - RUNNING

a. Perform the following:

1) Verify governor valve,
V-3652, latched.

IF governor valve tripped,
THEN dispatch AO to locally
reset valve.

2) Manually or locally open at
least one TDAFW pump steam
supply valve.

- MOV-3505A
- MOV-3504A

b. Verify TDAFW pump flow - GREATER
THAN 200 GPM

b. Verify proper TDAFW valve
alignment:

1) TDAFW pump discharge valve
(MOV-3996) open.

2) Intact S/G TDAFW pump flow
control valves open.

IF NOT. THEN manually align
valves as necessary.

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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

- NOTE:**
- o Conditions should be evaluated for Site Contingency Reporting (Refer to EPIP-1.0, GINNA STATION EVENT EVALUATION AND CLASSIFICATION).
 - o AO should increase surveillance of TDAFW pump until AC power is restored.

7 Try To Restore Power to Any Train Of AC Emergency Busses:

- a. Verify emergency D/G aligned for unit operation
 - o Mode switch in UNIT
 - o Voltage control selector in AUTO
- b. Check emergency D/Gs - BOTH D/G RUNNING

a. Manually align switches on rear of MCB.

b. WHEN non-running D/G available for starting. THEN perform the following:

- 1) Depress D/G FIELD RESET pushbutton
- 2) Depress D/G RESET pushbutton
- 3) Start D/G
- 4) IF D/G starts. THEN go to Step 7c.
- 5) IF D/G will NOT start. THEN dispatch AO to locally start emergency D/Gs.

IF no emergency D/G available. THEN perform the following:

a) Direct AO to attempt to restore emergency D/G (Refer to ER-D/G.1, RESTORING D/G)

b) Go to Step 8.

This Step continued on the next page.

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	(Step 7 continued from previous page)	
c. Check D/G voltage and frequency		
	1) Voltage - APPROXIMATELY 480v	1) Adjust voltage control to restore voltage to approximately 480v
	2) Frequency - APPROXIMATELY 60 Hz	2) Adjust governor to restore frequency to approximately 60 Hz
d. Verify adequate D/G cooling		d. Manually energize busses and start SW Pumps.
	o Bus 17 and/or Bus 18 - ENERGIZED	<u>IF</u> adequate cooling can <u>NOT</u> be supplied to a running D/G. <u>THEN</u> perform the following:
	o One SW Pump running for each running D/G	1) Pull stop the D/G <u>AND</u> immediately depress associated VOLTAGE SHUTDOWN pushbutton.
		2) Align alternate cooling (Refer to ER-D/G.2. ALTERNATE COOLING FOR EMERGENCY D/Gs).
e. Verify at least one train of AC emergency busses - ENERGIZED		e. Manually energize AC emergency busses.
	• Bus 14 and Bus 18 • Bus 16 and Bus 17	<u>IF</u> Bus 14 <u>AND</u> Bus 16 are deenergized, <u>THEN</u> go to Step 8.
f. Return to procedure and step in effect		

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

CAUTION

- o WHEN POWER IS RESTORED TO BUS 14 AND/OR BUS 16, RECOVERY ACTIONS SHOULD CONTINUE STARTING WITH STEP 27.
 - o IF AN SI SIGNAL EXISTS OR IF AN SI SIGNAL IS ACTUATED DURING THIS PROCEDURE, IT SHOULD BE RESET TO PERMIT MANUAL LOADING OF EQUIPMENT ON AN AC EMERGENCY BUS.
- *****

8 Establish The Following Equipment Alignment:

- a. Pull stop AC emergency bus loads
 - RHR pumps
 - CNMT RECIRC fans
 - CNMT spray pumps
 - SI pumps
 - CCW pumps
 - Charging pumps
 - MDAFW pumps
- b. Evaluate non-vital loads (Refer to ATT-8.3, ATTACHMENT NONVITAL)
- c. Place non-running SW pump switches to STOP, then return to AUTO
- d. Place switch for MOV-313, RCP seal return isolation valve, to CLOSE
- e. Momentarily place to CLOSE RCP CCW return valves
 - MOV-759A
 - MOV-759B

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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE: Temporary power may be provided to Bus 16 by performing procedure ER-ELEC.4 and to Bus 13 by performing procedure ER-ELEC.5 at the Shift Supervisor's discretion.

