

PRIORITY 1

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ACCESSION NBR:9408110098 DOC.DATE: 94/08/04 NOTARIZED: NO DOCKET #  
FACIL:50-261 H.B. Robinson Plant, Unit 2, Carolina Power & Light C 05000261  
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HINNANT,C.S. Carolina Power & Light Co.  
RECIP.NAME RECIPIENT AFFILIATION  
Region 2 (Post 820201)

SUBJECT: Forwards comments on NRC license exams administered on  
940725.

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Carolina Power & Light Company  
Robinson Nuclear Plant  
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Robinson File No.: 13510  
Serial: RNP/94-1525

**AUG 04 1994**

Regional Administrator, Region II  
United States Nuclear Regulatory Commission  
101 Marietta Street, N. W., Suite 2900  
Atlanta, Georgia 30323

H: B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261/LICENSE NO. DPR-23  
COMMENTS ON NRC LICENSE EXAMINATION

Dear Sir:

Carolina Power & Light Company submits the comments for NRC license examinations administered on July 25, 1994. Enclosed are H. B. Robinson Steam Electric Plant, Unit No. 2, comments and associated references in accordance with NUREG-1021 "Operator Licensing Examiner Standards," Section ES-402.

Questions regarding this matter may be referred to Mr. R. M. Krich at (803) 383-1802.

Very truly yours,

C. S. Hinnant  
Vice President

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Enclosure

c: Document Control Desk  
Mr. P. Steiner, USNRC Chief Examiner

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H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261/LICENSE NO. DPR-23  
COMMENTS ON NRC LICENSE EXAMINATION

Senior Reactor Operator (SRO) Question No. 1:

All answer choices can be construed as correct. The requirements of Technical Specifications (TS) and Abnormal Operating Procedure AOP-001, "Malfunction of Reactor Control System," are to perform the following within two hours: realign the rod, or reduce power to less than 70%, or calculate hot channel factors. If the rod is already realigned, as stated in the stem of the question, then any of the choices can be correct.

Recommend deleting this question.

SRO Question No. 30:

There is no one correct answer. The requirements of TS 3.1.5.2 must be evaluated with the requirements of Abnormal Operating Procedure AOP-016, "Excessive Primary Plant Leakage." The TS requires that the unit be placed in the hot shutdown condition within 12 hours because operation with primary system leakage in excess of 10 gpm, identified or unidentified, is prohibited. Notification of upper management and continuing evaluation of the leak would occur with any significant increase in primary system leakage above normal daily values and especially if leakage increased above 1 gpm. Leakage evaluation is for identifying the source of leakage and determining if continued operation is safe. If leakage is identified, less than 10 gpm, and evaluation determines that continued operation is safe, hot shutdown is not required. This question specifies leakage is 13 gpm, which would render the identification and evaluation requirements academic; shutdown is required regardless of identification and evaluation. Choice "c" is incorrect only because it specifies hot shutdown within 24 hours. The actions of choice "d" are partially correct but would be occurring in conjunction with a unit shutdown. Choice "c" is more correct than "d" because shutdown is required and the operator would have at least 12 hours to determine that 24 hours is the incorrect time limit. Choices "a" and "b" are incorrect because leakage does not exceed makeup capability and charging capacity can more than make up for letdown flow plus the 13 gpm leakage.

Recommend deleting this question.

Reactor Operator (RO) Question No. 22 / SRO Question No. 28:

The initial conditions of this question contain symptoms which would require entry into both AOP-016 and Abnormal Operating Procedure AOP-019, "Malfunction of RCS Pressure Control." Without a trend given for pressurizer pressure and level or information concerning as to whether a power operated relief valve has just lifted or may just be leaking by, the examinee cannot distinguish entry into only one abnormal operating procedure. With these conditions, both procedures must be addressed.

Recommend making choices "a" and "c" correct.

RO Question No. 96 / SRO Question No. 94:

For a visitor to enter a Locked High Radiation Area (LHRA) without General Employee Training I and II training, approval by the Manager - Environmental & Radiation Control is required for initial issuance of dosimetry, and only Radiation Control supervision (not considered a member of Plant Management) permission is required to allow entry into a LHRA during "outage" conditions.

