

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9204150162 DOC. DATE: 92/04/08 NOTARIZED: NO DOCKET #  
 FACIL: 50-244 Robert Emmet Ginna Nuclear Plant, Unit 1, Rochester G 05000244  
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 RECIP. NAME: RECIPIENT AFFILIATION: Project Directorate I-3

*Revised 4/28/92*

JOHNSON, A.R. Project Directorate I-3

SUBJECT: Revised EOPs, including Rev 5 to AP-IA.1, Rev 6 to AP-IA.1, Rev  
 Rev 4 to AP-RHR.2, Rev 3 to ES-0.2, Rev 2 to ES-0.3, Rev 3 to  
 FR-P.2 & Rev 6 to FR-I.3.W/920408 ltr.

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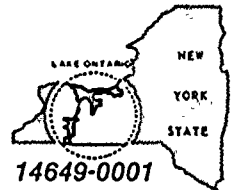
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April 8, 1992

U.S. Nuclear Regulatory Commission  
Document Control Desk

Attn: Mr. Allen Johnson  
Project Directorate I-3  
Washington, D.C. 20555

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

Gentlemen:

As requested, enclosed are Ginna Station Emergency Operating Procedures.

Very truly yours,

Robert C. Mecredy

Enclosures

c: Mr. Lee Bettenhausen, USNRC, Region 1  
Resident Inspector, Ginna Station

140074

emergency.pro

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9204150162 920408  
PDR ADOCK 05000244  
F PDR

AP-IA.1 Loss of Instrument Air, Rev. 5 (was not attached to previous mailing)  
AP-IA.1 Loss of Instrument Air, Rev. 6  
AP-RHR.2 Loss of RHR While Operating at RCS Reduced Inventory Conditions, Rev. 4  
Att EOP/AP Attachments, Normal RHR Cooling, Rev. O  
Abnormal Procedures Index 3/28/92  
Functional Restoration Guidelines Procedure Index 3/28/92  
Critical Safety Function Status Trees Index 3/28/92  
Equipment Sub-Procedures Index 3/28/92  
Emergency Contingency Actions Procedures Index 3/28/92  
Emergency Procedures Index 3/28/92  
EOP/AP Attachment Index 3/28/92  
Emergency Plan Implementing Procedures 3/28/92,  
ATT EOP/AP Attachments, RHR Sample, Rev. O  
ES-0.2 Natural Circulation Cooldown, Rev. 3  
ES-0.3 Natural Circulation Cooldown with Steam Void in Vessel, Rev. 2  
FR-P.2 Response to Anticipated Pressurized Thermal Shock Condition, Rev. 3  
FR-I-3. Response to Voids in Reactor Vessel, Rev. 6

EOP: AP-IA.1	TITLE: LOSS OF INSTRUMENT AIR	REV: 5 PAGE 1 of 2
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### ATTACHMENT A

#### CNMT IA LOSS AND FAILURE MODE

- 1) P&ID #33013-1887
  - o Letdown AOV-427 (FO)
  - o Excess Letdown AOV-310 (FC)
  - o RCP Seal Return AOV-270B (FO)
  - o RCP Thermal Barrier CCW AOV-754B (FO)
- 2) P&ID #33013-1888
  - o Letdown Orifices AOV-200A, 200B, 202 (FC)
  - o Charging AOV-294, 392A (FC)
  - o Aux. Spray AOV-296 (FC)
  - o PRZR Spray PCV-431A, 431B (FC)
  - o PRZR PORV PCV-430, 431C (FC)
  - o RCP Thermal Barrier CCW AOV-754A (FO)
  - o Charging AOV-392B (FC)
  - o RCP Seal Return AOV-386 (FC)
  - o PRZR Sample Valves AOV-951, 953 (FC)