9 Try To Restore Offsite Power:

a. Consult Power Control to determine if either normal offsite power supply - AVAILABLE

o 12B transformer via breaker 76702

-OR-

o 12A transformer via breaker 75112

b. Reset SI, if necessary

c. Restore offsite power (Refer to ER-ELEC.1. RESTORATION OF OFFSITE POWER)

a. IF normal offsite power supply NOT readily available. THEN perform the following:

1) Restore IA system using the Diesel Air Compressor (Refer to ATT-11.2. ATTACHMENT DIESEL AIR COMPRESSOR).

2) Evaluate Main transformer backfeed for long term concerns (Refer to ER-ELEC.3. EMERGENCY OFFSITE BACKFEED VIA MAIN & UNIT TRANSFORMER).

3) Go to Step 10.

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
10	Initiate Local Actions To Isolate RCS And To Provide Cooling To Vital Areas And Equipment	
	a. Open all Reactor Protection and Control System rack doors in the Control Room.	
	b. Direct Security personnel to open the following vital area doors to increase cooling:	
	<ul style="list-style-type: none"> • Control Room Door S51 • Intermediate Bldg Door S37 (AFW pump area) • Intermediate Bldg Door F36 (Automatic fire door, Rod Drive MG set area) • Intermediate Bldg Door S44 (Steam Header area) 	
	c. Dispatch AO To Locally Isolate RCP Seals and BASTs (Refer to ATT-21.0, ATTACHMENT RCS ISOLATION)	
	d. Dispatch AO to align backup cooling water to TDAFW Pump (Refer to ATT-5.2, ATTACHMENT FIRE WATER COOLING TO TDAFW PUMP)	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
11	Isolate Makeup And Reject From Hotwell To CST By Placing Hotwell Level Controller (LC-107) In Manual AT 50%	<p><u>IF</u> valves can <u>NOT</u> be manually closed, <u>THEN</u> dispatch AO to locally isolate makeup and reject lines.</p> <ul style="list-style-type: none"> • Makeup isolation V-4058 • Reject isolation V-4055
12	Isolate S/G: <ol style="list-style-type: none"> a. Manually close both MSIVs b. Manually close MFW flow control valves <ul style="list-style-type: none"> • MFW regulating valves • MFW bypass valves c. Place MCB master switch for S/G blowdown and sample valves to CLOSE 	<p><u>IF</u> valves can <u>NOT</u> be manually closed, <u>THEN</u> dispatch AO to locally isolate the affected flow path.</p>

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

CAUTION
 A FAULTED OR RUPTURED S/G THAT IS ISOLATED SHOULD REMAIN ISOLATED. STEAM SUPPLY TO THE TDAFW PUMP MUST BE MAINTAINED FROM AT LEAST ONE S/G.

13 Check If S/G Secondary Side Is Intact:

- o Pressure in both S/Gs - STABLE OR INCREASING
- o Pressure in both S/Gs - GREATER THAN 110 PSIG

Perform the following:

a. IF any S/G pressure decreasing in an uncontrolled manner OR completely depressurized, THEN isolate faulted S/G unless needed for RCS cooldown:

1) Close faulted S/G MDAFW pump discharge valve.

- S/G A. MOV-4007
- S/G B. MOV-4008

2) Close faulted S/G TDAFW flow control valve.

- S/G A. AOV-4297
- S/G B. AOV-4298

3) Verify faulted S/G ARV controller in MANUAL with output at 0%.

- S/G A. AOV-3411
- S/G B. AOV-3410

4) Pull stop faulted S/G TDAFW pump steam supply valve.

