

ENCLOSURE 1

EXAMINATION REPORT - 50-325/OL-86-02

Facility Licensee: Carolina Power and Light Company
411 Fayetteville Street
Raleigh, NC 27602

Facility Name: Brunswick Steam Electric Plant

Facility Docket No.: 50-325, 50-324

A written examination was administered at the United States Nuclear Regulatory Commission, Region II Offices, Atlanta, Georgia.

Chief Examiner: *Kenneth E. Brockman* 11-25-86
Kenneth E. Brockman Date Signed

Approved by: *John F. Munro* 11/26/86
John F. Munro, Section Chief Date Signed

Summary:

Examination on October 28, 1986.

One candidate was administered a written examination of Reactor Operator Section 2, which he passed.

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PDR ADOCK 05000325
V PDR

REPORT DETAILS

1. Facility Employees Contacted:

*D. Shaw

*Attended Exit Meeting

2. Examiners:

*K. E. Brockman

*Chief Examiner

3. Examination Review Meeting

At the conclusion of the written examination, the examiner provided Mr. D. Shaw with a copy of the written examination and answer key for review. No technical comments were made concerning the exam. The licensee did not identify as propriety any of the material provided to or reviewed by the examiners.

U. S. NUCLEAR REGULATORY COMMISSION
REACTOR OPERATOR LICENSE EXAMINATION

FACILITY: BRUNSWICK 1&2
REACTOR TYPE: BWR-GE4
DATE ADMINISTERED: 86/10/21
EXAMINER: BROCKMAN, K.
CANDIDATE: - MASTER -

INSTRUCTIONS TO CANDIDATE:

Use separate paper for the answers. Write answers on one side only. Staple question sheet on top of the answer sheets. Points for each question are indicated in parentheses after the question. The passing grade requires at least 70% in each category and a final grade of at least 80%. Examination papers will be picked up six (6) hours after the examination starts.

CATEGORY	% OF	CANDIDATE'S	% OF	
VALUE	TOTAL	SCORE	VALUE	CATEGORY
25.75	100.00			2. PLANT DESIGN INCLUDING SAFETY AND EMERGENCY SYSTEMS
25.75				Totals
				Final Grade

All work done on this examination is my own. I have neither given nor received aid.

Candidate's Signature

18. When you complete your examination, you shall:

a. Assemble your examination as follows:

(1) Exam questions on top.

(2) Exam aids - figures, tables, etc.

(3) Answer pages including figures which are part of the answer.

b. Turn in your copy of the examination and all pages used to answer the examination questions.

c. Turn in all scrap paper and the balance of the paper that you did not use for answering the questions.

d. Leave the examination area, as defined by the examiner. If after leaving, you are found in this area while the examination is still in progress, your license may be denied or revoked.

QUESTION 2.14 (2.00)

The APRM scram function actually consists of two separate setpoints:

a. FILL IN THE BLANKS:

Flow Biased Scram - $__(1)__ * w + __(2)__%$ (0.25)

Fixed Scram - $__(3)__%$ (Mode Switch in RUN) (0.25)

b. LIST the specific location(s) of the sensor(s) which measure the variable "w". (0.5)

c. While operating at power, one MSIV fails shut resulting in a brief (~ 1 second) flux spike to 121% power. STATE which of the two scram setpoints mentioned above (one or both) should initiate a reactor scram. JUSTIFY your choice. (1.0)

QUESTION 2.15 (2.00)

For each of the following situations (i and ii) select the correct Feed-water Control System / plant response from the list (a through e) which follows. An answer may be used more than once, and NO operator actions are taken.

- (a). Reactor water level decreases and stabilizes at a lower level.
- (b). Reactor water level decreases and initiates a reactor scram.
- (c). Reactor water level increases and stabilizes at a higher level.
- (d). Reactor water level increases and initiates a turbine trip.
- (e). None of the above.

- i. The plant is operating at 70% power, in 3-element control, when one of the Steam Flow Detectors FAILS DOWNSCALE.
- ii. The plant is operating at 90% power, in 3-element control, when HPCI inadvertently initiates and injects.

(XXXXXX CATEGORY 02 CONTINUED ON NEXT PAGE XXXXXX)

