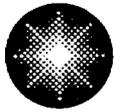


1503 Lake Road  
Ontario, New York 14519-9364  
585.771.3000



## Constellation Energy

R.E. Ginna Nuclear Power Plant, LLC

June 10, 2005

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,

*Thomas A. Marlow*  
Thomas A. Marlow

TAM/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):

AP Index  
AP-TURB.1, Rev 15  
AP-TURB.3, Rev 13

A002

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

PRAP ABNORMAL PROCEDURE

PROCEDURE NUMBER	PROCEDURE TITLE	REV	EFFECT DATE	LAST REVIEW	NEXT REVIEW	ST
AP-CCW.1	LEAKAGE INTO THE COMPONENT COOLING LOOP	017	06/30/2004	06/26/2002	06/26/2007	EF
AP-CCW.2	LOSS OF CCW DURING POWER OPERATION	020	04/28/2005	06/26/2002	06/26/2007	EF
AP-CCW.3	LOSS OF CCW - PLANT SHUTDOWN	017	04/28/2005	06/26/2002	06/26/2007	EF
AP-CR.1	CONTROL ROOM INACCESSIBILITY	021	04/26/2005	06/26/2002	06/26/2007	EF
AP-CVCS.1	CVCS LEAK	014	06/30/2004	06/03/2002	06/03/2007	EF
AP-CVCS.3	LOSS OF ALL CHARGING FLOW	005	04/10/2005	02/27/2004	02/27/2009	EF
AP-CW.1	LOSS OF A CIRC WATER PUMP	012	09/17/2004	04/16/2003	04/16/2008	EF
AP-ELEC.1	LOSS OF 12A AND/OR 12B BUSES	028	01/21/2005	06/26/2002	06/26/2007	EF
AP-ELEC.2	SAFEGUARD BUSES LOW VOLTAGE OR SYSTEM LOW FREQUENCY	011	06/10/2004	06/26/2002	06/26/2007	EF
AP-ELEC.3	LOSS OF 12A AND/OR 12B TRANSFORMER (BELOW 350 F)	013	01/21/2005	06/26/2002	06/26/2007	EF
AP-ELEC.13/15	LOSS OF BUS 13/15	001	06/30/2004	09/24/2003	09/24/2008	EF
AP-ELEC.14/16	LOSS OF SAFEGUARDS BUS 14/16	009	01/21/2005	06/26/2002	06/26/2007	EF
AP-ELEC.17/18	LOSS OF SAFEGUARDS BUS 17/18	008	01/21/2005	06/26/2002	06/26/2007	EF
AP-FW.1	ABNORMAL MAIN FEEDWATER FLOW	016	06/30/2004	06/26/2002	06/26/2007	EF
AP-IA.1	LOSS OF INSTRUMENT AIR	018	06/26/2002	04/16/2003	04/16/2008	EF
AP-PRZR.1	ABNORMAL PRESSURIZER PRESSURE	015	06/30/2004	06/26/2002	06/26/2007	EF
AP-RCC.1	CONTINUOUS CONTROL ROD WITHDRAWAL/INSERTION	009	06/30/2004	04/16/2003	04/16/2008	EF
AP-RCC.2	RCC/RPI MALFUNCTION	012	04/10/2005	2/20/51/2	01/22/2007	EF
AP-RCC.3	DROPPED ROD RECOVERY	007	04/28/2005	02/25/2003	02/25/2008	EF
AP-RCP.1	RCP SEAL MALFUNCTION	017	06/30/2004	04/24/2003	04/24/2008	EF
AP-RCS.1	REACTOR COOLANT LEAK	017	06/30/2004	04/16/2003	04/16/2008	EF
AP-RCS.2	LOSS OF REACTOR COOLANT FLOW	012	06/30/2004	04/16/2003	04/16/2008	EF
AP-RCS.3	HIGH REACTOR COOLANT ACTIVITY	011	06/30/2004	04/01/2002	01/22/2007	EF
AP-RCS.4	SHUTDOWN LOCA	017	03/18/2005	04/30/2003	04/30/2008	EF
AP-RHR.1	LOSS OF RHR	019	04/30/2003	04/30/2003	04/30/2008	EF
AP-RHR.2	LOSS OF RHR WHILE OPERATING AT RCS REDUCED INVENTORY CONDITIONS	015	04/05/2005	04/30/2003	04/30/2008	EF
AP-SG.1	STEAM GENERATOR TUBE LEAK	004	04/10/2005	06/26/2002	06/26/2007	EF
AP-SW.1	SERVICE WATER LEAK	021	09/17/2004	04/21/2003	04/21/2008	EF
AP-SW.2	LOSS OF SERVICE WATER	007	01/21/2005	1/20/50/3	10/31/2006	EF
AP-TURB.1	TURBINE TRIP WITHOUT RX TRIP REQUIRED	015	06/10/2005	06/26/2002	06/26/2007	EF