#### AUX BLDG IA LOADS AND FAILURE MODE

- 1) P&ID #33013-1889
  - o Letdown Valve LCV-112A (Fail to VCT)
- 2) P&ID #33013-1890
  - o Letdown Valve AOV-371 (FC)
  - o Charging Line Valve HCV-142 (FO)
  - o RHR Flow Valves HCV-624, 625 (FO)
  - o RHR Hx Bypass Flow Valve FCV-626 (FC)
- 3) P&ID #33013-1891
  - o VCT Makeup Valves AOV-110B, 110C, 111 (FC)
  - o Charging Pump Suction AOV-112B (FC) AOV-112C (FO)
  - o Charging Pump Speed Control Fails to Minimum
  - o NaOH Tank Outlet Valves AOV-836A, 836B (FO)
  - o Letdown Valve TCV-145 (Fail to VCT)
  - o Letdown Valve PCV-135 (FO)
- 4) P&ID #33013-1892
  - o VCT Makeup Valve AOV-110A (FO)



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ATTACHMENT IA CONCERNS (Cont'd)

TURBINE BLDG IA LOADS AND FAILURE MODE

- 1) P&ID #33013-1894
  - o Heater Drain Pump Recirc Vlv 3365 (FO) HDT pumps trip if recirc vlv full open 1 minute
  - o Condensate Trim Valves 9508D, 9508G (FC)
  - o Condensate Makeup Vlv 4316 (FC)
  - o Steam Dump Valves 3349, 3351, 3353, 3355 (FC)
  - o H2 Cooler Inlet Vlv 4230 (FO)
  - o Condensate Makeup Valve 4315 (FC)
- 2) P&ID #33013-1895
  - o Reheater 2nd Pass Level Control Valves to #5 Heater 3333A, 3333B, 3334A, 3334B (FC)
  - o MFW Regulating Valves and Bypass Valves 4269, 4270, 4271, 4272 (FC)
- 3) P&ID #33013-1896
  - o Condensate Bypass Valve 3959 (FO)
  - o Reheater 2nd Pass Hi Level Dump Vlvs to Condenser 3336A, 3336B, 3338A, 3338B (FO)
  - o Steam Dump Valves 3350, 3352, 3354, 3356 (FC)
  - o H2 Cooler Bypass Valve 4229 (FO)

INTERMEDIATE BLDG IA LOADS AND FAILURE MODE

- 1) P&ID #33013-1893
  - o S/G Blowdown Vlvs 5737, 5738 (FC)

IA COMPRESSORS, FILTERS, AND AIR DRYERS

- 1) P&ID #33013-1900, Sheets 1 & 2

AUX BLDG SW

E-3  
ES-1.1  
ES-1.2  
ES-1.3  
ECA-0.1  
ECA-2.1  
ECA-3.1  
ECA-3.2  
ECA-3.3  
FR-H.1  
FR-I.3

COND TO S/G

FR-H.1

DC LOADS

ECA-0.0

FAULTED S/G

E-2  
ECA-0.0  
ECA-2.1  
FR-S.1

GEN DEGAS

ECA-0.0

LETDOWN

ES-0.1  
ES-0.2

CI/CVI

1.

