

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9201300043 DOC.DATE: 92/01/22 NOTARIZED: NO DOCKET #  
 FACIL:50-244 Robert Emmet Ginna Nuclear Plant, Unit 1, Rochester G 05000244  
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 RECIP.NAME RECIPIENT AFFILIATION  
 JOHNSON,A. Project Directorate I-3

SUBJECT: Forwards Rev 5 to Emergency Operating Procedure AP-IA.1,  
 "Loss of Instrument Air."

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*Revised 2/10/92 E.H.W.*

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January 22, 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. Meckedy

Enclosure

xc: Mr. Lee Bettenhausen, USNRC, Region I  
Resident Inspector, Ginna Station

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Abnormal Procedures Index 1/8/92  
Emergency Procedures Index 1/8/92  
Emergency Contingency Actions Procedures Index 1/8/92  
AP-IA.-1, Rev. 5  
Equipment Sub-Procedures Index 1/8/92  
Critical Safety Function Status Trees Index, 1/8/92  
Functional Restoration Guidelines Procedures Index 1/8/92  
EOP/AP Attachment Index 1/8/92

EOP: AP-IA.1	TITLE: LOSS OF INSTRUMENT AIR	REV: 4 PAGE 1 of 12
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ROCHESTER GAS AND ELECTRIC CORPORATION

GINNA STATION

CONTROLLED COPY NUMBER 23

TECHNICAL REVIEW

PORC REVIEW DATE 12-13-89

Joseph A. Widay  
PLANT SUPERINTENDENT

12-19-89  
EFFECTIVE DATE

QA X NON-QA \_\_\_\_\_ CATEGORY 1.0

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

GINNA STATION	
START:	
DATE	_____
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COMPLETED:	
DATE	_____
TIME:	_____



EOP: AP-IA.1	TITLE: LOSS OF INSTRUMENT AIR	REV: 4 PAGE 2 of 12
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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, alarm lit, or
- b. Annunciator H-16, Instrument Air Compressor, alarm lit.



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EOP: AP-IA.1	TITLE: LOSS OF INSTRUMENT AIR	REV: 4 PAGE 3 of 12
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
***** <u>CAUTION</u> IF AT ANY TIME DURING THIS PROCEDURE, A REACTOR TRIP OR SI OCCURS, E-0, REACTOR TRIP OR SAFETY INJECTION, SHALL BE PERFORMED. *****		
<u>NOTE:</u> 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, <u>THEN</u> start standby IA compressor.  IF IA pressure is less than 60 : psig, <u>THEN</u> perform the following: <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>



EOP: AP-IA.1	TITLE: LOSS OF INSTRUMENT AIR	REV: 4 PAGE 4 of 12
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
***** CAUTION *****		
	<ul style="list-style-type: none"> <li>o OBSERVE D/G LOADING LIMITS OF 2300 KW FOR 1/2 HOUR, 2250 KW FOR 2 HOURS, AND 1950 KW FOR CONTINUOUS SERVICE.</li> <li>o WHEN IA PRESSURE IS LOW, MFW REGULATING VALVES SHOULD BE MONITORED FOR PROPER OPERATION.</li> </ul>	
*****		
2	Verify Power To Bus 13 and Bus 15: <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 OR 12B TRANSFORMER.</li> </ul>



EOP: AP-IA.1	TITLE: LOSS OF INSTRUMENT AIR	REV: 4 PAGE 5 of 12
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
3	Check IA Compressors:	Perform the following:
	o At least 2 compressors - RUNNING AND IA PRESSURE STABLE OR INCREASING	a. Start additional IA compressors. b. Service air compressor running <u>OR</u> start service air compressor. 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). d. Crosstie breathing air compressor and available portable air compressors (per T-2F EMERGENCY BACKUP TO INSTRUMENT AIR SYSTEM FROM PORTABLE AIR COMPRESSORS).



EOP: AP-IA.1	TITLE: LOSS OF INSTRUMENT AIR	REV: 4 PAGE 6 of 12
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
4	Check IA System Major Components Locally:	
a.	IA dryers:	a. <u>IF</u> IA dryer is blowing air <u>OR</u> <u>IF</u> dryer transfer is <u>NOT</u> occurring, <u>THEN</u> isolate the faulty dryer:
	o Dryers - NOT BLOWING AIR	1) A IA dryer isolation:
	o Dryers - AUTO TRANSFER OCCURRING PROPERLY	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. <u>IF</u> any filter D/P is excessive greater than 10 psid, <u>THEN</u> bypass the affected filter.
c.	Running IA compressors - OPERATING PROPERLY	c. <u>IF</u> any IA compressor malfunctioning, <u>THEN</u> perform the following:
		1) Remove faulty IA compressor from service.
		2) Isolate faulty IA compressor from IA header if necessary.





EOP: AP-IA.1	TITLE: LOSS OF INSTRUMENT AIR	REV: 4 PAGE 7 of 12
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
***** <u>CAUTION</u> 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	<u>IF</u> the IA leak is found in the turbine or intermediate buildings, <u>THEN</u> perform the following:  a. Isolate the leak (Refer to Figure 1 and Attachment A).  b. Go to Step 15.
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  b. Check that charging thru HCV-142 - NOT REQUIRED BY AN EOP  c. Isolate charging line flow thru HCV-142 as follows:  o Close HCV-142 - HCV-142 CLOSED	a. Verify letdown isolation valve AOV-371 closed.          b. <u>IF</u> charging flow thru HCV-142 required by an EOP, <u>THEN</u> go to Step 7.  c. <u>IF</u> HCV-142 can <u>NOT</u> be closed manually, <u>THEN</u> dispatch an AO to close V-286 locally (located in Charging Pump Room).



EOP: AP-IA.1	TITLE: LOSS OF INSTRUMENT AIR	REV: 4 PAGE 8 of 12
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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 12	
<p><u>NOTE:</u> When IA is isolated to the Aux Bldg, make-up 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	



EOP:

AP-IA.1

TITLE:

LOSS OF INSTRUMENT AIR

REV: 4

PAGE 9 of 12

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 15.

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EOP: AP-IA.1	TITLE: LOSS OF INSTRUMENT AIR	REV: 4 PAGE 10 of 12
-----------------	----------------------------------	-------------------------

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 AO 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 AO 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>	<p>a. Restore CCW to the RCPs.</p> <p>b. <u>IF</u> CCW can <u>NOT</u> be restored to RCPs, <u>THEN</u> go to Step 14.</p>





EOP: AP-IA.1	TITLE: LOSS OF INSTRUMENT AIR	REV: 4 PAGE 11 of 12
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
***** CAUTION *****		
MONITOR RCP SEAL INDICATIONS WHEN CHARGING PUMP IS NOT RUNNING.		
*****		
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 PUMPS(S) ARE RUNNING	
15	Isolate IA Leak:	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:
	a. Investigate - LEAKING SECTION TO BE ISOLATED	
	b. Isolate - LEAK AS CLOSE TO SOURCE AS POSSIBLE	o Trip the reactor. o Go to E-0, REACTOR TRIP or SAFETY INJECTION.
		IF IA leak occurred while performing any EOP and can <u>NOT</u> be isolated, <u>THEN</u> , return to procedure and step in effect.
16	Complete - RESTORATION OF UNAFFECTED PORTIONS OF THE IA SYSTEM TO SERVICE	

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EOP:

AP-IA.1

TITLE:

