



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381-2000

10 CFR 55.40

DEC 04 2002

Mr. Luis A. Reyes
Regional Administrator, NRC Region II
Atlanta Federal Center
61 Forsyth St., Suite 23T85
Atlanta, Georgia 30303

Dear Mr. Reyes:

In the Matter of the)
Tennessee Valley Authority)

Docket No. 50-390

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 - REACTOR AND SENIOR
REACTOR OPERATOR INITIAL EXAMINATIONS - 50-390/2002-301

Beginning on November 26, 2002, license examinations were initiated to a group of reactor operator (RO) and senior reactor operator (SRO) candidates at WBN. Provided in the enclosure to this letter are post-examination comments related to 3 questions on the written examinations. These comments are provided in accordance with Examination Standard (ES) 501, "Initial Post-Examination Activities," of NUREG 1021, "Operator Licensing Examination Standards for Power Reactors."

Should you require additional information regarding this matter, please contact Randy Evans at (423) 365-8989.

Sincerely,

P. L. Pace
Manager, Site Licensing and Industry Affairs

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cc (w/o Enclosure):

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Watts Bar Nuclear Plant
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cc (Enclosure):

U.S. Nuclear Regulatory Commission, Region II
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Enclosure

Comments Related to Examination Questions

**FACILITY COMMENTS FOR
NRC WRITTEN EXAMINATION WATTS BAR NUCLEAR
11/26/2002**

Question #	Comment	Associated References
SRO 6	Accept two correct answers. Both alternative C and D are correct. The stem asks for the correct <u>method</u> to realign the rod to its associated bank, thus both C and D alternatives provide correct steps to accomplish realignment. The differences between the alternatives is simply a matter of how many procedural steps are listed in the alternative. There are no incorrect elements in alternative D.	AOI-2, "Malfunction of Reactor Control System", section 3.4

6. Unit 1 was at 25% power and ramping up when the RO noticed that one of the Bank C control rods is 13 steps below the other rods in Bank C which are at 215 steps.

At 0900, immediately after discovery, power assension was halted.

At 0945, the rod was determined to have an electrical problem which was repaired.

At 1015, the management staff has concurred with realignment of the misaligned rod in accordance with AOI-2, Malfunction of the Reactor Control System.

Which ONE of the following outlines the method of realignment?

- A. Record information from Bank Overlap Unit, step counters, and P/A converter. Disconnect lift coil for the affected rod, reset step counters, select Bank C and insert Bank C control rods.
- B. Disconnect lift coil of the affected rod, select Bank C and insert Bank C.
- C. Record information from Bank Overlap Unit, step counters, and P/A converter. Disconnect all lift coils in Bank C except the affected rod, reset step counters, select Bank C and withdraw affected control rod.
- D. Disconnect all lift coils in Bank C except the affected rod, select Bank C and withdraw the affected rod.

TENNESSEE VALLEY AUTHORITY
WATTS BAR NUCLEAR PLANT
ABNORMAL OPERATING INSTRUCTION

AOI-2

**MALFUNCTION OF
REACTOR CONTROL SYSTEM**

Revision 25

Unit 1

QUALITY RELATED

REQUESTED BY: C. Dale Greer

SPONSORING ORGANIZATION: Operations

APPROVED BY: Benjamin F. McNew, Jr.

Effective Date: 10/31/02

LEVEL OF USE: CONTINUOUS

WBN	MALFUNCTION OF REACTOR CONTROL SYSTEM	AOI-2 Revision 25 Page 5 of 49
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3.0 OPERATOR ACTIONS

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

3.1 Diagnostics

IF	GO TO Subsection
Continuous Rod Withdrawal/Insertion	3.2
Instrument failure (e.g. T-avg, NIS, PT-1-73) with Rod Control in MAN	3.2
Dropped RCCA	3.3
RCCA Misalignment	3.4
Rod Position Indicator (RPI) Malfunction	3.5
Failure of Control Rods to Move in AUTO	3.6

WBN	MALFUNCTION OF REACTOR CONTROL SYSTEM	AOI-2 Revision 25 Page 22 of 49
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3.4 RCCA Misalignment (Continued)

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE Control rods in MAN position will be used to align affected bank to misaligned RCCA.