E-0  
ECA-0.0  
FR-Z.1

CNMT RECIRC FANS

E-0  
E-1  
E-3  
ES-1.1  
ECA-1.1  
ECA-2.1  
ECA-3.1  
FR-P.1

D/G STOP

E-0  
E-1  
E-3  
ES-1.1  
ES-1.2  
ES-1.3  
ECA-2.1  
ECA-3.1  
ECA-3.2  
ECA-3.3

INTACT S/G PRESS

E-2





N2 PORVS

E-3  
ES-1.2  
ECA-0.1  
ECA-1.1  
ECA-2.1  
ECA-3.1  
ECA-3.2  
ECA-3.3  
FR-C.1  
FR-H.1  
FR-P.1  
FR-P.2  
FR-I.1

NC

E-3  
ES-0.1  
ES-1.1  
ES-1.2  
ECA-2.1  
ECA-3.1  
ECA-3.2

NONVITAL

ECA-0.0

NORMAL RHR COOLING

AP-RHR.2

RHR SYSTEM

ES-1.3  
ECA-1.1

RCS ISOLATION

ECA-0.0

RHR COOL

ES-0.2  
ES-0.3  
ES-1.2  
ES-3.1  
ES-3.2  
ES-3.3  
ECA-1.1  
ECA-2.1  
ECA-3.1  
ECA-3.2  
ECA-3.3  
FR-H.1

RUPTURED S/G

E-3  
ECA-0.0  
ECA-3.1  
ECA-3.2  
ECA-3.3

RHR NPSH

ES-1.3

RHR SAMPLE

ES-0.2  
ES-0.3

SAFW

FR-H.1

SD-1

E-0  
E-1  
E-3  
ES-0.1  
ES-1.1  
ES-1.2  
ES-1.3  
ECA-0.1  
ECA-1.1  
ECA-2.1  
ECA-3.1  
ECA-3.2  
ECA-3.3  
FR-H.1  
FR-I.1  
FR-I.2  
FR-P.1

SEAL COOLING

E-3  
ES-1.1  
ES-1.2  
ECA-0.1  
ECA-0.2  
ECA-2.1  
ECA-3.1  
ECA-3.2  
ECA-3.3

SFP-RWST

ECA-1.1  
ECA-3.2

SI FLUSH

3.

E-3  
ES-1.1  
ECA-1.1  
ECA-2.1  
ECA-3.3  
FR-P.1

SI/UV

E-0  
E-1  
ES-1.1  
ES-1.2  
ECA-2.1  
ECA-3.1

VENT TIME

FR-I.3

SD-2

E-3  
ES-0.1  
ES-1.1  
ES-1.2  
ES-1.3  
ECA-0.1  
ECA-2.1  
ECA-3.1  
ECA-3.2  
ECA-3.3

RCP START

E-3  
ES-0.1  
ES-0.2  
ES-0.3  
ES-1.1  
ES-1.2  
ECA-1.1  
ECA-2.1  
ECA-3.1  
ECA-3.2  
ECA-3.3  
FR-C.1  
FR-C.2  
FR-P.1  
FR-I.3

EOP:

AP-IA.1

TITLE:

LOSS OF INSTRUMENT AIR

REV: 5

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ROCHESTER GAS AND ELECTRIC CORPORATION

GINNA STATION

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TECHNICAL REVIEW

PORC REVIEW DATE 1/15/92

*Paul J. Mankin*  
PLANT SUPERINTENDENT

1/17/92  
EFFECTIVE DATE

CATEGORY 1.0

REVIEWED BY: \_\_\_\_\_

*Superseded per the Revision  
EOP 30-244  
9204150162  
4/6/92*



EOP:

AP-IA.1

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LOSS OF INSTRUMENT AIR

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A. PURPOSE - This procedure provides the instructions necessary in the event of a loss of instrument air.

B. ENTRY CONDITIONS/SYMPTOMS

1. ENTRY CONDITIONS - This procedure is entered from:

- a. E-0, REACTOR TRIP OR SAFETY INJECTION, or
- b. E-1, LOSS OF REACTOR OR SECONDARY COOLANT, or
- c. ES-1.1, SI TERMINATION, or
- d. ECA-2.1, UNCONTROLLED DEPRESSURIZATION OF BOTH STEAM GENERATORS, or
- e. E-3, STEAM GENERATOR TUBE RUPTURE, or
- f. ECA-3.1, SGTR WITH LOSS OF REACTOR COOLANT - SUBCOOLED RECOVERY DESIRED, or
- g. FR-I.1, RESPONSE TO HIGH PRESSURIZER LEVEL, or
- h. FR-I.3, RESPONSE TO VOIDS IN REACTOR VESSEL HEAD, or
- i. FR-H.1, RESPONSE TO LOSS OF SECONDARY HEAT SINK, or
- j. FR-P.1, RESPONSE TO IMMINENT PRESSURIZED THERMAL SHOCK CONDITION.

2. SYMPTOMS - The symptoms of LOSS OF INSTRUMENT AIR are;

- a. Annunciator H-8, INSTRUMENT AIR LO PRESS, 100 psi, lit, or
- b. Annunciator H-16, INSTRUMENT AIR LO PRESS, lit.



EOP:

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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

\*\*\*\*\*

CAUTION

IF AT ANY TIME DURING THIS PROCEDURE, A REACTOR TRIP OR SI OCCURS, E-0,  
REACTOR TRIP OR SAFETY INJECTION, SHALL BE PERFORMED.