- S/G A. MOV-3505A
- S/G B. MOV-3504A

IF valve(s) can NOT be closed manually, THEN dispatch AO to locally close valve(s) to isolate flow.

b. Dispatch AO to complete faulted S/G isolation (Refer to ATT-10.0, ATTACHMENT FAULTED S/G).

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
14 Check If S/G Tubes Are Intact:	<ul style="list-style-type: none"> o Dispatch RP tech or A0 to locally check steamline radiation - NORMAL 	<p>Try to identify ruptured S/G. Continue with Step 15. <u>WHEN</u> ruptured S/G identified, <u>THEN</u> perform the following:</p> <ul style="list-style-type: none"> a. Isolate ruptured S/G unless needed for RCS cooldown: <ul style="list-style-type: none"> 1) Close ruptured S/G MDAFW pump discharge valve. <ul style="list-style-type: none"> • S/G A. MOV-4007 • S/G B. MOV-4008 2) Pull stop ruptured S/G MDAFW pump. 3) Close ruptured S/G TDAFW flow control valve. <ul style="list-style-type: none"> • S/G A. AOV-4297 • S/G B. AOV-4298 4) Adjust ruptured S/G ARV controller to 1050 psig in AUTO. <u>WHEN</u> S/G pressure less than 1050 psig, <u>THEN</u> ensure ruptured S/G ARV closed. <ul style="list-style-type: none"> • S/G A. AOV-3411 • S/G B. AOV-3410 5) Pull stop ruptured S/G TDAFW pump steam supply valve. <ul style="list-style-type: none"> • S/G A. MOV-3505A • S/G B. MOV-3504A <p><u>IF</u> valve(s) can <u>NOT</u> be closed manually, <u>THEN</u> dispatch A0 to locally close valve(s) to isolate flow.</p> <ul style="list-style-type: none"> b. Dispatch A0 to complete ruptured S/G isolation (Refer to ATT-16.0, ATTACHMENT RUPTURED S/G).

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

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CAUTION

IF CST LEVEL DECREASES TO LESS THAN 5 FEET, THEN ALTERNATE WATER SOURCES FOR AFW PUMPS, USING FIRE OR CITY WATER, WILL BE NECESSARY (REFER TO ER-AFW.1, ALTERNATE WATER SUPPLY TO AFW PUMPS).

.....

NOTE: TDAFW pump AOV flow control AOVs may drift open on loss of IA.

***15 Monitor Intact S/G Levels:**

a. Narrow range level - GREATER THAN 5% [25% adverse CNMT]

a. Maintain maximum AFW flow until narrow range level greater than 5% [25% adverse CNMT] in at least one S/G.

b. Control AFW flow by throttling TDAFW flow control valves

b. Control AFW flow by throttling TDAFP discharge MOV-3996.

- S/G A, AOV-4297
- S/G B, AOV-4298

IF MOV-3996 can NOT be controlled, THEN dispatch AO to locally control AFW flow by throttling TDAFW flow control valves.

- S/G A, AOV-4297
- S/G B, AOV-4298

IF valves can NOT be throttled, THEN control AFW flow by starting and stopping TDAFW pump.

c. Control AFW flow to maintain narrow range level between 17% [25% adverse CNMT] and 50%

c. IF narrow range level in any intact S/G continues to increase in an uncontrolled manner, THEN return to Step 14.

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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE: IF the loss of power is expected to continue beyond 4 hours, THEN degassing of main generator should commence as soon as personnel become available (Refer to ATT-8.2, ATTACHMENT GEN DEGAS).

