



Carolina Power & Light Company

H. B. ROBINSON SEG PLANT  
POST OFFICE BOX 790  
HARTSVILLE, SOUTH CAROLINA 29550

July 25, 1991

File: NTS-4208(F)

Serial: NO-91R097

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

ATTENTION: Mr. L. L. Lawyer

SUBJECT: Senior Reactor Operator Written Examination

Dear Mr. Lawyer:

On July 22, 1991, Mr. Richard Baldwin of the USNRC administered written Senior Reactor Operator Examinations at H. B. Robinson. Enclosed, please find comments for the examination.

Personnel from H. B. Robinson Training/Operations reviewed the examinations for comments. They included:

R. S. Allen  
R. C. Downey  
A. McGilvray  
R. H. Shane  
V. L. Smith

If you have any questions, please contact me or Mr. C. A. Bethea.

Very truly yours,

A handwritten signature in dark ink, appearing to read 'C. R. Dietz'.

C. R. Dietz  
Manager

Robinson Nuclear Project

RHS:ls1

cc: L. H. Martin

Enclosures (4)

NRC EXAMINATION COMMENTS

H. B. Robinson SRO Class 91-1

Examination Date: July 22, 1991

1. QUESTION 025:

Recommend deleting question. H. B. Robinson stresses the importance of knowing the main generator trips and not the specified relay inputs.

REFERENCE: GEN-LP-1, Objective 3, page 3 of 32.

2. QUESTION 037:

Recommend accepting answer "a" or "b". Both answers are responsibilities consistent with fire response.

REFERENCE: AOP-LP-9, pages 3 & 4 of 15.

3. QUESTION 093:

Since this is a short answer "sentence type" question, we recommend acceptance of statements relating to this fact:

"The emergency A/C source may be degraded and that manual loading of equipment will help prevent overloading/degrading the system after restoration."

The intent of the lesson plan is to provide an outline form for the instructor to impart knowledge to operators. The handout to the lesson plan and the material referenced by the lesson plan should also be reviewed for question construction.

REFERENCE: EOP-LP-5, page 7 of 20  
EOP-HO-1, Session 5, page 6 of 17

**I. INTRODUCTION****A. Lesson Objectives**GEN-TP-1.1 and  
Student Handout

Upon successful completion of this session you will be able to:

1. From memory, describe in detail, the major components of the Main Generator System including basic construction, operation, and purpose.
2. From memory, describe the parameters necessary for control and safe operation of the Main Generator.
3. From memory, list the conditions which will cause a generator trip.
4. From memory, describe the physical arrangement of the exciter.

**B. Reason for Study**

GEN-TP-1.1

The generator and associated equipment provide the means by which the mechanical energy, from the turbine, which converts heat energy from the Steam Generators to mechanical energy, is converted into electrical energy supplied to the system grid. Operational control of the Main Generator and the automatic interlocks incorporate into the system must be understood by the operator to ensure safe

## I. INTRODUCTION

### A. Lesson Objectives

AOP-TP-9.1 and  
Student Handout

Upon successful completion of this session you will be able to:

1. From memory, state the five administrative responsibilities of the Shift Foreman in regards to fire protection.
2. Perform the actions required by the Shift Foreman in the Control Room in the event of a fire.
3. Without references, state the requirements for a fully manned fire brigade.
4. Determine, by using AOP-021, when a plant shutdown is required due to seismic disturbances.

### B. Reason for Study

AOP-TP-9.1

In times of uncertainty, such as a fire, it is vital that plant personnel understand their role in suppressing the incident. The Shift Foreman, through the use of administrative and operating procedures, is responsible for assuring all requirements in regards to fire protection are met. His understanding of those procedures is vital for day to day operations.

## II. PRESENTATION

### A. Shift Foreman's Responsibilities for Fire Protection

## OUTLINE

## KEY AIDS

1. Operation of the fire detection and fire suppression systems in accordance with the Technical Specifications and the established operating procedures.

AOP-TP-9.2

- Actions for a fire

AOP-TP-9.2A

- (1) Determine if evacuation is required
- (2) Ensure that the Motor Driven Fire Pump is running
- (3) Ensure that the Fire Equipment Building is unlocked
- (4) Ensure the plant is in safe condition
  - In any safety related area, the corresponding fire protection preplan identifies the safety related equipment which may be affected by the fire (RO checks)
- (5) Perform as the Emergency Coordinator until relieved by a designated senior member of the plant management
  - (a) Act as the single onsite emergency point of control and contact
  - (b) Implement all applicable emergency plans
  - (c) Provide general direction and support to the Fire Brigade Team Leader

## OUTLINE

## KEY AIDS

- All attempts to energize buses from control room to expedite recovery
  - (a) If E-1 or E-2 energized here may return to procedure & step in effect
  - (b) If attempts not successful this is last exit back to PATH
- 8. **CAUTION:** When power restored to E-1 or E-2, recovery actions should continue with step 25.
  - a. This step alerts the operator to by-pass all remaining steps and go to step 25
  - b. Anytime in procedure after power restored
  - c. To expedite recovery actions and minimize deterioration
- 9. **CAUTION:** If an SI signal exists or is actuated during procedure it should be reset to permit manual loading of equipment on emergency bus.
  - a. Prevent auto loading of emergency bus
  - b. Ensure any loading is done in controlled manner
  - c. Ensure reliability of bus
  - d. Step applies during rest of procedure
- 10. **CAUTION:** A service water pump should be kept available to load on its bus to provide EDG cooling

6. Locally align emergency cooling to the S/D AFW pump. This ensures proper cooling to the pump lube oil cooler.
7. Try to restore power to E-1 or E-2

The operator is directed to attempt to start the EDG's from the RTGB first. If this is unsuccessful the operator initiates SI. A negative function on SI will require the operator to make attempts to energize E-1 and/or E-2 from offsite power. If the diesel is running but not closed in to its bus the operator is directed to monitor the diesel for overheating then trip the diesel. This is to protect the diesel from burning up from running without service water. Overheating of the diesel in this manner will not take long.

All initial attempts to restore power are from the control room in order to expedite recovery. If power is restored at this step, the operator is directed to return to PATH-1. This is the last step in the procedure which the operator is allowed transition to PATH-1.

8. **CAUTION:** When power is restored to E-1 or E-2 recovery actions should continue with step 25.

This step alerts the operator that if at anytime in the remaining steps in the procedure power is restored to either emergency bus, the operator should by-pass succeeding steps and go to step 25. This is accomplished in order to expedite recovery actions to minimize deterioration of the plant.

9. **CAUTION:** If an SI signal is actuated during this procedure it should be reset to permit manual loading of equipment on the emergency bus.

This will prevent automatic loading of equipment on the energized emergency bus once it has been returned to power. This is required to insure that all loading is accomplished in a systematic and controlled manner to prevent overloading of the bus that may not be in a highly reliable state. This step applies to the rest of the procedure.

#### ENCLOSURE 4

#### Facility Comment Resolution

The NRC Resolution to facility comments are listed below:

##### SRO Examination

1. Question 25. Facility comment accepted. Since the question requires the candidate to distinguish which specific Main Generator trip originates from either the 86P or 86BU relay and not the Main Generator trips, this question will be deleted from the examination.
2. Question 37. Facility comment not accepted. The question clearly asks for the required ACTION that must be performed. It does not ask for the Shift Foreman's responsibilities in the event of a fire. No change to the answer key is warranted.
3. Question 93. Facility comment accepted. Verbatim answers are not required for full credit. The lesson plans wording will be used for determination of correct response.



ENCLOSURE 5

SIMULATOR FIDELITY REPORT

Facility Licensee: Carolina Power and Light Company

Facility Docket Nos.: 50-261

Operating Tests Administered On: July 23-25, 1991

This form is to be used only to report observations. These observations do not constitute, in and of themselves, audit or inspection findings and are not, without further verification and review, indicative of non-compliance with 10 CFR 55.45(b). These observations do not affect NRC certification or approval of the simulation facility other than to provide information which may be used in future evaluations. No licensee action is required solely in response to these observations.

During the conduct of the simulator portion of the operating tests, the following items were observed :

<u>ITEM</u>	<u>DESCRIPTION</u>
1.	The simulator removed one malfunction without operator intervention.
2.	SPDS did not update to current plant conditions after it had been reset when a valid Red Path should have been indicated.