\*\*\*\*\*

NOTE: o Step 1 is an IMMEDIATE ACTION Step.

o If this procedure is entered from any EOP, go to Step 3.

1 Check Instrument Air Pressure  
- GREATER THAN 60 PSIG AND  
STABLE

IF IA pressure is greater than  
60 psig but decreasing, THEN start  
standby IA compressor.

IF IA pressure is less than  
60 psig, THEN perform the following:

a. Trip the reactor.

b. Go to E-0, REACTOR TRIP or  
SAFETY INJECTION.





STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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\*\*\*\*\*  
CAUTION

- o OBSERVE D/G LOADING LIMITS OF 2300 KW FOR 1/2 HOUR, 2250 KW FOR 2 HOURS, AND 1950 KW FOR CONTINUOUS SERVICE.
- o WHEN IA PRESSURE IS LOW, MFW REGULATING VALVES SHOULD BE MONITORED FOR PROPER OPERATION.

\*\*\*\*\*

- |  |  |
|--|--|
| <p>2 Verify Power To Bus 13 And Bus 15:</p> <ul style="list-style-type: none"> <li>o Bus 13 - APPROXIMATELY 480 VOLTS</li> <li>o Bus 15 - APPROXIMATELY 480 VOLTS</li> </ul> | <p><u>IF</u> IA pressure is low due to a loss of power to Bus 13 <u>OR</u> bus 15, <u>THEN</u>:</p> <ul style="list-style-type: none"> <li>a. Crosstie bus 13 to 14, <u>OR</u> crosstie bus 15 to 16 as required.</li> <li>b. Start IA compressors as necessary (75 kw each).</li> <li>c. <u>IF</u> offsite power is lost, <u>THEN</u> go to AP-ELEC.1, LOSS OF #12A <u>OR</u> 12B TRANSFORMER.</li> </ul> |
|--|--|

- |  |  |
|--|--|
| <p>3 Check IA Compressors:</p> <ul style="list-style-type: none"> <li>o At least 2 compressors - RUNNING AND IA PRESSURE STABLE OR INCREASING</li> </ul> | <p>Perform the following:</p> <ul style="list-style-type: none"> <li>a. Start additional IA compressors.</li> <li>b. Service air compressor running <u>OR</u> start service air compressor.</li> <li>c. Automatic service air to IA crosstie (AOV-5251) open <u>OR</u> locally open manual crosstie, V-5365 (located in the Turbine Bldg. basement).</li> <li>d. Crosstie breathing air compressor and available portable air compressors (Per T-2F EMERGENCY BACKUP TO INSTRUMENT AIR SYSTEM FROM PORTABLE AIR COMPRESSORS).</li> </ul> |
|--|--|



EOP:

AP-IA.1

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LOSS OF INSTRUMENT AIR

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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

4 Check IA System Major Components Locally:

a. IA dryers:

- o Dryers - NOT BLOWING AIR
- o Dryers - AUTO TRANSFER OCCURRING PROPERLY

a. IF IA dryer is blowing air OR IF dryer transfer is NOT occurring, THEN isolate the faulty dryer:

1) A IA dryer isolation:

- o Open bypass V-5276.
- o Close inlet V-5277.
- o Close outlet V-5275
- o Open circuit breaker #1 in misc. 120V power DIST PNL (East of secondary sample sink).

2) B IA dryer isolation:

- o Open bypass V-8230.
- o Close inlet V-8228.
- o Close outlet V-8229.
- o Open circuit breaker #6 in LTG PNL TB2 (Turbine Bldg. basement east end).

b. IA dryer prefilters and after filters D/P - LESS THAN 10 PSID

b. IF any filter D/P is excessive greater than 10 psid, THEN bypass the affected filter.

c. Running IA compressors - OPERATING PROPERLY

c. IF any IA compressor malfunctioning, THEN perform the following:

- 1) Remove faulty IA compressor from IA header if necessary.



STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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\*\*\*\*\*

CAUTION

AN EVALUATION OF THE CONSEQUENCES SHOULD BE PERFORMED BEFORE A LEAKING SECTION OF THE IA SYSTEM IS ISOLATED. REFER TO ATTACHMENT A FOR MAJOR EQUIPMENT AFFECTED IN EACH SPECIFIC AREA.

\*\*\*\*\*

5 Check For Instrument Air Leakage In The Turbine And Intermediate (clean side) Buildings:

- o Turbine Building - NO LEAKAGE DETECTED
- o Intermediate Building (clean side) - NO LEAKAGE DETECTED

IF the IA leak is found in the turbine or intermediate buildings, THEN perform the following:

- a. Isolate the leak (Refer to Figure 1 and Attachment A).
- b. Go to Step 16

6 Establish Conditions To Isolate Instrument Air To The CNMT:

a. Isolate letdown as follows:

- 1) Close AOV-427 - AOV-427 CLOSED
- 2) Close AOV-200A, AOV-200B, and AOV-202 - AOVs 200A, 200B, 202 CLOSED

a. Verify letdown isolation valve AOV-371 closed.

b. Check that charging thru HCV-142 - NOT REQUIRED BY AN EOP

b. IF charging flow thru HCV-142 required by an EOP, THEN go to Step 7.

c. Isolate charging line flow thru HCV-142 as follows:

- o Close HCV-142 - HCV-142 CLOSED

c. IF HCV-142 can NOT be closed manually, THEN dispatch an AO to close V-286 locally (located in Charging Pump Room).



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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
<p><u>NOTE:</u> When IA is isolated to CNMT, PRZR spray valves will not function. PRZR heaters should be manually controlled.</p>		
7	Close AOV-5392 - TO ISOLATE IA TO CNMT	
8	Check IA Pressure -	
	a. Pressure - STABLE OR INCREASING	a. <u>IF</u> IA pressure continues to decrease, <u>THEN</u> open IA to CNMT (AOV-5392) <u>AND</u> go to Step 9.
	b. Go to Step 13	
<p><u>NOTE:</u> When IA is isolated to the Aux Bldg, makeup to the VCT and from the RWST is disabled, AND charging pumps will go to minimum speed, AND HCV-142 fails open.</p>		
9	Locally Close V-7350 (AUX BLDG By SFP On West Wall) - TO ISOLATE IA TO AUX BLDG	





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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

10 Check IA Pressure - STABLE OR  
INCREASING

IF IA leak is NOT in Aux Bldg, THEN:

a. Restore letdown as follows:

- 1) Open IA to Aux Bldg V-7350.
- 2) Ensure V-5392, IA to CNMT is open. IF NOT go to Step 12.
- 3) Ensure AOV-371 and AOV-427 open.
- 4) Place PCV-135 and TCV-130 in manual at ~25% open.
- 5) Open desired orifice isolation valve.
- 6) Adjust PCV-135 and TCV-130 as necessary.
- 7) Restore PCV-135 and TCV-130 to auto at ~250 psig and 80°F to 120°F.

b. Continue investigation.

c. Go to Step 14.



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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
<p>*****</p> <p style="text-align: center;"><u>CAUTION</u></p> <p>IF CHARGING PUMP SUCTION IS SWAPPED TO THE RWST, A LOAD REDUCTION MAY BE REQUIRED TO MAINTAIN TAVG AT TREF.</p> <p>*****</p>		
11	Check VCT Level - GREATER THAN 20%	<p><u>IF</u> VCT level is low and IA has <u>NOT</u> been restored, <u>THEN</u> perform the following:</p> <p>a. Stop charging pump A and place in PULL STOP.</p> <p>b. Dispatch A0 to locally open manual charging pump suction from RWST (V-358 located in charging pump room).</p> <p>c. <u>WHEN</u> V-358 open, <u>THEN</u> direct A0 to close V-268 to isolate charging pumps B and C from VCT (V-268 located in charging pump room).</p> <p><u>IF</u> normal VCT makeup or normal or excess letdown can <u>NOT</u> be restored, <u>THEN</u>, plant shutdown will be required, (Refer to 0-2.1, NORMAL SHUTDOWN TO HOT SHUTDOWN).</p>
12	Verify CCW Is Being Supplied To The RCPs:	Perform the following:
	<ul style="list-style-type: none"> <li>o Annunciator Alarm A-7 - EXTINGUISHED</li> <li>o Annunciator Alarm A-15 - EXTINGUISHED</li> </ul>	<ul style="list-style-type: none"> <li>a. Restore CCW to the RCPs.</li> <li>b. <u>IF</u> CCW can <u>NOT</u> be restored to RCPs, <u>THEN</u> go to Step 13.</li> </ul>



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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
<p>*****</p> <p style="text-align: center;"><u>CAUTION</u></p> <p>MONITOR RCP SEAL INDICATIONS WHEN CHARGING PUMP IS NOT RUNNING.</p> <p>*****</p>		
13	Start And Stop Charging Pump(s) As Necessary - TO CONTROL PRZR LEVEL	
14	Throttle Charging Flow Locally If Necessary, Using V-286 (Located In Charging Pump Room) - TO MAINTAIN RCP SEAL INJECTION FLOW WHEN CHARGING PUMP(S) ARE RUNNING	
15	Isolate IA Leak: <ul style="list-style-type: none"> <li>a. Investigate - LEAKING SECTION TO BE ISOLATED</li> <li>b. Isolate - LEAK AS CLOSE TO SOURCE AS POSSIBLE</li> </ul>	<p>IF IA leak can <u>NOT</u> be isolated with plant at power <u>AND</u> IA pressure is less than 60 psig, <u>THEN</u> perform the following:</p> <ul style="list-style-type: none"> <li>o Trip the reactor.</li> <li>o Go to E-0, REACTOR TRIP or SAFETY INJECTION.</li> </ul> <p>IF IA leak occurred while performing any EOP <u>AND</u> can <u>NOT</u> be isolated, <u>THEN</u> , return to procedure and step in effect.</p>
16	Complete - RESTORATION OF UNAFFECTED PORTIONS OF THE IA SYSTEM TO SERVICE	



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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

17 Verify - THAT PLANT OPERATION  
CAN CONTINUE

NOTE: Refer to 0-9.3, NRC IMMEDIATE NOTIFICATION, for reporting  
requirements.

18 Complete - MAINTENANCE AND  
HIGHER SUPERVISION  
NOTIFICATION

19 Establish Further Guidance:

- o Return to - PROCEDURE AND STEP  
IN EFFECT

-OR-

- o Return to - NORMAL PLANT  
OPERATION

-END-





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### ATTACHMENT A

#### CNMT IA LOSS AND FAILURE MODE

- 1) P&ID #33013-1887
  - o Letdown AOV-427 (FO)
  - o Excess Letdown AOV-310 (FC)
  - o RCP Seal Return AOV-270B (FO)
  - o RCP Thermal Barrier CCW AOV-754B (FO)
- 2) P&ID #33013-1888
  - o Letdown Orifices AOV-200A, 200B, 202 (FC)
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  - o Charging AOV-392B (FC)
  - o RCP Seal Return AOV-386 (FC)
  - o PRZR Sample Valves AOV-951, 953 (FC)

#### AUX BLDG IA LOADS AND FAILURE MODE

- 1) P&ID #33013-1889
  - o Letdown Valve LCV-112A (Fail to VCT)
- 2) P&ID #33013-1890
  - o Letdown Valve AOV-371 (FC)
  - o Charging Line Valve HCV-142 (FO)
  - o RHR Flow Valves HCV-624, 625 (FO)
  - o RHR Hx Bypass Flow Valve FCV-626 (FC)
- 3) P&ID #33013-1891
  - o VCT Makeup Valves AOV-110B, 110C, 111 (FC)
  - o Charging Pump Suction AOV-112B (FC) AOV-112C (FO)
  - o Charging Pump Speed Control Fails to Minimum
  - o NaOH Tank Outlet Valves AOV-836A, 836B (FO)
  - o Letdown Valve TCV-145 (Fail to VCT)
  - o Letdown Valve PCV-135 (FO)
- 4) P&ID #33013-1892
  - o VCT Makeup Valve AOV-110A (FO)