16 Check DC Bus Loads:

- a. Place control switches for MFW pump AC oil pumps to OFF (allows timer to stop DC oil pumps)
- b. Stop all large non-essential DC loads
 - 1) Evaluate DC loads (Refer to ATT-8.0, ATTACHMENT DC LOADS).
 - 2) WHEN turbine is stopped, THEN perform the following:
 - a) Locally close Turbine backup seal oil reg outlet valve V-5475J.
 - b) Stop Turbine DC lube oil pump (within 1 hour).
- c. Check DC bus voltage - GREATER THAN 105 VOLTS DC
 - Bus A
 - Bus B
- c. IF either DC bus less than 105 volts DC, THEN refer to ER-ELEC.2, RECOVERY FROM LOSS OF A or B DC BUS.
- d. Direct electricians to locally monitor DC power supply

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
17	Verify Source Range Detector(s) - ENERGIZED • N-31 • N-32	Dispatch personnel with relay rack key to turn off 125 VDC power switches in REACTOR PROTECTION racks RLTR-1 and RLTR-2 to deenergize source range block relays.
.....		
<u>CAUTION</u>		
WHEN POWER IS RESTORED TO BUS 14 AND/OR BUS 16, RECOVERY ACTIONS SHOULD CONTINUE STARTING WITH STEP 27.		
.....		
18	Check CST Level - GREATER THAN 5 FEET	Initiate makeup to CSTs using fire or city water as a source. (Refer to ER-AFW.1, ALTERNATE WATER SUPPLY TO AFW PUMPS).

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

CAUTION

- o S/G PRESSURES SHOULD BE MAINTAINED GREATER THAN 200 PSIG TO PREVENT INJECTION OF SI ACCUM NITROGEN INTO THE RCS.
- o S/G NARROW RANGE LEVEL SHOULD BE MAINTAINED GREATER THAN 5% [25% ADVERSE CNMT] IN AT LEAST ONE INTACT S/G. IF LEVEL CANNOT BE MAINTAINED, S/G DEPRESSURIZATION SHOULD BE STOPPED UNTIL LEVEL IS RESTORED IN AT LEAST ONE S/G.

- NOTE:
- o The S/Gs should be depressurized at maximum rate to minimize RCS inventory loss.
 - o PRZR level may be lost and reactor vessel upper head voiding may occur due to depressurization of S/Gs. Depressurization should not be stopped to prevent these occurrences.
 - o S/G ARV nitrogen pressure should be monitored and nitrogen supply bottles changed as necessary.

19 Initiate Depressurization Of Intact S/Gs To 300 PSIG:

- | | |
|--|--|
| <ul style="list-style-type: none"> a. Check S/G narrow range levels - GREATER THAN 17% [25% adverse CNMT] IN AT LEAST ONE S/G b. Manually dump steam from intact S/Gs at maximum rate using S/G ARVs | <ul style="list-style-type: none"> a. Perform the following: <ul style="list-style-type: none"> 1) Maintain maximum AFW flow until narrow range level greater than 17% [25% adverse CNMT] in at least one S/G. 2) Continue with Step 20. <u>WHEN</u> narrow range level greater than 17% [25% adverse CNMT] in at least one S/G. <u>THEN</u> do Steps 19b and 20. b. Locally dump steam from intact S/Gs at maximum rate using S/G ARV. |
|--|--|

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
<u>NOTE:</u>	<ul style="list-style-type: none"> o Adverse CNMT conditions or loss of forced air cooling may result in failure of NIS detectors. o <u>IF</u> Instrument Bus D deenergized, <u>THEN</u> NIS SUR meters will <u>NOT</u> be available. 	
*20	Monitor Reactor For Subcriticality:	
a.	Verify Subcriticality using the following indications:	a. <u>IF</u> unable to verify subcriticality using NIS, <u>THEN</u> perform the following:
1)	Check source range(s), N-31 <u>AND</u> N-32	
o	Indicator - ON SCALE	o Control S/G ARVs to stop S/G depressurization and allow RCS to heat up.
o	Power - STABLE OR DECREASING	o Direct RP to sample RCS and PRZR for boron concentration.
2)	Check intermediate range, N-35	o Request plant staff assistance in evaluating core reactivity status
o	Indicator - ON SCALE	
o	Power - STABLE OR DECREASING	
3)	Check power range, N-41 and N-43	
o	Indicators - LESS THAN 5%	
o	Power - STABLE OR DECREASING	

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE: Depressurization of S/Gs will result in a SI actuation. SI should be reset to permit manual loading of equipment on emergency busses.

