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April 22, 1977

Dockets Nos. 50-325/324

Carolina Power & Light Company
ATTN: Mr. J. A. Jones
Executive Vice President
336 Fayetteville Street
Raleigh, North Carolina 27602

Gentlemen:

The Commission has issued the enclosed Amendment Nos. 4 and 26 to Facility Operating Licenses Nos. DPR-71 and DPR-62 for the Brunswick Steam Electric Plant, Units Nos. 1 and 2, respectively. The amendments consist of changes to the Technical Specifications in response to your request dated March 21, 1977.

The amendments modify the method for verifying safety relief valve operability during surveillance testing.

Copies of the Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

/s/

A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Enclosures:
1. Amendment No. 4 to DPR-71
2. Amendment No. 26 to DPR-62
3. Safety Evaluation
4. Notice

cc w/encl:
See next page

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DEisenhut
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Const. 1
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OFFICE	DOR:ORB#1	OELD	DOR:ORB#1			
SURNAME	CMTRammell:lb	A. Michel	ASchwencer			
DATE	4/19/77	4/22/77	4/22/77			

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NRC FORM 318 (9-76) NRCM 0240 ☆ U.S. GOVERNMENT PRINTING OFFICE: 1976 — 626-624

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

April 22, 1977

Dockets Nos. 50-325/324

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ATTN: Mr. J. A. Jones
Executive Vice President
336 Fayetteville Street
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A. Schwencer, Chief
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Division of Operating Reactors

Enclosures:
1. Amendment No. 4 to DPR-71
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3. Safety Evaluation
4. Notice

cc w/encl:
See next page

cc: Richard E. Jones, Esquire
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Raleigh, North Carolina 27602

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Southport - Brunswick County Library
109 W. Moore Street
Southport, North Carolina 28461

Mr. Steve J. Varnam
Chairman, Board of County
Commissioners of Brunswick County
Southport, North Carolina 28461

Office of Intergovernmental
Relations
116 West Jones Street
Raleigh, North Carolina 27603

Chief, Energy Systems
Analyses Branch (AW-459)
Office of Radiation Programs
U.S. Environmental Protection Agency
Room 645, East Tower
401 M Street, SW.
WAshington, D.C. 20460

U.S. Environmental Protection Agency
Region IV Office
ATTN: EIS COORDINATOR
345 Courtland Street, NW.
Atlanta, Georgia 30308

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

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-325

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 4
License No. DPR-71

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

   A. The application for amendment by Carolina Power & Light Company (the licensee) dated March 21, 1977, 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 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, A-Prime, and B, as revised through Amendment No. 4 , are hereby incorporated in this license. Appendix A shall be effective from the date of issuance of the Unit 1 operating license until the Appendix A-Prime becomes effective on or before the initial criticality of Brunswick Unit 2 following its initial refueling outage. Carolina Power & Light Company shall operate the facility in accordance with the Technical Specifications as indicated above. The licensee shall inform the Office of Inspection and Enforcement, Region II, of the date that the Appendix A-Prime becomes effective."

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: April 22, 1977

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

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-324

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 26
License No. DPR-62

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

   A. The application for amendment by Carolina Power & Light Company (the licensee) dated March 21, 1977, 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 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-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. 26 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications."

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Attachment:
Changes to the Technical Specifications

Date of Issuance: April 22, 1977

ATTACHMENT TO LICENSE AMENDMENT NO. 4

FACILITY OPERATING LICENSE NO. DPR-71

DOCKET NO. 50-325

Revise Appendix A-Prime and A by removing the following pages and replacing with identically numbered revised pages:

A-Prime	A
3/4 5-3	3.6-5/3.6-6

EMERGENCY CORE COOLING SYSTEMS

AUTOMATIC DEPRESSURIZATION

LIMITING CONDITION FOR OPERATION

3.5.2 The Automatic Depressurization System (ADS) shall be OPERABLE whenever reactor vessel steam dome pressure exceeds 113 psig.

APPLICABILITY: CONDITIONS 1, 2 and 3.

ACTION:

a. With 1 ADS valve inoperable, POWER OPERATION may continue provided the actuation logic of the remaining ADS valves and the HPCI, CSS and LPCI systems are OPERABLE.

b. Restore the inoperable ADS valve to OPERABLE status within 14 days or be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the following 24 hours.

c. With 2 or more ADS valves inoperable be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the following 24 hours.

d. With the Surveillance Requirement of Specification 4.5.2.b not performed at the required interval due to low reactor pressure, the provisions of Specification 4.0.4 are not applicable provided the appropriate surveillance is performed within 12 hours of entering the OPERATIONAL CONDITION required for test performance.