During "non-outage" conditions, the above approvals are required and in addition, concurrence is required from the Shift Supervisor who is considered a member of Plant Management (see Administrative Procedure AP-031, "Administrative Controls for Entry Into Locked and Very High Radiation Areas"). Since the question does not specify whether outage conditions or non-outage conditions exist, choice "c" or "d" can be considered correct.

Recommend making choices "c" and "d" correct.

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261/LICENSE NO. DPR-23  
COMMENTS ON NRC LICENSE EXAMINATION

REFERENCES

SRO Question No. 1	AOP-001, page 26 of 38
SRO Question No. 30	TS, page 3.1-16 AOP-016, page 8 of 11
RO Question No. 22/ SRO Question No. 28	AOP-016, pages 4, and 7 of 11 AOP-019, pages 9 - 11 of 15
RO Question No. 96/ SRO Question No. 94	AP-031, pages 15 - 18, and 29 of 30

SECTION D  
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## MISALIGNED CONTROL ROD

## 5.0 (Continued)

8. IF only one Control Rod is out of alignment with its Bank, THEN perform one of the following within two hours:

- Align the Rod per Step 5.10  
OR
- Determine by measurements the hot channel factors and apply Technical Specification 3.10.2  
OR
- Limit power to 70% of rated power.

NOTE

The following step is applicable throughout the remainder of this procedure.

9. Monitor the Power Range Nuclear Instrumentation for indication of abnormal quadrant power tilts.
10. Align Control Rod as follows:
- 1) Open the Lift Coil Disconnect Switches of all unaffected Rods within the affected Bank.
  - 2) Place the ROD BANK SELECTOR switch to the affected Bank position.
  - 3) Record the reading of the affected Group Step Counter for the affected Bank below:

STEPS _____
-------------

- 4) Depress the ROD ALARM RESET button on the RTGB AND verify APP-005-E2, ROD CONT SYSTEM URGENT FAILURE alarm is extinguished.
- 5) Withdraw/insert the affected Rod to the average position of the remaining rods in the affected bank. (RPI indication)

3.1.5 Leakage

3.1.5.1 If the primary system leakage exceeds 1 gpm and the source of leakage is not identified within 12 hours, the reactor shall be placed in the hot shutdown condition utilizing normal operating procedures. If the source of leakage exceeds 1 gpm and is not identified within 24 hours, the reactor shall be placed in the cold shutdown condition utilizing normal operating procedures.

3.1.5.2 If the sources of leakage have been identified and it is evaluated that continued operation is safe, operation of the reactor with a total leakage rate not exceeding 10 gpm shall be permitted. If leakage exceeds 10 gpm, the reactor shall be placed in the hot shutdown condition within 12 hours utilizing normal operating procedures. If the leakage exceeds 10 gpm for 24 hours, the reactor shall be placed in the cold shutdown condition utilizing normal operating procedures.

3.1.5.3 If the leakage is determined to be primary to secondary steam generator leakage in excess of 0.35 gpm in any steam generator, or in excess of 1 gpm total for all three steam generators, the reactor shall be shutdown and the plant placed in the cold shutdown condition utilizing normal procedures within 30 hours after detection.

- 3.1.5.4
- a. During reactor operation and hot shutdown conditions, all pressure isolation valves listed in Table 3.1-1 shall be functional as a pressure isolation device, except as specified in 3.1.5.4.b. Valve leakage shall not exceed the amounts indicated.
  - b. In the event that integrity of any pressure isolation valve specified in Table 3.1-1 cannot be demonstrated, reactor operation may continue, provided that at least two valves in each high pressure line having a non-functional valve are in, and remain in, the mode corresponding to the isolated condition. (Manual valves shall be locked in the closed position; motor operated valves shall be placed in the closed position and power supplies deenergized).
  - c. If Specifications 3.1.5.4a or b cannot be met, an orderly shutdown shall be initiated and the reactor shall be in hot shutdown within 6 hours and in the cold shutdown condition within the following 30 hours.

