



UNITED STATES  
 NUCLEAR REGULATORY COMMISSION  
 REGION II  
 101 MARIETTA STREET, N.W., SUITE 2900  
 ATLANTA, GEORGIA 30323-0199

Report Nos.: 50-325/94-301 and 50-324/94-301

Licensee: Carolina Power and Light Company  
 P. O. Box 1551  
 Raleigh, NC 27602

Docket Nos.: 50-325 and 50-324

License Nos.: DPR-71 and DPR-62

Facility Name: Brunswick Steam Electric Generating Plant Units 1 and 2

Examination Conducted: October 24-28, 1994

Chief Examiner: Michael Ernstes 11/18/94  
Date Signed

Accompanying Personnel: J. Hanek, INEL  
 C. Tyner, INEL

Approved by: Lawrence L. Lawyer 11/18/94  
Date Signed  
 Lawrence L. Lawyer, Chief  
 Operator Licensing Section  
 Operations Branch  
 Division of Reactor Safety

SUMMARY

Scope:

NRC examiners conducted regular, announced operator licensing initial examinations and associated inspection activities during the periods October 10-14, 1994, and October 24-28, 1994. Examiners administered examinations under the guidelines of the Examiner Standards, NUREG-1021, Revision 7. Six Reactor Operator (RO) and three Senior Reactor Operator (SRO) candidates received written examinations and operating tests.

Results:

OVERALL RESULTS	Total No.	No. Passed	% Passed	No. Failed	% Failed
Reactor Operator	6	6	100%	0	0%
Senior Operator	3	3	100%	0	0%

Examiners identified unauthorized labels on the fire protection system valves as Inspector Followup Item 50-325,50-324/94-301-01.

## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*K. Ahern, Acting Manager, Training
- \*J. Cowan, Director, Site Operations
- W. Geise, Unit Manager Simulator
- \*W. Levis, Plant Manager, Unit 1
- \*R. Lopriore, Manager, Regulatory Affairs
- \*D. McCloskey, Manager, Site Support Services
- \*R. Schlichter, Acting Manager, NAD
- \*G. Thearling, Senior Specialist, Regulatory Affairs
- \*J. Titrington, Operations Manager, Unit 2
- \*M. Turkal, Manager, Regulatory Programs
- \*M. Williams, Manager, Operator Training

Other licensee employees contacted included instructors, engineers, technicians, operators, and office personnel.

#### NRC Personnel

- \*P. Byron, Resident Inspector - Brunswick
- \*M. Janus, Resident Inspector - Brunswick
- \*C. Patterson, Senior Resident Inspector - Brunswick

\*Attended exit interview

### 2. Discussion

#### a. Candidate Performance

##### (1) Written Examination

Scores on the written examination ranged from 85 percent to 94 percent. Item analysis of the written questions revealed three weak knowledge areas. All nine candidates missed RO question # 39 (SRO question # 40). This question tested knowledge of the Digital Feed Water Control circuitry that following a reactor scram, the 3-element permissive is removed. Six of nine candidates missed RO question # 50 (SRO question # 48). This question tested knowledge of the interrelationship between the APRMs and the Rod Block Monitor with instrument failures. Two of three SRO candidates missed question # 56. This question tested knowledge of the detector type used by the traveling in core probe (TIP).

##### (2) Walkthrough Examination

All candidates performed poorly on questions related to practical application of radiation theory at Brunswick. Question topics included, the sources and decay of N-16, and how Iodine is absorbed in the body. Radiation theory is no longer tested on

the site specific examination, this is only tested on the Generic Fundamentals Examination Section but still has operational impacts.

During performance of JPMs, the candidates made errors in executing procedures such as missing steps or performing steps incorrectly. However, use of the STAR process helped the candidates recover from their mistakes and successfully complete the procedure. The crews also benefited from using the STAR process during simulator by second checking their actions prior to moving to other activities.

b. Plant Labeling

The NRC developed a JPM to perform Section 8.61.2 of OOP-41, "Fire Protection and Well Water System", Rev. 41. The valves operated in this section had unauthorized labels. For example the Fire Pumps Suction Valve From The Demineralized Water Storage Tank, 2-FP-V58, had "V58" written on the valve bonnet with a black marker. Other Fire System valves operated in this evolution had similar markings. The valves had appropriate "dog tag" type labels attached for identification. The NRC examiners could not determine who had made the markings nor their motive. The inspectors identified the use of unauthorized valve markings as Inspector Followup Item 50-325, 50-324/94-301.

c. Simulator Labeling

The NRC developed a JPM to perform a portion of OPT 4.1.1, "Reactor Building Vent Exhaust Monitoring System Functional Test", Rev. 42. Step 7.4.2 directed the operator to "Place the trip unit mode switch for Reactor Building Ventilation Monitor D12-RM-K609A to TRIP TEST...". There was nothing to identify the monitor as D12-RM-K609A. The inconsistent labeling momentarily confused the candidates. Step 7.4.3 directed the operator to "Adjust the trip check potentiometer for Reactor Building Ventilation Radiation Monitor D12-RM-K609A in the counter clockwise direction until the downscale light comes on...". The label for the appropriate light on the simulator back panel read "Low". The label discrepancy caused some confusion for the candidate who eventually assumed low meant downscale.

Investigation of the cause for the simulator labeling discrepancies revealed that the control room back panels were not updated for modifications as the control panels were. Modifications to the back panels were not tracked in same manner as the control room panels. The Simulator Manager stated that the lack of fidelity with the back panel labels had been identified as a deficiency during their annual simulator fidelity test in June 1994. He went on to state that the labels to upgrade these panels were on order.

## 4. Exit Interview

At the conclusion of the site visit, the examiners met with the plant representatives listed in paragraph 1 to discuss the results of the examination and inspection findings. The licensee did not identify as proprietary any material provided to, or reviewed by the examiners. Dissenting comments were not received from the licensee.

<u>Item Number</u>	<u>Status</u>	<u>Description and Reference</u>
50-325,50-324/94-301-01	Open	Unauthorized operator aids on fire system valves

## SIMULATOR FACILITY REPORT

Facility Licensee: Brunswick 1 & 2

Facility Docket Nos.: 50-325 and 50-324

Operating Tests Administered On: October 24-27, 1994

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 noncompliance with 10 CFR 55.45(b). These observations do not affect NRC certification or approval of the simulation facility other than to provide information that may be used in future evaluations. No licensee action is required solely in response to these observations.

While conducting the simulator portion of the operating tests, the following items were observed:

<u>ITEM</u>	<u>DESCRIPTION</u>
"G" Safety Relief Valve	This valve operated erratically when its control switch was placed to open. The indicating lights quickly alternated to indicate open then closed.
Back panel labeling	Some of the labels on back panels were not consistent with plant labeling. The Simulator Manager stated that this had been noted in their annual test and that corrective actions were in progress.
CRD and Recirculation indication lights	Operators had difficulty in reading many of the valve and pump indicating lights associated with Control Rod Drive and Recirculating Systems. Operators would have to shade the lights with their hand in order to determine which of the red or green lights were illuminated.

NRC RESOLUTION FACILITY COMMENTS

SRO Question # 75

RO Question # 79

NRC Resolution: Comment accepted Answer key changed to accept both (b) and (c) as a correct answer.