NPSP0200  
E66429

GINNA Nuclear Power Plant  
PROCEDURE INDEX

Fri 6/10/2005 10:15:55 am  
Page 2 of 2

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

PRAP ABNORMAL PROCEDURE

PROCEDURE NUMBER	PROCEDURE TITLE	REV	EFFECT DATE	LAST REVIEW	NEXT REVIEW	ST
AP-TURB.2	TURBINE LOAD REJECTION	021	04/10/2005	06/26/2002	06/26/2007	EF
AP-TURB.3	TURBINE VIBRATION	013	06/10/2005	06/26/2002	06/26/2007	EF
AP-TURB.4	LOSS OF CONDENSER VACUUM	018	04/10/2005	04/30/2003	04/30/2008	EF
AP-TURB.5	RAPID LOAD REDUCTION	008	04/10/2005	06/26/2002	06/26/2007	EF

PRAP TOTAL: 34

GRAND TOTAL: 34

EOP: AP-TURB.1	TITLE: TURBINE TRIP WITHOUT RX TRIP REQUIRED	REV: 15 PAGE 1 of 16
-------------------	---	-------------------------

GINNA STATION

CONTROLLED COPY NUMBER 23

Edward Groh  
RESPONSIBLE MANAGER

6-10-2005  
EFFECTIVE DATE

CATEGORY 1.0

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

EOP: AP-TURB.1	TITLE: TURBINE TRIP WITHOUT RX TRIP REQUIRED	REV: 15 PAGE 2 of 16
-------------------	---	-------------------------

A. PURPOSE - This procedure provides the necessary instructions to control the plant following a turbine trip without a reactor trip required.

B. ENTRY CONDITIONS/SYMPTOMS

1. ENTRY CONDITIONS - This procedure is entered from:

- a. AR-G-32, EMERGENCY DC LUBE OIL PUMP, if turbine tripped.
- b. AR-I-8, EH RESERVOIR HI-LO LEVEL, if level is decreasing and cannot be stabilized.
- c. AR-I-16, EH RESERVOIR LO LEVEL PUMP LOCKOUT, if level is decreasing and cannot be stabilized.
- d. AR-J-2, GENERATOR STATOR WINDING HI TEMP, if generator conditions warrant turbine trip.
- e. AR-VOLT-REG-3, LOSS OF BOTH FIRING CIRCUITS, if voltage regulator will not control voltage.
- f. AP-CW.1, LOSS OF A CIRC WATER PUMP, or,
- g. AP-FW.1, ABNORMAL FEED FLOW, or,
- h. AP-TURB.2, TURBINE LOAD REJECTION, or,
- i. AP-TURB.3, TURBINE VIBRATION, or,
- j. AP-TURB.4, LOSS OF CONDENSER VACUUM, when power is less than P-9 and the turbine trips without a Rx trip.
- k. AP-TURB.5, RAPID LOAD REDUCTION, when Rx is to be maintained critical.