21 Check SI Signal Status:

a. Any SI annunciator - LIT

a. Go to Step 25. WHEN SI actuated, THEN do Steps 21b, 22, 23 and 24.

b. Reset SI

22 Verify CI And CVI:

a. CI and CVI annunciators - LIT

a. Depress manual CI pushbutton.

- Annunciator A-26, CNMT ISOLATION
- Annunciator A-25, CONTAINMENT VENTILATION ISOLATION

b. Verify CI and CVI valve status lights - BRIGHT

b. Manually close CI and CVI valves. IF valves can NOT be verified closed by MCB indication, THEN dispatch AO to locally close valves (Refer to ATT-3.0, ATTACHMENT CI/CVI).

c. CNMT RECIRC fan coolers SW outlet valve status lights - BRIGHT

c. Dispatch AO to locally fail open valves.

- AOV-4561
- AOV-4562

d. Verify RHR Pump Suction from CNMT Sump B valves - CLOSED

d. IF sump recirculation NOT in progress, THEN manually close valves.

- MOV-850A
- MOV-850B

IF valves can NOT be verified closed by MCB indication, THEN dispatch AO to locally close valves.

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

23 Check If S/G Depressurization Should Be Stopped:

- a. Check RCS cold leg temperatures
- GREATER THAN 315°F

- b. Check S/G pressures - LESS THAN 300 PSIG

- c. Check IA supply:
 - o Pressure - GREATER THAN 60 PSIG

 - o Pressure - STABLE OR INCREASING

- d. Control S/G ARVs to maintain S/G pressures at 300 psig IN AUTO

- a. Perform the following:
 - 1) Control S/G ARVs to stop S/G depressurization.

 - 2) Go to Step 24.

- b. Continue with Step 24. WHEN S/G pressure decreases to less than 300 psig. THEN do Step 23c and d.

- c. Control S/G ARVs in manual to maintain S/G pressures at 300 psig

IF manual control is NOT available. THEN locally control S/G ARVs to maintain S/G pressures at 300 psig.

- d. Control S/G ARVs in manual to maintain S/G pressures at 300 psig

IF manual control is NOT available. THEN locally control S/G ARVs to maintain S/G pressures at 300 psig.

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
24	<p>Check CNMT Pressure - HAS REMAINED LESS THAN 28 PSIG</p> <ul style="list-style-type: none"> o Annunciator A-27, CNMT SPRAY - EXTINGUISHED o CNMT pressure indicators - LESS THAN 28 PSIG 	<p><u>IF</u> CNMT pressure is less than 28 psi, <u>THEN</u> perform the following:</p> <ul style="list-style-type: none"> a. Reset CNMT spray. b. Place CNMT spray pump discharge valve switches to CLOSE to deenergize open contactor. <p><u>IF NOT</u>, <u>THEN</u> continue with step 25. <u>WHEN</u> CNMT pressure less than 28 psig, <u>THEN</u> reset CNMT spray and place CNMT spray pump discharge valve switches to CLOSE.</p>
25	<p>Check Core Exit T/Cs - LESS THAN 1200° F</p>	<p><u>IF</u> core exit temperatures greater than 1200° F and increasing, <u>THEN</u> go to SACRG-1, SEVERE ACCIDENT CONTROL ROOM GUIDELINE INITIAL RESPONSE, step 1.</p>
26	<p>Check If AC Emergency Power Is Restored - BUSSES 14 AND/OR 16 ENERGIZED</p>	<p>Continue to control RCS conditions and monitor plant status:</p> <ul style="list-style-type: none"> a. Check status of desired actions: <ul style="list-style-type: none"> o AC power restoration o ARV nitrogen pressure o Diesel air compressor to IA system o RCP seal isolation o DC power supply b. Return to Step 13.

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
27	Manually Control S/G ARVs To Stabilize S/G Pressures	Locally control S/G ARVs.

EOP:

ECA-0.0

TITLE:

LOSS OF ALL AC POWER

REV: 26

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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE: SW isolation may occur when power is restored to AC emergency busses.