LOSS OF INSTRUMENT AIR

REV: 4

PAGE 12 of 12

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

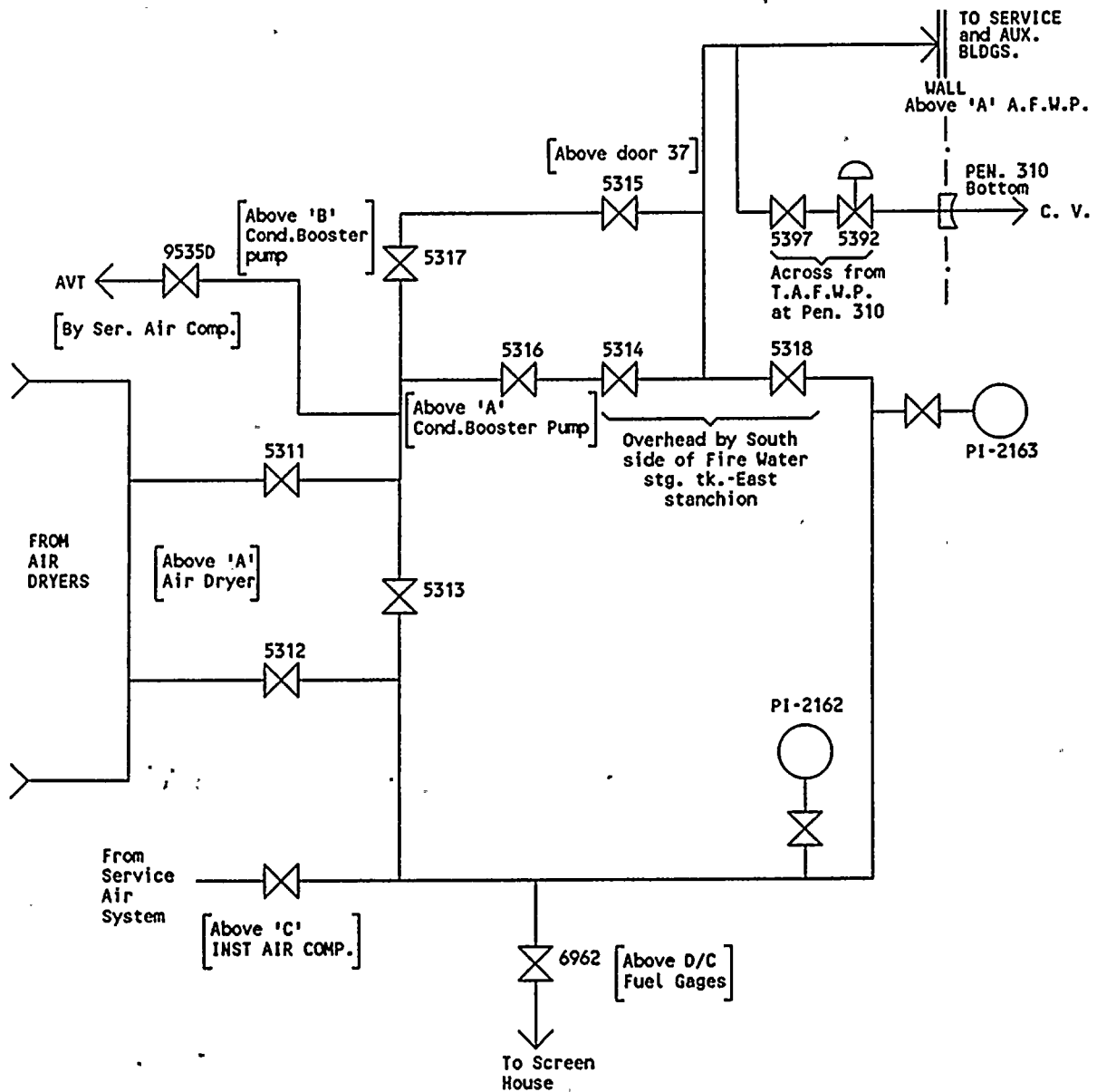
-OR-

- o Return to - NORMAL PLANT  
OPERATIONS

-END-

EOP:	TITLE:	REV: 4
AP-IA.1	LOSS OF INSTRUMENT AIR	PAGE 1 of 1

FIGURE1





EOP: AP-IA.1	TITLE: LOSS OF INSTRUMENT AIR	REV: 4 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)

EOP: AP-IA.1	TITLE: LOSS OF INSTRUMENT AIR	REV: 4 PAGE 2 of 2
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ATTACHMENT A (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)