2. SYMPTOMS - The symptoms of TURBINE TRIP WITHOUT RX TRIP REQUIRED are:

- a. Annunciator F-21, COND HI PRESS 20" HG OR LOSS OF BOTH CIRC WTR PMPS, lit, or
- b. Annunciator G-15, STEAM DUMP ARMED, lit, or
- c. Annunciator J-11, GENERATOR REVERSE POWER, lit, or
- d. Annunciator J-26, GENERATOR EXCITER FIELD BREAKER TRIP, lit, or
- e. Annunciator K-1, THRUST BEARING FAILURE, lit, or
- f. Annunciator K-3, AMSAC ACTUATED, lit.

EOP: AP-TURB.1	TITLE: TURBINE TRIP WITHOUT RX TRIP REQUIRED	REV: 15 PAGE 3 of 16
-------------------	---	-------------------------

- g. Annunciator K-9, TURBINE BEARING OIL LO PRESS TRIP  
6 psi, lit, or
- h. Annunciator K-10, TURBINE HIGH HIGH VIBRATION, |  
lit, or
- i. Annunciator K-17, TURBINE LOW VACUUM TRIP 20" HG,  
lit, or
- j. Annunciator K-25, TURBINE OVERSPEED ALERT 1980 RPM,  
lit, or
- k. Annunciator K-26, GENERATOR LOCKOUT RELAY, lit, or
- l. Annunciator L-12, CONDENSER PIT OR SCREENHOUSE HI  
LEVEL 6.5", lit, or
- m. Annunciator VOLT-REG-12, LOSS OF BOTH PWR SUPPLY, lit.

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

1 Verify Turbine Stop Valves -  
CLOSED

Manually trip turbine.

IF turbine stop valves can NOT be closed, THEN perform the following:

- a. Trip the reactor
- b. WHEN all E-0 Immediate Actions done, THEN ensure both MSIVs closed
- c. Go to E-0, REACTOR TRIP OR SAFETY INJECTION

- NOTE:
- o Automatic rod control is desired, if available.
  - o Transition to E-0 is NOT required if the reactor trip breakers are opened in the following step.

2 Check Reactor Power:

a. NIS power ranges - ABOVE 1%

a. Perform the following:

- 1) IF the reactor is subcritical, THEN shut down the reactor using manual trip pushbutton.
- 2) Go to Step 3.

b. Verify control rods driving in to reduce reactor power in AUTO

b. Perform the following:

- 1) Place rods in MANUAL
- 2) Adjust rods to control reactor power between 1% and 2%.

c. Borate to maintain control rods above rod insertion limits

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

\* 3 Monitor MFW Regulating Valves  
- RESTORING S/G LEVEL TO 52%  
IN AUTO

Perform the following:

- a. Place affected S/G(s) MFW regulating valve in MANUAL
- b. Restore S/G level to 52%

IF S/G level can NOT be controlled manually, THEN refer to AP-FW.1. ABNORMAL MAIN FEEDWATER FLOW.

4 Verify Proper Operation Of Steam Dump:

- a. Verify annunciator G-15. STEAM DUMP ARMED - LIT
- b. Condenser steam dump operating in AUTO

- a. Place steam dump mode selector switch to MANUAL.
- b. IF steam dump NOT available, THEN perform the following:

- 1) Adjust S/G ARV setpoints to 1005 psig and verify ARV operating to control Tav<sub>g</sub> to approximately 547°F.
- 2) IF power is greater than 8%, THEN ensure reactor trip and go to E-0, REACTOR TRIP OR SAFETY INJECTION.

- c. Check RCS Tav<sub>g</sub>:
  - Tav<sub>g</sub> - GREATER THAN 545°F
  - Tav<sub>g</sub> - LESS THAN 566°F

- c. Verify control rods responding in AUTO. IF NOT, THEN place rods to MANUAL and adjust control rods to restore Tav<sub>g</sub> within limits.

IF Tav<sub>g</sub> is outside limits and can NOT be controlled, THEN trip the reactor and go to E-0. REACTOR TRIP OR SAFETY INJECTION.