28 Verify SW System Operation:

a. Check Bus 17 and Bus 18 - AT
LEAST ONE ENERGIZED

b. Verify two SW pumps - RUNNING

a. Perform the following:

- 1) Pull stop any D/G that is NOT supplied by alternate cooling. AND immediately depress associated VOLTAGE SHUTDOWN pushbutton.
- 2) Refer to ATT-2.4, ATTACHMENT NO SW PUMPS.
- 3) Go to Step 29.

b. IF normal power available. THEN establish two SW pumps running.

IF normal power NOT available. THEN establish one SW pump running for each operating D/G.

IF NO SW pumps running. THEN perform the following:

- 1) Pull stop any D/G that is NOT supplied by alternate cooling. AND immediately depress associated VOLTAGE SHUTDOWN pushbutton.
- 2) Refer to ATT-2.4, ATTACHMENT NO SW PUMPS.

IF only one SW pump running. THEN perform the following:

- 1) Manually perform SW isolation.
- 2) Refer to AP-SW.2, LOSS OF SERVICE WATER.

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

.....

CAUTION

THE LOADS PLACED ON THE ENERGIZED AC EMERGENCY BUS SHOULD NOT EXCEED THE CAPACITY OF THE POWER SOURCE.

.....

29 Verify Following Equipment Loaded On Available AC Emergency Busses:

Manually load equipment as power supply permits.

- o 480 volt MCCs - ENERGIZED
 - MCC C from Bus 14
 - MCC D from Bus 16

- o Verify instrument busses - ENERGIZED
 - Bus A from MCC C (A battery)
 - Bus B from MCC C
 - Bus C from MCC D (B battery)

- o Dispatch personnel to verify proper operation of battery chargers

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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

30 Select Recovery Procedure:

- | | |
|--|---|
| <ul style="list-style-type: none"> a. Check RCS subcooling based on core exit T/Cs - GREATER THAN 0°F USING FIG-1.0, FIGURE MIN SUBCOOLING b. Check PRZR level - GREATER THAN 5% [30% adverse CNMT] c. Check SI and RHR Pumps - NONE RUNNING d. Go to ECA-0.1, LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED, Step 1 | <ul style="list-style-type: none"> a. Go to ECA-0.2, LOSS OF ALL AC POWER RECOVERY WITH SI REQUIRED, Step 1. b. Go to ECA-0.2, LOSS OF ALL AC POWER RECOVERY WITH SI REQUIRED, Step 1. c. Go to ECA-0.2, LOSS OF ALL AC POWER RECOVERY WITH SI REQUIRED, Step 1. |
|--|---|

-END-

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ECA-0.0 APPENDIX LIST

TITLE

- 1) FIGURE MIN SUBCOOLING (FIG-1.0)
- 2) ATTACHMENT DC LOADS (ATT-8.0)
- 3) ATTACHMENT FAULTED S/G (ATT-10.0)
- 4) ATTACHMENT RUPTURED S/G (ATT-16.0)
- 5) ATTACHMENT CI/CVI (ATT-3.0)
- 6) ATTACHMENT NONVITAL (ATT-8.3)
- 7) ATTACHMENT GEN DEGAS (ATT-8.2)
- 8) ATTACHMENT RCS ISOLATION (ATT-21.0)
- 9) ATTACHMENT FIRE WATER COOLING TO TDAFW PUMP (ATT-5.2)
- 10) ATTACHMENT DIESEL AIR COMPRESSOR (ATT-11.2)
- 11) ATTACHMENT NO SW PUMPS (ATT-2.4)
- 12) FOLDOUT

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FOLDOUT PAGE

1. LOSS OF SW CRITERIA

IF no SW pumps are available, THEN perform the following:

- a. Pull stop any D/G that is NOT supplied by alternate cooling, AND immediately depress associated VOLTAGE SHUTDOWN pushbutton.
- b. Refer to ATT-2.4, ATTACHMENT NO SW PUMPS.