12. **DETERMINE** if affected bank can be aligned to misaligned RCCA(s) within one hour:
control bank,
- Misaligned RCCA(s) in control bank.
 - Bank overlap can be maintained during alignment.
 - The misaligned RCCA is above the affected banks insertion limit.
 - Reactor engineering agrees.

IF greater than one hour will be required to align RCCA **OR** misaligned RCCA(s) **NOT** in

THEN

**** GO TO NOTE** prior to Step 21.

WBN	MALFUNCTION OF REACTOR CONTROL SYSTEM	AOI-2 Revision 25 Page 26 of 49
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3.4 RCCA Misalignment (Continued)

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE

- Rod movement in the inserted direction is permissible if rod movement does not cause further misalignment.
- The following aligns misaligned RCCA to affected bank.

21. **ADJUST** turbine load to
MAINTAIN T-ref and T-avg
within 3°.

22. **DETERMINE** actual RCCA
position as follows:
 - a. **REQUEST** Reactor Engineering
to evaluate core anomaly and
RCCA position.
 - b. **NOTIFY** STA to perform
1-SI-0-21, Excore QPTR.

23. **IF** Step 22 indicates RPI failure,
THEN
**** GO TO** Section 3.5 Rod Position
Indicator (RPI) Malfunction.

WBN	MALFUNCTION OF REACTOR CONTROL SYSTEM	AOI-2 Revision 25 Page 27 of 49
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3.4 RCCA Misalignment (Continued)

	<u>ACTION/EXPECTED RESPONSE</u>	<u>RESPONSE NOT OBTAINED</u>
24	<p>IF two or more RCCAs are misaligned by greater than 12 steps, THEN ** GO TO AOI-39, Rapid Load Reduction.</p>	
25.	<p>REFER TO Tech Specs:</p> <ul style="list-style-type: none"> • 3.1.5, Rod Group Alignment Limits. • 3.1.6, Shutdown Bank Insertion Limits. • 3.1.7, Control Bank Insertion Limits. • 3.2.3, Axial Flux Difference (AFD). 	
26.	<p>INVESTIGATE cause of misalignment.</p>	

WBN	MALFUNCTION OF REACTOR CONTROL SYSTEM	AOI-2 Revision 25 Page 28 of 49
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3.4 RCCA Misalignment (Continued)

	<u>ACTION/EXPECTED RESPONSE</u>	<u>RESPONSE NOT OBTAINED</u>
27.	INITIATE repairs to failed equipment.	
28.	NOTIFY Operations Duty Manager of misaligned RCCA prior to recovery.	
29.	NOTIFY Reactor Engineering and STA to provide realignment rate considering, as a minimum, the following:	
	<ul style="list-style-type: none"> • Length of time the RCCA has been misaligned. 	
	<ul style="list-style-type: none"> • Power level at which recovery will be performed. 	
30.	DO NOT CONTINUE UNTIL	
	initiating problem has been corrected.	

WBN	MALFUNCTION OF REACTOR CONTROL SYSTEM	AOI-2 Revision 25 Page 29 of 49
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3.4 RCCA Misalignment (Continued)

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE Computer Points for individual rods are IZM-85-5001 through 5053, and points for banks are U0049 through U0056.

31. IF any RCCA misaligned by greater than Tech Spec allowed limit,
THEN
OBTAIN approval from Plant Manager or designate prior to raising reactor power.

32. **DO NOT CONTINUE UNTIL** the following agree on realignment that involves a reactor power rise:

- Unit SRO.
- Shift Manager.
- Reactor Engineering.
- STA.

WBN	MALFUNCTION OF REACTOR CONTROL SYSTEM	AOI-2 Revision 25 Page 30 of 49
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3.4 RCCA Misalignment (Continued)

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

33. **RECORD** value of the following just prior to disconnecting lift coils:
- Affected bank's step counter(s).
 - Computer for RCCAs in affected bank.
 - P/A converter for bank (N/A for shutdown bank) [Aux Inst Room, el 708, 1-PNL-85-R42].
 - Bank overlap counter (N/A for shutdown bank) [control rod drive room, el 782, panel 1-L-122].

NOTE Toggle switch up is disconnected. Toggle switch down is connected.

34. **DISCONNECT** all lift coils in affected bank, **EXCEPT** for misaligned RCCA.

NOTE Step counter(s) with lift coils disconnected on all rods in the group will not step and need not be reset.