EOP: AP-TURB.1	TITLE: TURBINE TRIP WITHOUT RX TRIP REQUIRED	REV: 15 PAGE 6 of 16
-------------------	---	-------------------------

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE: With PRZR pressure controller 431K in manual, PORV-431C will not operate in the automatic mode. (Refer to TR 3.4.3)

5 Check PRZR Pressure -  
TRENDING TO 2235 PSIG IN AUTO

Control PRZR pressure by one of the following:

- 431K in MANUAL
- Manual control of heaters and sprays

IF PRZR pressure can NOT be controlled manually, THEN refer to AP-PRZR.1, ABNORMAL PRESSURIZER PRESSURE.

EOP: AP-TURB.1	TITLE: TURBINE TRIP WITHOUT RX TRIP REQUIRED	REV: 15 PAGE 7 of 16
-------------------	---	-------------------------

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
6 Check PRZR Level:	a. Level - GREATER THAN 13%	a. Perform the following: <ol style="list-style-type: none"> <li>1) Place letdown isolation valve AOV-427 switch to CLOSE.</li> <li>2) Place letdown orifice valve switches to CLOSE (AOV-200A, AOV-200B, and AOV-202).</li> <li>3) Close excess letdown isolation valve, AOV-310.</li> <li>4) Ensure PRZR heaters off.</li> <li>5) Close letdown isolation AOV-371 <u>WHILE</u> adjusting charging pump speed to maintain:               <ul style="list-style-type: none"> <li>o RCP labyrinth seal D/P between 15 inches and 80 inches</li> <li>o PRZR level at program</li> </ul> </li> <li>6) <u>WHEN</u> PRZR level greater than 13%, <u>THEN</u> restore letdown. (Refer to ATT-9.0, ATTACHMENT LETDOWN)</li> </ol>
	b. Level - TRENDING TO PROGRAM IN AUTO CONTROL	b. Perform the following: <ol style="list-style-type: none"> <li>1) Place affected charging pumps in MANUAL</li> <li>2) Adjust charging pump speed to restore PRZR level to program.</li> </ol> <p><u>IF</u> PRZR level can <u>NOT</u> be controlled manually, <u>THEN</u> refer to AP-RCS.1, REACTOR COOLANT LEAK.</p>

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

7 Check MFW System:

a. MFW pumps - BOTH RUNNING

a. Perform the following:

1) Verify one MFW pump running.  
IF NOT. THEN establish sufficient AFW flow to maintain S/G levels

- MDAFW pump(s)
- TDAFW pump

2) Go to Step 8.

b. Close one MFW pump discharge valve

c. Stop selected MFW pump

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

\*\*\*\*\*  
CAUTION  
 IF AT ANY TIME IT IS SUSPECTED THAT THE REACTOR IS SUBCRITICAL, THEN MANUALLY TRIP THE REACTOR.  
 \*\*\*\*\*

NOTE:   o With PRZR pressure controller 431K in manual, PORV-431C will not operate in the automatic mode. (Refer to TR 3.4.3)  
           o Transition to E-0 is NOT required if the reactor trip breakers are opened in the following step.

8 Establish Stable Plant Conditions:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>a. NIS power ranges - LESS THAN 2%</li> <li>b. Place rods in MANUAL</li> <li>c. Check reactor power - GREATER THAN 1%</li> <li>d. Maintain reactor power between 1% and 2%</li> <li>e. PRZR pressure - BETWEEN 2220 PSIG AND 2260 PSIG</li> <li>f. RCS Tavg - GREATER THAN 545°F</li> </ul> | <ul style="list-style-type: none"> <li>a. Return to Step 2.</li> <li>c. <u>IF</u> the reactor is subcritical, <u>THEN</u> perform the following:               <ul style="list-style-type: none"> <li>1) Shut down the reactor using manual trip pushbutton.</li> <li>2) Go to Step 8e.</li> </ul> </li> <li>e. Control PRZR pressure between 2220 psig and 2260 psig by one of the following:               <ul style="list-style-type: none"> <li>• 431K in AUTO</li> <li>• 431K in MANUAL</li> <li>• Manual control of heaters and spray</li> </ul> </li> <li>f. Control dumping steam to control Tavg. <u>IF</u> cooldown continues, <u>THEN</u> close both MSIVs.<br/><br/> <u>IF</u> MSIVs closed <u>AND</u> Tavg still decreasing, <u>THEN</u> trip the reactor and go to E-0, REACTOR TRIP OR SAFETY INJECTION.</li> </ul> |
|--|--|