SURVEILLANCE REQUIREMENTS

4.5.2 The ADS shall be demonstrated OPERABLE at least once per 18 months by:

a. Performing a system functional test which includes simulated automatic actuation of the system throughout its emergency operating sequence, but excluding actual valve actuation.

b. Manually opening each ADS valve when the reactor steam dome pressure is $\geq$ 100 psig and observing that either;

1. The control valve or bypass valve position responds accordingly, or

2. There is a corresponding change in the measured steam flow.

LIMITING CONDITIONS FOR OPERATIONS	SURVEILLANCE REQUIREMENTS
3.6.C Coolant Leakage (Cont'd)	4.6.C Coolant Leakage (Cont'd)
2. Both the sump level and flow monitoring system and air sampling system shall be operable during reactor power operation. From and after the date that one of these systems is made or found to be inoperable for any reason, reactor power operation is permissible only during the succeeding seven days.	
3. If the conditions in Specification 3.6.C.1 or 3.6.C.2 above cannot be met, an orderly shutdown shall be initiated and the reactor shall be in a cold shutdown condition within 24 hours.	
D. Safety Relief Valves	D. Safety Relief Valves
1. During reactor power operating conditions and prior to reactor startup from a cold condition, or whenever reactor coolant pressure is greater than 113 psig, all safety relief valves shall be operable, except as specified in 3.6.D.2.	1. At least five safety relief valves shall be checked or replaced with bench-checked valves once per operating cycle. All safety relief valves will be tested every two operating cycles. The setpoint of the safety relief valves shall be as specified in Specification 2.2.
2. a. From the date that the safety valve function of one safety/relief valve is made or found to be inoperable, continued reactor operation is permissible only during the succeeding 30 days.	

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.6.D.2 Safety Relief Valves (Cont'd)	4.6.D.2 Safety Relief Valves (Cont'd)
b. From the date the safety valve function of two safety/ relief valves is made or found to be inoperable, continued reactor operation is permissible only during the succeeding seven days.	
3. If Specification 3.6.D.1 is not met, an orderly shutdown shall be initiated and the reactor shall be in a cold shutdown condition within 24 hours.	
	3. The integrity of the safety relief valve bellows shall be continuously monitored and the operability of the bellows monitoring system shall be demonstrated at least once every three months.
	4. With the reactor pressure ≥100 psig, each relief valve shall be manually opened and verified by a corresponding change in control valve or bypass valve position, or measured steam flow rate once per operating cycle.

ATTACHMENT TO LICENSE AMENDMENT NO. 26

FACILITY OPERATING LICENSE NO. DPR-62

DOCKET NO. 50-324

Revise Appendix A as follows:

Remove the following pages and replace with identically numbered revised pages:

3.6-5/3.6-6

LIMITING CONDITIONS FOR OPERATIONS	SURVEILLANCE REQUIREMENTS
3.6.C Coolant Leakage (Cont'd)	4.6.C Coolant Leakage (Cont'd)
2. Both the sump level and flow monitoring system and air sampling system shall be operable during reactor power operation. From and after the date that one of these systems is made or found to be inoperable for any reason, reactor power operation is permissible only during the succeeding seven days.	
3. If the conditions in Specification 3.6.C.1 or 3.6.C.2 above cannot be met, an orderly shutdown shall be initiated and the reactor shall be in a cold shutdown condition within 24 hours.	
D. Safety Relief Valves	D. Safety Relief Valves
1. During reactor power operating conditions and prior to reactor startup from a cold condition, or whenever reactor coolant pressure is greater than 113 psig, all safety relief valves shall be operable, except as specified in 3.6.D.2.	1. At least five safety relief valves shall be checked or replaced with bench-checked valves once per operating cycle. All safety relief valves will be tested every two operating cycles. The setpoint of the safety relief valves shall be as specified in Specification 2.2.
2. a. From the date that the safety valve function of one safety/relief valve is made or found to be inoperable, continued reactor operation is permissible only during the succeeding 30 days.	