35. **PLACE** affected step counter(s) to position determined in Step 22.

36. **PLACE** control rods to bank select for affected bank.

WBN	MALFUNCTION OF REACTOR CONTROL SYSTEM	AOI-2 Revision 25 Page 31 of 49
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3.4 RCCA Misalignment (Continued)

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE The following step will cause a CONTROL ROD URGENT FAILURE alarm [86-A].

37. **ALIGN** RCCA to affected bank position:
- **USE** rod control to position misaligned RCCA to affected bank position determined in Step 33.
 - **ADJUST** turbine load to **MAINTAIN** T-ref and T-avg within 3°.

IF RCCA can **NOT** be aligned, **THEN:**

- a. **RECONNECT** lift coils of affected bank
- b. **RESET** CONTROL ROD URGENT FAILURE alarm [86-A] using 1-RCAR.
- c. **SET** affected group step counters to original value.
- d. **RESET** control bank P/A converter to its original value **USING** Attachment 1 if misaligned RCCA in control bank.
- e. **COMPLY** with Tech Specs:
 - 3.1.5, Rod Group Alignment Limits.
 - 3.1.6, Shutdown Bank Insertion Limits.
 - 3.1.7, Control Bank Insertion Limits.
- f. **ENSURE** control rods in MAN.
- g. **NOTIFY** Plant Management and Reactor Engineering.
- h. **RETURN TO** Instruction in effect.

WBN	MALFUNCTION OF REACTOR CONTROL SYSTEM	AOI-2 Revision 25 Page 32 of 49
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3.4 RCCA Misalignment (Continued)

	<u>ACTION/EXPECTED RESPONSE</u>	<u>RESPONSE NOT OBTAINED</u>
38.	RECONNECT lift coils of affected bank.	
39.	ENSURE the following are reading correct: <ul style="list-style-type: none"> • Bank overlap counter. • P/A converter display USING Attachment 1. • Group step counters. • Computer points. 	
40.	RESET CONTROL ROD URGENT FAILURE alarm [86-A] using ROD CONTROL ALARM RESET pushbutton 1-RCAR.	
41.	ENSURE control rods in MAN.	
42.	RESTORE T-avg and T-ref to within 3°F.	

WBN	MALFUNCTION OF REACTOR CONTROL SYSTEM	AOI-2 Revision 25 Page 33 of 49
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3.4 RCCA Misalignment (Continued)

	<u>ACTION/EXPECTED RESPONSE</u>	<u>RESPONSE NOT OBTAINED</u>
43.	WHEN plant stabilized, THEN PERFORM 1-SI-85-2, Reactivity Control Systems Movable Control Assemblies (Modes 1 and 2) for the affected bank.	
44.	PLACE rods in AUTO, if desired.	
45.	RETURN TO Instruction in effect.	

WBN	MALFUNCTION OF REACTOR CONTROL SYSTEM	AOI-2 Revision 25 Page 34 of 49
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3.4 RCCA Misalignment (Continued)

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE Steps 46 through 58 are actions to be performed if unit is in Modes 3 through 5. This section places the affected RCCA and bank to the fully inserted position.

- | | | |
|-----|--|------------------------------------|
| 46. | STOP rod movement. | OPEN reactor trip breakers. |
| 47. | NOTIFY the following of misaligned RCCA: <ul style="list-style-type: none"> • Unit SRO. • SM. • Reactor Engineering. • STA. | |
| 48. | INVESTIGATE cause of misalignment. | |
| 49. | INITIATE repairs to failed equipment. | |
| 50. | NOTIFY Operations Duty Manager of misaligned RCCA prior to recovery. | |
| 51. | DO NOT CONTINUE UNTIL initiating problem has been corrected. | |

WBN	MALFUNCTION OF REACTOR CONTROL SYSTEM	AOI-2 Revision 25 Page 35 of 49
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3.4 RCCA Misalignment (Continued)

<u>ACTION/EXPECTED RESPONSE</u>	<u>RESPONSE NOT OBTAINED</u>
52. PLACE ROD BANK SELECT to affected bank select position.	
53. INSERT affected bank UNTIL all of the following: <ul style="list-style-type: none"> • NO rod motion observed on any rods in bank. • Misaligned RCCA RPI indicates rod at bottom. • Misaligned rod, rod bottom light LIT. 	
54. SET affected step counters to "000".	
55. EVALUATE effect on the following: <ul style="list-style-type: none"> • Bank overlap. • P/A converter. • Bank position and required stepping sequence. 	