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
------	--------------------------	-----------------------

\*\*\*\*\*  
CAUTION  
 IF ANY S/G LEVEL ABOVE 52%. THEN AFW FLOW MAY BE THROTTLED IMMEDIATELY TO PREVENT S/G ISOLATION.  
 \*\*\*\*\*

NOTE: Maintaining reactor power less than 2% is within the capacity of MDAFW pumps.

9 Check S/G Feed Flow Status:

- a. Manually start both MDAFW pumps
- b. Verify MDAFW pump flow - SUFFICIENT FLOW TO MAINTAIN S/G LEVELS
- c. Verify MFW flow control valves - CLOSED
  - MFW regulating valves
  - MFW bypass valves
- b. Perform the following:
  - 1) Establish MFW flow using MFW regulating valve bypass valves.  
  
IF MFW NOT available, THEN perform the following:
    - a) Manually start TDAFW pump and establish flow.
    - b) Adjust feed flow to restore S/G level to 52%.
    - c) Go to Step 9c.
  - 2) Adjust feed flow to restore S/G level to 52%.
  - 3) Go to Step 11.
- c. Place A and B MFW regulating and bypass valve controllers in manual at 0% demand.

This Step continued on the next page.

EOP:  
AP-TURB.1

TITLE:  
TURBINE TRIP WITHOUT RX TRIP REQUIRED

REV: 15  
PAGE 11 of 16

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

(Step 9 continued from previous page)

- d. Close MFW pump discharge valves
  - MOV-3977, A MFW pump
  - MOV-3976, B MFW pump
- e. Stop any running MFW pump
- f. Close MFW pump recirc valves by placing BOTH MFPs in PULL STOP.
- g. Place A and B MFW regulating and bypass valve controllers in manual at 0% demand.
- h. Adjust AFW pump flow to restore S/G level to 52%.

EOP: AP-TURB.1	TITLE: TURBINE TRIP WITHOUT RX TRIP REQUIRED	REV: 15 PAGE 12 of 16
-------------------	---	--------------------------

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
------	--------------------------	-----------------------

10 Verify TDAFW Pump Aligned For AUTO Start:

- |   |  |
|---|--|
| <p>a. Any MDAFW pump - AVAILABLE</p> <p>b. Verify AMSAC TRIPPED status light - EXTINGUISHED</p> <p>c. Verify both S/G levels - GREATER THAN 17%</p> <p>d. Verify Bus 11A and Bus 11B - AT LEAST ONE ENERGIZED</p> <p>e. Verify the following:</p> <p>1) TDAFW pump - OFF</p> <p>2) TDAFW pump steam supply valve switches in AUTO</p> <p>3) Verify TDAFW flow control valves - OPEN, DEMAND AT 0</p> <ul style="list-style-type: none"> <li>• AOV-4297</li> <li>• AOV-4298</li> </ul> | <p>a. Verify TDAFW pump operating to maintain required S/G level and go to Step 12.</p> <p>b. Reset AMSAC.</p> <p>c. Continue with Step 12. <u>WHEN</u> S/G level greater than 17%, <u>THEN</u> do Steps 10d, e and 11.</p> <p>d. Perform the following:</p> <p>1) <u>IF</u> TDAFW pump <u>NOT</u> required to maintain S/G level, <u>THEN</u> pull stop TDAFW pump steam supply valves:</p> <ul style="list-style-type: none"> <li>• MOV-3504A</li> <li>• MOV-3505A</li> </ul> <p>2) Go to Step 11.</p> <p>1) Perform the following:</p> <p>a) <u>IF</u> TDAFW pump required to maintain S/G level, <u>THEN</u> go to Step 12.</p> <p>b) Stop TDAFW pump.</p> <p>2) Place TDAFW pump steam supply valve switches in AUTO.</p> <p>3) Open TDAFW flow control valves.</p> |
|---|--|

