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MAR 14 1989

Docket Nos. 50-325
and 50-324

P O S T E D
50-325
BRUNSWICK 1
AMENDMENT NO. 125
TO DPR-71

Mr. E. E. Utley
Senior Executive Vice President
Power Supply and Engineering & Constr
Carolina Power & Light Company
Post Office Box 1551
Raleigh, North Carolina 27602

Dear Mr. Utley:

SUBJECT: ISSUANCE OF AMENDMENT NO. 125 TO FACILITY OPERATING LICENSE NO. DPR-71 AND AMENDMENT NO. 155 TO FACILITY OPERATING LICENSE NO. DPR-62 - BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2, REGARDING CONTROL ROD TESTING (TAC NOS. 71108 AND 71109)

The Nuclear Regulatory Commission has issued the enclosed Amendment No.125 to Facility Operating License No. DPR-71 and Amendment No. 155 to Facility Operating License No. DPR-62, for Brunswick Steam Electric Plant, Units 1 and 2. The amendments consist of changes to the Technical Specifications in response to your submittal dated October 28, 1988, as supplemented March 6, 1989.

The enclosed Safety Evaluation approves performing control rod testing during hot shutdown and cold shutdown.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's Bi-Weekly Federal Register Notice.

Sincerely,

/S/

E. G. Tourigny, Senior Project Manager
Project Directorate II-1
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 125 to License No. DPR-71
2. Amendment No. 155 to License No. DPR-62
3. Safety Evaluation

cc w/enclosures:
See next page

OFC	:LA/PD21:DRPR	:PM:PD21:DRPR	:D:PD21:DRPR	:	:	:	:
NAME	: PAnderson	:ETourigny:jw	: EReeves	:	:	:	:
DA	:3/9/89	:3/9/89	:3/14/89	:	:	:	:

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cc:

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

CAROLINA POWER & LIGHT COMPANY, et al.

DOCKET NO. 50-325

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 125
License No. DPR-71

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment filed by Carolina Power & Light Company (the licensee), dated October 28, 1988 as supplemented March 6, 1989, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications, as indicated in the attachment to this license amendment; and paragraph 2.C.(2) of Facility Operating License No. DPR-71 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 125, are hereby incorporated in the license. Carolina Power & Light Company shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

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Edward A. Reeves, Jr., Acting Director
Project Directorate II-1
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 14, 1989

OFC	:LA:PD21:DRPR	:PM:PD21:DRPR	:NRR:SRXB	:OGC	:D:PD21:DRPR	:	:
NAME	: PAnderson	:ETourigny:	:WHodges	: MYoung	:EReeves	:	:
DATE	:1/26/89 3/9/89	:1/30/89 3/9/89	:1/3/89	:3/9/89	:3/14/89	:	:

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ATTACHMENT TO LICENSE AMENDMENT NO. 125

FACILITY OPERATING LICENSE NO. DPR-71

DOCKET NO. 50-325

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

Remove Pages	Insert Pages
1-10	1-10

TABLE 1.2
OPERATIONAL CONDITIONS

OPERATIONAL CONDITIONS	MODE SWITCH POSITIONS	AVERAGE REACTOR COOLANT TEMPERATURE
1. POWER OPERATION	Run	Any temperature
2. STARTUP	Startup/Hot Standby	Any temperature
3. HOT SHUTDOWN	Shutdown#,***	> 212°F
4. COLD SHUTDOWN	Shutdown#,##,***	≤ 212°F
5. REFUELING*	Shutdown or Refuel**,#	≤ 212°F

The reactor mode switch may be placed in the Run or Startup/Hot Standby position to test the switch interlock functions provided that the control rods are verified to remain fully inserted by a second licensed operator or other technically qualified member of the unit technical staff.

The reactor mode switch may be placed in the Refuel position while a single control rod drive is being removed from the reactor pressure vessel per Specification 3.9.10.1.

* Fuel in the reactor vessel with the vessel head closure bolts less than fully tensioned or with the head removed.

** See Special Test Exceptions 3.10.1 and 3.10.3.

*** The reactor mode switch may be placed in the Refuel position while a single control rod is being moved provided that the one-rod-out interlock is OPERABLE.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

CAROLINA POWER & LIGHT COMPANY, et al.

DOCKET NO. 50-324

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 155
License No. DPR-62

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment filed by Carolina Power & Light Company (the licensee), dated October 28, 1988 as supplemented March 6, 1989 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment; and paragraph 2.C.(2) of Facility Operating License No. DPR-62 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 155 , are hereby incorporated in the license. Carolina Power & Light Company shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/S/

Edward A. Reeves, Jr., Acting Director
Project Directorate II-1
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical Specifications

Date of Issuance: March 14, 1989

OFC	:LA:PD21:DRPR	:PM:PD21:DRPR	:NRR:SRXB	:OGC	:D:PD21:DRPR	:	:
NAME	:PAnderson	:ETourigny:	:WHodges	:	:EReeves	:	:
DATE	:3/9/89	:3/9/89	:1/ /89	:3/9/89	:1/ /89	:	:

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ATTACHMENT TO LICENSE AMENDMENT NO.155

FACILITY OPERATING LICENSE NO. DPR-62

DOCKET NO. 50-324

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

Remove Pages	Insert Pages
1-11	1-11

TABLE 1.2

OPERATIONAL CONDITIONS

OPERATIONAL CONDITIONS		MODE SWITCH POSITIONS	AVERAGE REACTOR COOLANT TEMPERATURE
1.	POWER OPERATION	Run	Any temperature
2.	STARTUP	Startup/Hot Standby	Any temperature
3.	HOT SHUTDOWN	Shutdown#,***	> 212°F
4.	COLD SHUTDOWN	Shutdown#,##,***	≤ 212°F
5.	REFUELING*	Shutdown or Refuel**,#	≤ 212°F

The reactor mode switch may be placed in the Run or Startup/Hot Standby position to test the switch interlock functions provided that the control rods are verified to remain fully inserted by a second licensed operator or other technically qualified member of the unit technical staff.