5.0 SUBSEQUENT ACTIONS

1. LOCATE and ISOLATE leak utilizing available indications.
2. Determine RCS Leak Rate utilizing one or all of the following methods:
  - \* OST-051, Reactor Coolant System Leakage Evaluation.
  - \* OST-901, HVH Condensate Measuring System.
  - \* Evaluate RCS makeup and letdown flow balance.
3. IF leakage exceeds RCS makeup capability AND RCS temperature is less than OR equal to 350°F, THEN IMPLEMENT AOP-020, Loss of Residual Heat Removal.
4. IF leakage exceeds RCS makeup capability AND RCS temperature is greater than 350°F, THEN TRIP the reactor AND FOLLOW PATH-1.
5. IF leakage greater than 10 gpm is detected, THEN NOTIFY the Manager - Operations OR Plant Manager AND PERFORM the following:
  - 1) CONTINUE leakage evaluation and isolation if identified.
  - 2) PLACE the Reactor in Hot Shutdown conditions within 12 hours using normal procedures. (Technical Specification 3.1.5.2)
  - 3) IF leakage exceeds 10 gpm for 24 hours, THEN PLACE the reactor in Cold Shutdown conditions using normal procedures. (Technical Specification 3.1.5.2)
  - 4) IMPLEMENT any actions required by the Emergency Plan.
6. IF leakage is less than 10 gpm but greater than 1 gpm, THEN PERFORM the following:
  - 1) CONTINUE leakage evaluation and isolation if identified.



1.0 PURPOSE

1. This procedure provides instructions in the event excessive primary plant leakage occurs.

2.0 SYMPTOMS2.1 Containment Atmosphere Leakage Indication

1. Radiation Monitor R-11 in alarm.
2. Radiation Monitor R-12 in alarm.
3. Radiation Monitor R-16, in alarm.
4. Radiation Monitor R-2, in alarm.
5. Excessive RCS Makeup system operation.
6. Containment Sump level indication abnormal.
7. Containment Sump Pump operation.
8. Containment temperature / pressure abnormal.
9. Dewpoint Recorder indication abnormal.
10. HVH Condensate Collection System abnormal.

2.2 Closed System Leakage Indication

1. Radiation Monitor R-17 in alarm.
2. APP-003-B3, PRT HI TEMP
3. APP-003-C3, PRT HI PRESS
4. APP-003-D3, PRT HI/LO LVL
5. APP-003-E6, PZR PORV LN HI TEMP in alarm.
6. APP-003-F6, PZR SAFETY VLV LINE HI TEMP in alarm.
7. APP-001-A5, RV FLNG LEAKOFF HI TEMP in alarm.
8. Excessive RCS Makeup System operation.
9. APP-011-16, CHARGING PUMP LEAKOFF TK HI LEVEL in alarm. (Waste Disposal Boron Recycle Panel)
10. APP-012-35, REACTOR COOLANT DRAIN TANK HI PRESSURE in alarm. (Waste Disposal Boron Recycle Panel)
11. APP-012-36, REACTOR COOLANT DRAIN TANK HI LEVEL in alarm.
12. APP-012-37, REACTOR COOLANT DRAIN TANK LO LEVEL in alarm.

4.0 IMMEDIATE ACTIONS

1. IF PZR level is decreasing, THEN START additional charging pumps  
AND reduce letdown flow as necessary to control PZR level.

SECTION B  
Page 1 of 7

LOW RCS PRESSURE

1.0 PURPOSE

1. This section provides instruction in the event that RCS pressure control is not functioning properly resulting in a low RCS pressure.

2.0 SYMPTOMS

1. APP-003-A1, PZR HTR OVLD/TRIP in alarm.
2. APP-003-B8, PZR PROT LO PRESS in alarm.
3. APP-003-C7, PZR PRESS CONTROLLER HI OUTPUT in alarm.
4. APP-003-B3, PRT HI TEMP in alarm.
5. APP-003-C3, PRT HI PRESS in alarm.
6. APP-003-D3, PRT HI/LO LVL in alarm.
7. APP-003-D8, PZR CONTROL HI/LO PRESS in alarm.
8. APP-003-E6, PZR PORV LN HI TEMP in alarm.
9. APP-003-F6, PZR SAFETY VLV LINE HI TEMP in alarm.
10. APP-003-D6, PZR PORV/SAFETY VLV OPEN in alarm.
11. PORVs indicate open.
12. PZR Spray valve indicates open.

SECTION B  
Page 2 of 7

LOW RCS PRESSURE

3.0 AUTOMATIC ACTIONS

1. PZR HTR CONTROL GROUP on at 2250 psig (proportional to full on at 2220 psig)
2. PZR HTR BACK-UP GROUP A & B full on at 2210 psig.
3. PZR low pressure Reactor trip at 1844 psig.
4. PZR low pressure Safety Injection at 1715 psig.

SECTION B  
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LOW RCS PRESSURE

4.0 IMMEDIATE ACTIONS

1. Verify the following:

- 1) PZR PORVs CLOSED.
- 2) PZR Spray Valves CLOSED. (Normal and Auxiliary)
- 3) PZR Heaters ON. (Control and Back-up Groups)

5.0 PROCEDURE (Continued)

- 5.4.4 RC Technicians shall initiate an Adverse Condition Report for any areas that are found to be unlocked or improperly posted.
- 5.4.5 RC Supervision shall initiate an inspection of room/area locks and postings for areas posted LHRA or VHRA that are located inside of an LHRA or VHRA found to be unlocked. This step should be continued at the frequency described above until the external lock is secure.
- 5.4.6 RC Technicians shall document the results of the LHRA and VHRA inspections.

NOTE

One acceptable method of documenting the inspections is on the RC Technician Shift Turnover Log Forms.

- 5.5 Entry Into A LHRA With RC Supervision Onsite
- 5.5.1 Individual requesting entry into a LHRA should notify RC Supervision as soon as possible of projected date, time and purpose of entry.
- 5.5.2 RC Supervision shall not permit visitor access into an LHRA without successful completion of GET Level I and II Training or equivalent. This requirement may be waived with the approval of the E&RC Manager.
- 5.5.3 RC Supervision shall assign additional personnel as applicable, to control access into LHRAs that cannot be controlled otherwise. The CV, posted LHRA at the entrance, is an example of an area requiring personnel assigned to control access during an entry.
- 5.5.4 ATT. 6.6 shall be completed for entries into an LHRA.

5.0 PROCEDURE (Continued)

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CAUTION

NO ENTRIES SHALL BE AUTHORIZED INTO A LHRA IN WHICH EMERGENCY EGRESS FROM THE AREA DOES NOT EXIST AT ALL TIMES. CONTROLS SHALL BE ESTABLISHED TO PREVENT INDIVIDUALS FROM BEING LOCKED INSIDE OF AN AREA.

\*\*\*\*\*

- 5.5.5 RC Technician may complete Section B, except for the signature line, of ATT. 6.6 provided the following conditions exist and guidance is followed:
- RC Supervision is not immediately available.
  - RC Supervision is contacted and gives verbal permission to complete Section B of ATT. 6.6 to the RC Technician.
  - RC Technician assigned to cover the job has previously been assigned a key.
  - A statement is placed in the comment area of Section B to document the verbal concurrence of RC Supervision. The statement should include the name of RC Supervisor contacted and be signed and dated by the RC Technician completing Section B of ATT. 6.6.
  - RC Supervision signs Section B of ATT. 6.6 at the earliest convenience.
- 5.5.6 RC Supervisor shall contact an RC Technician requested to cover multiple work crews in an LHRA to ensure that multiple work crews can be covered in a safe manner. Discussion of multiple work crews should include as a minimum:
- Number of people
  - Expected radiological consequences of the job
  - RWP number and requirements
  - Allowable dose
- 5.5.7 RC Supervision shall assign multiple work crews that can not be covered in a safe manner to be covered by an additional RC Technician.