EOP: AP-TURB.1	TITLE: TURBINE TRIP WITHOUT RX TRIP REQUIRED	REV: 15 PAGE 13 of 16
-------------------	---	--------------------------

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
11	Establish Normal AFW Pump Shutdown Alignment:	
	a. Place AFW bypass switches to DEF	
	b. Verify the following:	b. Continue with Step 12. <u>WHEN</u> conditions met, <u>THEN</u> do Steps 11c through d.
	o Both S/G levels - STABLE OR INCREASING	
	o Total AFW flow - LESS THAN 200 GPM	
	c. Close MDAFW pump discharge valves	
	<ul style="list-style-type: none"> <li>• MOV-4007</li> <li>• MOV-4008</li> </ul>	
	d. Adjust AFW bypass valves to control S/G levels at 52%	
	<ul style="list-style-type: none"> <li>• AOV-4480</li> <li>• AOV-4481</li> </ul>	

EOP: AP-TURB.1	TITLE: TURBINE TRIP WITHOUT RX TRIP REQUIRED	REV: 15 PAGE 14 of 16
-------------------	---	--------------------------

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
12	<p>Establish Normal Shutdown Alignment:</p> <ul style="list-style-type: none"> <li>a. Check condenser - AVAILABLE</li> <li>b. Perform the following: <ul style="list-style-type: none"> <li>o Open generator disconnects <ul style="list-style-type: none"> <li>• 1G13A71</li> <li>• 9X13A73</li> </ul> </li> <li>o Place voltage regulator to OFF</li> <li>o Open turbine drain valves</li> <li>o Rotate reheater steam supply controller cam to close valves</li> <li>o Place reheater dump valve switches to HAND</li> <li>o Stop all but one condensate pump (Refer to T-5F, STARTING OR STOPPING THE CONDENSATE PUMPS)</li> </ul> </li> <li>c. Verify Bus 11A and Bus 11B energized - BOTH BUSES GREATER THAN 4 KV</li> <li>d. Dispatch A0 to perform ATT-17.0, ATTACHMENT SD-1</li> </ul>	<ul style="list-style-type: none"> <li>a. Dispatch A0 to perform ATT-17.1, ATTACHMENT SD-2.</li> <li>c. <u>IF</u> either bus <u>NOT</u> energized, <u>THEN</u> refer to 0-6.9.2, ESTABLISHING AND/OR TRANSFERRING OFFSITE POWER TO BUS 12A/ BUS 12B.</li> </ul>

EOP: AP-TURB.1	TITLE: TURBINE TRIP WITHOUT RX TRIP REQUIRED	REV: 15 PAGE 15 of 16
-------------------	---	--------------------------

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
13	Establish Control Systems In Auto:	
	a. Verify 431K in AUTO	a. Place 431K in AUTO, if desired.
	b. Verify PRZR spray valves in AUTO	b. Place PRZR spray valves in AUTO, if desired.
	c. Verify one charging pump in AUTO	c. Place one charging pump in AUTO, if desired.
	d. Verify PRZR heaters restored:	d. Restore PRZR heaters, if desired.
	o PRZR proportional heaters breaker - CLOSED	
	o PRZR backup heaters breaker - RESET, IN AUTO	
14	Evaluate MCB Annunciator Status (Refer to AR Procedures)	
15	Notify RP To Obtain Primary Samples Required By ITS LCO 3.4.16 (Load Reduction > 15% In One Hour)	
	<u>NOTE:</u> Refer to 0-9.3, NRC IMMEDIATE NOTIFICATION, for reporting requirements.	
16	Notify Higher Supervision	