The reactor mode switch may be placed in the Refuel position while a single control rod drive is being removed from the reactor pressure vessel per Specification 3.9.10.1.

* Fuel in the reactor vessel with the vessel head closure bolts less than fully tensioned or with the head removed.

** See Special Test Exceptions 3.10.1 and 3.10.3.

*** The reactor mode switch may be placed in the Refuel position while a single control rod is being moved provided that the one-rod-out interlock is OPERABLE.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 125 TO FACILITY OPERATING LICENSE NO. DPR-71

AND AMENDMENT NO. 155 TO FACILITY OPERATING LICENSE NO. DPR-62

CAROLINA POWER & LIGHT COMPANY et al.

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2

DOCKET NOS. 50-325 AND 50-324

1.0 INTRODUCTION

By letter dated October 28, 1988, as supplemented March 6, 1989, Carolina Power & Light Company (CP&L) requested a technical specification (TS) change for the Brunswick Steam Electric Plant, Units 1 and 2. Table 1.2 of the Brunswick TS illustrates the operational conditions of the reactor. Footnote *** associated with the hot shutdown condition (Operational Condition 3) and the cold shutdown condition (Operational Condition 4) permits the reactor mode switch to be placed in the Refuel position while a single control rod is being recoupled provided that the one-rod-out interlock is operable. CP&L requests that the word "recoupled" be deleted and the word "moved" be inserted. This change would permit control rod testing during hot shutdown and cold shutdown in addition to rod recoupling.

2.0 BACKGROUND

Control rod recoupling involves a single notch insertion of the rod followed by a full withdrawal to verify recoupling. Control rod time testing involves recording the time taken for the control rod to be withdrawn from the full in to full out position and from the full out to full in position. The purpose of the recoupling sequence is to assure that the rod is properly connected to its drive mechanism and not "hung up" on nearby reactor core components. The purpose of rod time testing is to assure that the reactor can be shutdown within the shutdown time associated with the safety analyses. Control rod time testing must be performed on each of the 137 control rods in the core prior to startup following each refueling outage.

Presently, control rod recoupling can be accomplished in Operational Conditions 3 (Hot Shutdown), 4 (Cold Shutdown), and 5 (Refueling). Control rod time testing can be accomplished only in operational Conditions 2 (Startup) and 5 (Refueling). When the mode switch is in the Refuel position, no more than one control rod may be withdrawn at any given time. This is enforced by a redundant logic circuit which uses the "all rods in" signal and a rod selection signal to prevent the selection of a second rod for movement with any other rod not fully inserted. The

simultaneous selection of two control rods is prevented by the interconnecting arrangement of the select push buttons. Thus, for both control rod recoupling and control rod testing, only one control rod may be moved at any given time and the shutdown margin will be retained.

3.0 EVALUATION

The staff believes for a number of reasons that it is acceptable to perform control rod time testing during Operational Conditions 3 and 4. Criticality cannot be achieved when only one control rod is completely removed from the core; and, therefore, criticality cannot be achieved if the same control rod is being tested for insertion and withdrawal times. Because of the interlock, only one control rod can be manipulated at a time thus ensuring criticality would not occur. Lastly, control rod recoupling (presently allowed) and control rod time testing (proposed) both involve essentially the same rod movements and rod recoupling in operational conditions 3 and 4 was previously reviewed and approved.

The staff does have a concern that CP&L may desire to combine the recoupling/friction testing sequence with the rod time testing sequence. The October 28, 1988 submittal was not entirely clear on the point. The staff believes that these sequences should be independent. Rod recoupling and friction testing should be performed before rod time testing.

This concern was discussed with the licensee and a clarifying letter was submitted on March 6, 1989. CP&L stated that plant procedures provide that control rod recoupling and friction testing be performed before control rod time testing. This clarification resolved the staff's concern. Thus, the technical specification changes is accepted.

4.0 ENVIRONMENTAL CONSIDERATIONS

These amendments change a requirement with respect to installation or use of a facility component located within the restricted areas as defined in 10 CFR Part 20 and changes to the surveillance requirements. The staff has determined that these amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released off site; and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration, and there has been no public comment on such finding. Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

5.0 CONCLUSION

The Commission made a proposed determination that this amendment involves no significant hazards consideration which was published in the Federal Register on January 11, 1989 at 53 FR 1019, and consulted with the State of North Carolina. No public comments or requests for hearing were received, and the State of North Carolina did not have any comments.

Additional information of a clarifying nature was submitted subsequent to the Federal Register notice publication. The additional information did not alter the action noticed and did not affect the staff's proposed no significant hazards consideration determination. The additional information confirmed that the licensee performs control rod recoupling and friction testing before control rod time testing.

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: E. Tourigny

Dated: March 14, 1989