5.0                   PROCEDURE (Continued)

- 5.5.8               RC Supervision assigning multiple jobs to RC Technicians shall ensure the following is performed:
- All work group leaders have completed Section A of ATT. 6.6.
  - Section B and Section C of ATT. 6.6 have been completed for each work group entering a LHRA.
  - The RC Technician is briefed on the nature of all work to be performed in the area.
  - Work groups are instructed to contact the assigned RC Technician when they are ready to enter the Locked High Radiation Area.
  - The door or access point(s) are secure or physically manned to prevent access to the LHRA after the job is complete and the work group(s) exit the LHRA. The RC Technician will verify that the door or access point(s) are secure or physically manned.
- 5.5.9               RC Technician shall verify that all doors or access points to the LHRA are closed and locked or physically manned upon completion of the job and exit of personnel from the area.
- 5.6               Entry Into A LHRA With RC Supervision Not Onsite
- 5.6.1               Visitor access is not permitted into a LHRA without successful completion of GET Level I and II Training or equivalent. This requirement may be waived with the approval of the E&RC Manager.
- 5.6.2               Entry into an LHRA under the coverage of an RC Shift Technician is permitted provided the following criteria are met:
- Entry is for Operational and/or Health Physics Surveillance activities only.
  - The Plant is in a non-outage condition.
  - Entry into a LHRA is documented in the RC Turnover Log.



5.0                    PROCEDURE    (Continued)

- 5.6.3                RC Supervision presence is required onsite to:
- Obtain Unit 2 Operations Shift Supervisor verbal concurrence for entry,
  - Discuss nature of work with the RC Technician assigned to provide health physics coverage **AND**,
  - Sign Section B of ATT. 6.6, for all other non-outage entries except for Operational and Health Physics activities.

NOTE

RC Supervision is not required to remain onsite after completing the required functions in step 5.6.3.

- 5.6.4                During outage conditions RC Supervision is typically onsite at all times. Entry into a LHRA should be in accordance with Section 5.5.

5.7                   RC Technician Relief In LHRAs

- 5.7.1                RC Technician should duplicate ATTACHMENT 6.6 for the work group to be covered prior to relieving the RC Technician in the field.
- 5.7.2                RC Supervisor shall complete Section B of ATT. 6.6.
- 5.7.3                RC Technician being relieved shall brief the relieving Technician, as a minimum, on:
- Radiological conditions
  - Remaining dose of each worker
  - Work Status
  - Expected completion time
- 5.7.4                RC Technician being relieved does not need to contact the Unit 2 Shift Supervisor upon exiting the LHRA.
- 5.7.5                RC Technician should verify that all doors or access points to the LHRA are closed and locked or physically manned upon completion of the job and exit of personnel from the area..
- 5.7.6                RC Technician shall complete Section D of ATT. 6.6 when work is completed for the shift.

File #13020F

LHRA KEY ISSUE/ENTRY FORM

SECTION A - TO BE COMPLETED BY REQUESTER

RWP Numbers: \_\_\_\_\_

Areas to be accessed as allowed by above stated RWP: \_\_\_\_\_

Description of work to be performed: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Work Group Leader

Badge #

Date

Time

SECTION B - TO BE COMPLETED BY RADIATION CONTROL SUPERVISION

RC Technician Assigned: \_\_\_\_\_

Comments: \_\_\_\_\_

Check the following after completion, as applicable:

- ☐ Operation Shift Supervisor contacted and approval received to enter above areas (non-outage only).
- ☐ Nature of work discussed between RC Supervisor and RC Technician.
- ☐ Nature of work discussed between Individual/Crew Leader and RC Technician.
- ☐ Radiological conditions discussed between Individual/Crew Leader and RC Technician.
- ☐ Personnel assigned to CV Access Control.

Key # \_\_\_\_\_ issued to RC Technician Assigned.

Above actions completed and approval granted for entry(s):

RC Supervision

Date

Time

SECTION C - TO BE COMPLETED BY RC TECHNICIAN ON SHIFT

- ☐ I have received the Shift LHRA Key from the previous shift's RC Technician. I understand that the use of this key is only for Operational and Health Physics surveillance activities.

RC Technician

Date

Time

SECTION D - TO BE COMPLETED BY RC TECHNICIAN

- ☐ Shift Supervisor (non-outage) or Radiation Control Supervisor (outage only) has been notified that the above listed areas are not occupied for the above listed RWP(s). I have verified that all doors to the above listed areas are shut and locked or physically manned.

\* OR \*

- ☐ I have been relieved and have informed the relieving Technician of the current radiological and work conditions:

RC Technician

Date

Time

SECTION E - TO BE COMPLETED BY RC SUPERVISION

Key # \_\_\_\_\_ Returned.

Actions Completed By: \_\_\_\_\_

RC Supervision

Date

Time

File Completed Form in Vault.