EOP: AP-TURB.1	TITLE: TURBINE TRIP WITHOUT RX TRIP REQUIRED	REV: 15 PAGE 16 of 16
-------------------	---	--------------------------

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
17 Establish Desired Plant Conditions:	a. Reactor shutdown - DESIRED	a. <u>IF</u> turbine is to be restored to service, <u>THEN</u> maintain reactor critical and refer to 0-1.2. PLANT STARTUP FROM HOT SHUTDOWN TO FULL LOAD.
	b. Refer to 0-2.1, NORMAL SHUTDOWN TO HOT SHUTDOWN	
		-END-

EOP: AP-TURB.1	TITLE: TURBINE TRIP WITHOUT RX TRIP REQUIRED	REV: 15 PAGE 1 of 1
-------------------	---	------------------------

AP-TURB.1 APPENDIX LIST

TITLE

- 1) ATTACHMENT SD-1 (ATT-17.0)
- 2) ATTACHMENT SD-2 (ATT-17.1)
- 3) ATTACHMENT LETDOWN (ATT-9.0)

EOP: AP-TURB.3	TITLE: TURBINE VIBRATION	REV: 13 PAGE 1 of 9
-------------------	-----------------------------	------------------------

GINNA STATION

CONTROLLED COPY NUMBER 23

  
RESPONSIBLE MANAGER

6-10-2005  
EFFECTIVE DATE

CATEGORY 1.0

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

EOP: AP-TURB.3	TITLE: TURBINE VIBRATION	REV: 13 PAGE 2 of 9
-------------------	-----------------------------	------------------------

A. PURPOSE - This procedure provides the necessary actions to be taken in the event of increasing turbine vibrations.

B. ENTRY CONDITIONS/SYMPTOMS

1. ENTRY CONDITIONS - This procedure is entered from:

a. N/A

2. SYMPTOMS - The symptoms of TURBINE VIBRATION are;

a. Increasing or High Turbine Vibration detected, or

b. Annunciator I-27, Rotor Eccentricity or Vibration alarm is lit, or

c. Annunciator K-10, Turbine High High Vibration alarm lit.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
* 1	Verify Turbine Vibration - ALL BEARINGS LESS THAN 14 MILS	Perform the following:  <u>IF</u> power greater than P-9. <u>THEN</u> trip the reactor and go to E-0. REACTOR TRIP OR SAFETY INJECTION.  <u>IF</u> power less than P-9. <u>THEN</u> trip the turbine and go to AP-TURB.1. TURBINE TRIP WITHOUT RX TRIP REQUIRED.

EOP: AP-TURB.3	TITLE: TURBINE VIBRATION	REV: 13 PAGE 4 of 9
-------------------	-----------------------------	------------------------

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE: IF power reduction is required the thumb rule for initial boron addition is ~2 gal/% load reduction.

2 Check Turbine Vibration:

a. Bearings No. 1 through No. 8 -  
LESS THAN 7 MILS

a. Attempt to stabilize vibration as follows:

- o IF increasing turbine speed, THEN stop speed increase and evaluate. Evaluate reducing speed to a non-resonance region. (Refer to 0-1.2)
- o IF generator on line, THEN begin reducing load to stabilize vibrations. (Refer to AP-TURB.5, RAPID LOAD REDUCTION)

b. Bearing No. 9 - LESS THAN  
8.5 MILS

b. Attempt to stabilize vibrations as follows:

- o Adjust generator hydrogen temperature.  
-OR-
- o Adjust turbine lube oil temperature.  
-OR-
- o Adjust exciter cooling.  
-OR-
- o Adjust generator seal oil cooling.

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

3 Evaluate Plant Conditions:

a. Check turbine vibrations -  
STABLE OR DECREASING

a. Reduce turbine load until  
turbine vibrations stabilize.  
IF vibrations can NOT be  
stabilized with the plant at  
power. THEN take unit off line  
(refer to AP-TURB.5, RAPID LOAD  
REDUCTION)

b. Stop load reduction

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
4	Establish Stable Plant Conditions	
a.	Tavg - TRENDING TO TREF	<p>a. <u>IF</u> Tavg greater than Tref, <u>THEN</u> restore Tavg to Tref by one or more of the following:</p> <ul style="list-style-type: none"> <li>• Insert control rods</li> <li>• RCS boration</li> </ul> <p><u>IF</u> Tavg less than Tref, <u>THEN</u> restore Tavg to Tref by one or more of the following:</p> <ul style="list-style-type: none"> <li>• Withdraw control rods</li> <li>• Reduce turbine load</li> <li>• Dilution of RCS</li> </ul>
b.	PRZR pressure - TRENDING TO 2235 PSIG IN AUTO	<p>b. Control PRZR pressure by one of the following:</p> <ul style="list-style-type: none"> <li>• 431K in MANUAL</li> <li>• Manual control of PRZR heaters and sprays</li> </ul> <p><u>IF</u> pressure can <u>NOT</u> be controlled manually, <u>THEN</u> refer to AP-PRZR.1, ABNORMAL PRESSURIZER PRESSURE.</p>
c.	PRZR level - TRENDING TO PROGRAM IN AUTO CONTROL	<p>c. Perform the following:</p> <ol style="list-style-type: none"> <li>1) Place affected charging pumps in MANUAL</li> <li>2) Adjust charging pump speed to restore PRZR level to program</li> </ol> <p><u>IF</u> PRZR level can <u>NOT</u> be controlled manually, <u>THEN</u> refer to AP-RCS.1, REACTOR COOLANT LEAK.</p>
d.	MFW Regulating valves - RESTORING S/G LEVEL TO 52% IN AUTO	<p>d. Perform the following:</p> <ol style="list-style-type: none"> <li>1) Place affected S/G(s) MFW regulating valve in MANUAL.</li> <li>2) Restore S/G level to 52%.</li> </ol> <p><u>IF</u> S/G level can <u>NOT</u> be controlled manually, <u>THEN</u> refer to AP-FW.1, ABNORMAL MAIN FEEDWATER FLOW.</p>

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
------	--------------------------	-----------------------

5 Evaluate Turbine Operation:

- |  |   |
|--|---|
| <ul style="list-style-type: none"><li>a. Verify no unusual noises exist locally at turbine generator</li><li>b. Monitor turbine supervisory instrumentation to ensure conditions stable<ul style="list-style-type: none"><li>o Turbine Vibration Recorder (Front of MCB)</li><li>o Turbine Vibration Monitor (Back of MCB)</li></ul></li></ul> | <ul style="list-style-type: none"><li>a. <u>IF</u> unusual noises detected, <u>THEN</u> notify the Maintenance Manager.</li></ul> |
|--|---|

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
6 Establish Control Systems In Auto:		
a. Restore EH controls		
1) Place in OP PAN, IMP OUT		
2) Place load rate thumbwheel to 10%/hr		
3) Match setter and reference		
b. Verify annunciator G-15, STEAM DUMP ARMED - EXTINGUISHED		b. <u>WHEN</u> Tavg within 5°F of Tref. <u>THEN</u> perform the following:
		1) Ensure steam dump valves closed.
		2) Reset steam dump.
c. Verify one charging pump in AUTO		c. Place one charging pump to AUTO, if desired.
d. Verify rods in AUTO		d. Place rods in AUTO, if desired.
e. Verify 431K in AUTO		e. Place 431K in AUTO, if desired.
f. Verify spray valves in AUTO		f. Place spray valves in AUTO, if desired.
g. Verify PRZR heaters restored:		g. Restore PRZR heaters, if desired.
o PRZR proportional heaters breaker - CLOSED		
o PRZR backup heaters breaker - RESET, IN AUTO		
h. Verify MFW regulating valves in AUTO		h. Place MFW regulating valves in AUTO, if desired.

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

7 Evaluate MCB Annunciator  
Status (Refer to AR  
Procedures)

8 Notify Higher Supervision

-END-