WBN	MALFUNCTION OF REACTOR CONTROL SYSTEM	AOI-2 Revision 25 Page 36 of 49
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3.4 RCCA Misalignment (Continued)

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

56. **CONSIDER** the following:

- **RESET** P/A converter USING Attachment 1.
- **NOTIFY** MIG to reset bank overlap counter.

57. **UPDATE** computer.

58. **RETURN TO** Instruction in effect.

- END OF SUBSECTION -

**FACILITY COMMENTS FOR
NRC WRITTEN EXAMINATION WATTS BAR NUCLEAR
11/26/2002**

Question #	Comment	Associated References
SRO 32	Delete question from the examination. The stem does not provide conditions where any alternative is correct. The stated conditions where letdown is isolated with Charging Flow Controller, 1-HIC-62-93, rising, will actually result in a rise in Pressurizer level as opposed to the stated condition that Pressurizer level is "dropping slowly". The reason Pressurizer level will rise under these conditions is 1-FCV-62-93 does not fully close since it has a minimum stop that prevents charging flow from dropping to less than 35 gpm (RCP seal protection).	Annunciator Response Instruction for annunciator window 92-C, CVCS lesson plan 3-OT-SYS062A excerpt.

32.

Given the following:

- Unit 1 is at 100% power
- Pressurizer level is dropping slowly
- The output of the Pressurizer Level Controller, 1-LIC-68-339, is rising
- The Charging Flow Controller, 1-HIC-62-93A, is rising
- Charging flow dropping.
- Annunciator 92C, PZR LEVEL LO-HTRS OFF & LTDN CLOSED is illuminated

Which ONE of the following is the cause of the Pressurizer level decrease?

- A. 1-FCV -62-93, charging flow control valve has developed a diaphragm leak.
- B. The Charging Flow Controller output, 1-HIC-62-93A, is failing high.
- C. The PZR Level Controller, 1-LIC-68-339, is failing high.
- D. The Tavg input to the PZR is failing high.

SOURCE
1-LS-68-335E/D
1-LS-68-339D

SETPOINT
17%

**PZR
LEVEL
LO-HTRS OFF &
LTDN CLOSED**

**Probable
Cause:**

1. Insufficient charging flow
2. Excessive letdown flow
3. RCS leak
4. Instrument malfunction (level or Tavg input)

**Corrective
Action:**

- [1] **CHECK** PZR level indication on 1-M-4:
 - 1-LI-68-320
 - 1-LI-68-335A
 - 1-LI-68-339
- [2] **IF** LETDOWN is NOT in service, **THEN**
ISOLATE CHARGING
- [3] **CHECK** PZR level and reference level on 1-LR-68-339 [1-M-5].
- [4] **IF** Malfunction Of Pressurizer Level Control System, **THEN**
GO TO AOI-20, MALFUNCTION OF PRESSURIZER LEVEL
CONTROL SYSTEM.
- [5] **IF** level is low, **THEN**
 - [a] **VERIFY** All PZR heaters **OFF.**
 - [b] **VERIFY** Letdown orifice 1-FCV-62-72, -73 & -74, **CLOSED.**
 - [c] **VERIFY** Letdown isolation 1-FCV-62-69 and -70, **CLOSED.**
- [6] **IF** PZR level control system cannot maintain level to program, **THEN**
REFER TO AOI-6, SMALL REACTOR COOLANT SYSTEM LEAK.
- [7] **REFER TO** Tech Specs.

References:

1-45W600-57-15, 1-47W610-68-5, 1-45W611-68-2, 1-45W760-68-5
AOI-6
AOI-20

X. LESSON BODY	INSTRUCTOR NOTES
<p>(2) HS(s) in MCR, switchgear, and locally. Currently operate with valves open and power removed.</p> <p>(3) Fail "as is".</p> <p>(4) A shunt breaker is installed on each of these valves to prevent spurious actuation. MCR will still have indication of valve position.</p>	
<p>mm. FCV-62-93 - CCPs Charging Flow Control</p>	<p>45W600-62-5 47W610-62-2 47W611-62-4</p>
<p>(1) Flow setting derived from PZR level control system.</p> <p>(2) HIC(s) located in MCR, Aux CR, locally, and Aux Inst RM (R-18).</p> <p>(3) Fails open.</p> <p>(4) Local Control Local manual control is via HIC-62-93B. When selected for local a red light beside MCR controller is illuminated.</p> <p>(5) Manual bypass valves for FCV-62-93 are provided on the discharge of each CCP. These allow an alternate means of controlling charging and seal injection flow in the event the normal charging flow control valve failed.</p>	<p>See SOI-62.01 for discussion of local operation Objective 14</p> <p>Bypass for FCV-62-93 enters charging line downstream of the charging flow element. If bypass valves were leaking by, a mismatch in normal charging/letdown flows could exist.</p>

X. LESSON BODY

INSTRUCTOR NOTES

Minimum Stop



- (6) A pneumatic relay is installed on this valve to prevent closing from spurious signals. The stop ensures minimum of 35 gpm charging flow. A bypass is provided to allow effective flow control at low RCS pressure.

Prevents spurious operation during App. R fire.

Located on local panel L-112

- nn. **FT-62-93A:** Provides MCR and local flow indication. Provides control signal for FCV-62-93.

47W610-62.2

FS-62-93-A/B provides input, with ERFDS, to the "Charging Flow Hi/Lo" annunciation. If either 75 gpm orifice valves is open the low alarm is 55 gpm. If both orifice valves are closed the low alarm is 47 gpm. This prevents alarm when PD pump is in service.

- oo. **FT-62-93C:** Provides ACR flow indication and alarm of "Charging Flow Lo." Provides control signal for FCV-62-93 (AUX mode)

- pp. **PT-62-92A:** Provides local & MCR Charging Header pressure indication.

- qq. **PT-62-92C:** Provides ACR Charging Header pressure indication.

- rr. **FCV-62-89 - Charging Hdr/RCP Seal Injection Flow Control**

45W600-62-4

47W610-62-2

47W611-62-4

- (1) Maintains sufficient backpressure in the charging header to ensure adequate flow of seal water to the RCPs.

Normally 8-13 gpm per RCP.

- (2) HIC(s) located in MCR and ACR.

**FACILITY COMMENTS FOR
NRC WRITTEN EXAMINATION WATTS BAR NUCLEAR
11/26/2002**

Question #	Comment	Associated References
SRO 99	<p>Accept two correct answers. The stem specifies that FR-H.2 has been entered and does not state what specific step the operating crew is performing. Therefore both A and B alternatives are correct. The operator has entered FR-H.2 and will continue with that instruction until transitioned to another procedure, in this instance FR-H.3. This transition does not occur until step 3 of FR-H.2. As alternative B states, the operator will continue in FR-H.2 to reduce S/G pressure until he reaches step 3. In the case of alternative A, if the operator is at step 3 of FR-H.2 he will then transition to FR-H.3.</p>	FR-H.2, "Steam Generator Overpressure",

99.

Given the following:

- The Unit 1 operating crew is currently executing E-1, "Loss of Reactor or Secondary Coolant".
- Containment pressure is 1.5 psig and slowly dropping.
- RCS temperature is 570°F.
- S/G Pressures: S/G #1 = 1200 psig; S/G#2 = 1190 psig; S/G#3 = 1230 psig; S/G#4 = 1205 psig.
- SG NR Levels: S/G #1 = 25%; S/G#2 = 30%; S/G#3 = 87%; S/G#4 = 35%.
- FR-H.2, "Steam Generator Overpressure", has been entered.

For the existing plant conditions, the Unit Supervisor should:

- A. Direct the operators to NOT release steam from S/G#3 and transition to FR-H.3, "Steam Generator High Level" to control and lower S/G#3's level.
- B. Direct the operators to NOT release steam from S/G#3 and continue with FR-H.2 to reduce S/G pressure.
- C. Direct the operator to open the PORV on S/G#3 to drop pressure below 1220 psig then transition to FR-H.3, "Steam Generator High Level" to control and lower S/G#3's level.
- D. Direct the operator to open the PORV on S/G#3 to drop pressure below 1220 psig and continue with FR-H.2 to reduce S/G pressure.

TENNESSEE VALLEY AUTHORITY
WATTS BAR NUCLEAR PLANT
EMERGENCY OPERATING INSTRUCTIONS
FR-H.2
STEAM GENERATOR OVERPRESSURE
Revision 4
Unit 1
QUALITY RELATED

REQUESTED BY: Jim Young

SPONSORING
ORGANIZATION: OPERATIONS

APPROVED BY: J.M. Earles

EFFECTIVE DATE: 2/21/2002

LEVEL OF USE: CONTINUOUS

WBN	STEAM GENERATOR OVERPRESSURE	FR-H.2 Rev 4
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1.0 PURPOSE

This Instruction provides actions for an overpressure condition affecting any steam generator where pressure has risen above the highest steamline safety valve setpoint.

2.0 SYMPTOMS AND ENTRY CONDITIONS

2.1 Indications

S/G pressure greater than or equal to 1220 psig.

2.2 Transitions

FR-0, Status Trees, FR-H in YELLOW condition.

3.0 OPERATOR ACTIONS

WBN	STEAM GENERATOR OVERPRESSURE	FR-H.2 Rev 4
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Step	Action/Expected Response	Response Not Obtained
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1. **IDENTIFY** affected S/G(s):

a. Any S/G pressure greater than or equal to 1220 psig.

a. IF press in all S/Gs less than 1220 psig,
THEN
RETURN TO Instruction in effect.

2. **ENSURE** MFW isolated to affected S/Gs:

- MFW isolation valves CLOSED.
- MFW bypass isolation CLOSED.
- MFW reg valves CLOSED.
- MFW bypass reg valves CLOSED.
- MFWPT A and B TRIPPED.
- Standby MFWP STOPPED.
- Cond demin pumps TRIPPED.
- Cond booster pumps TRIPPED.

Manually **CLOSE** valves, and **STOP** pumps, as necessary.

IF valves can **NOT** be closed,
THEN
CLOSE #1 heater outlet valves.

3. **CHECK** affected S/Gs NR level less than 85% [77% ADV].

**** GO TO FR-H.3, STEAM GENERATOR HIGH LEVEL.**

WBN	STEAM GENERATOR OVERPRESSURE	FR-H.2 Rev 4
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Step	Action/Expected Response	Response Not Obtained
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CAUTION If affected S/G NR level rises to greater than 85% [77% ADV], steam should NOT be released from the affected S/Gs.

4. **DEPRESSURIZE** affected S/Gs:

- S/G PORVs,
OR
- MSIV bypass valves,
OR
- Steam supply to TD AFW pump,
OR
- S/G blowdown valves.

5. **ESTABLISH** affected S/Gs press control:

- | | |
|--|--|
| <p>a. CHECK S/G press dropping.</p> | <p>a. IF S/G press rising or stable,
THEN
** GO TO Caution prior to Step 6.</p> |
| <p>b. CHECK S/G press
less than 1220 psig.</p> | <p>b. IF press greater than or
equal to 1220 psig,
THEN
** GO TO Step 3.</p> |
| <p>c. MAINTAIN S/G press
less than 1220 psig.</p> | |
| <p>d. RETURN to instruction in effect.</p> | |

WBN	STEAM GENERATOR OVERPRESSURE	FR-H.2 Rev 4
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Step	Action/Expected Response	Response Not Obtained
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CAUTION AFW flow should remain isolated to affected S/Gs UNTIL a steam release path is established.

6. **ISOLATE AFW flow to affected S/Gs:**

a. **CLOSE MD AFW LCVs.**

a. **IF LCVs will NOT close,
THEN**
Locally **CLOSE** manual isolation valves.

b. **CLOSE TD AFW LCVs.**

b. **IF LCVs will NOT close,
THEN**
Locally **CLOSE** manual isolation valves.

c. **CHECK** affected S/Gs
AFW flow zero gpm.

7. **CHECK T-hot less than 545°F.**

COOLDOWN RCS to less than 545°F by dumping steam from Intact S/Gs.

WBN	STEAM GENERATOR OVERPRESSURE	FR-H.2 Rev 4
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Step	Action/Expected Response	Response Not Obtained
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8. **CONTINUE** attempt to manually or locally depressurize affected S/Gs:

- S/G PORVs,
OR
- MSIV bypass valves,
OR
- Steam supply to TD AFW pump,
OR
- S/G blowdown valves.

9. **RETURN TO** Instruction in effect.

— End —