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.6.D.2 Safety Relief Valves (Cont'd)	4.6.D.2 Safety Relief Valves (Cont'd)
b. From the date the safety valve function of two safety/ relief valves is made or found to be inoperable, continued reactor operation is permissible only during the succeeding seven days.	
3. If Specification 3.6.D.1 is not met, an orderly shutdown shall be initiated and the reactor shall be in a cold shutdown condition within 24 hours.	
	3. The integrity of the safety relief valve bellows shall be continuously monitored and the operability of the bellows monitoring system shall be demonstrated at least once every three months.
	4. With the reactor pressure ≥100 psig, each relief valve shall be manually opened and verified by a corresponding change in control valve or bypass valve position, or measured steam flow rate once per operating cycle.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 4 TO FACILITY OPERATING LICENSE NO. DPR-71

AMENDMENT NO. 26 TO FACILITY OPERATING LICENSE NO. DPR-62

CAROLINA POWER & LIGHT COMPANY

BRUNSWICK STEAM ELECTRIC PLANT, UNITS NOS. 1 AND 2

DOCKETS NOS. 50-325 AND 50-324

Introduction

By letter dated March 21, 1977, Carolina Power & Light Company (CP&L) proposed changes to the Technical Specifications appended to Facility Operating Licenses Nos. DPR-71 and DPR-62 for the Brunswick Steam Electric Plant (BSEP) Units Nos. 1 and 2. The proposed changes would modify the existing method for verifying, during testing, the operability of the safety relief valves used in the reactor pressure relief subsystem. Specifically, the modified surveillance technique would require observation of the change in turbine control or bypass valve position or measured steam flow rate as verification of safety relief valve operability when testing.

Discussion

The NRC staff has recently become aware of a potential deficiency in the method being used to confirm valve operability during periodic testing of boiling water reactor (BWR) safety relief valves. This deficiency concerns the use of the safety relief valve temperature indication as a positive method of confirmation that a valve is open when manually actuated during surveillance testing.

We found that an increased temperature indication may be obtained at the valve exit with the valve closed. This indicated temperature increase is the result of steam vented through the valve actuation mechanism during the surveillance test. In view of this finding, we concluded that a temperature increase at the valve exit, by itself, does not provide a positive means of verification that the valve has opened.

When we became aware of this deficiency in some BWR Technical Specifications, we requested CP&L, by letter dated January 5, 1977, to propose changes to the BSEP Technical Specifications. CP&L responded to our request by letter dated March 21, 1977.

Evaluation

The existing Technical Specification 4.6.D.4 requires observation of thermocouple readings downstream of the safety relief valves to verify operability during surveillance testing. The proposed change would delete this requirement and substitute therefor the requirement to observe changes in turbine control or bypass valve position or measured steam flow rate as verification of the relief valve opening. Turbine control or bypass valve closure occurs concurrent with relief valve opening to compensate for the diversion of steam through the relief valve to the suppression pool. At the same time, measured steam flow rate decreases, since the steam flow to the suppression pool is not detected by steam flow instruments directly. Based on our review, we have concluded that this technique provides more positive indication of relief valve operability because it verifies that steam is flowing through the relief valve. Therefore, we find that the proposed change is acceptable.

Environmental Considerations

We have determined that the amendments do not involve a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendments involve an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR §51.5(d)(4) that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendments do not involve a significant increase in the probabiilty or consequences of accidents previously considered and do not involve a significant decrease in a safety margin, the amendments do not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date: April 22, 1977

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKETS NOS. 50-325 AND 50-324

CAROLINA POWER & LIGHT COMPANY

NOTICE OF ISSUANCE OF AMENDMENTS TO FACILITY OPERATING LICENSES

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendments Nos. 4 and 26 to Facility Operating Licenses Nos. DPR-71 and DPR-62, issued to Carolina Power & Light Company (the licensee), which revised Technical Specifications for operation of the Brunswick Steam Electric Plant, Units Nos. 1 and 2, located in Brunswick County, North Carolina. The amendments are effective as of the date of issuance.

The amendments modify the method for verifying safety relief valve operability during surveillance testing.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of these amendments will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of these amendments.

For further details with respect to this action, see (1) the application for amendments dated March 21, 1977, (2) Amendment No. 4 to License No. DPR-71, (3) Amendment No. 26 to License No. DPR-62, and (4) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, NW., Washington, D.C. and at the Southport-Brunswick County Library, 109 W. Moore Street, Southport, North Carolina 28461. A copy of items (2), (3), and (4) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this 22nd day of April 1977.

FOR THE NUCLEAR REGULATORY COMMISSION

A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors