June 5, 1998

Mr. C. S. Hinnant, Vice President
Carolina Power & Light Company
Brunswick Steam Electric Plant
Post Office Box 10429
Southport, North Carolina 28461

SUBJECT: ISSUANCE OF AMENDMENT NO. 202 TO FACILITY OPERATING LICENSE NO. DPR-71 AND AMENDMENT NO. 232 TO FACILITY OPERATING LICENSE NO. DPR-62 REVISING CONDENSATE STORAGE TANK CAPACITY - BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2 (TAC NOS. MA1483 AND MA1484)

Dear Mr. Hinnant:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 202 to Facility Operating License No. DPR-71 and Amendment No. 232 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 application dated April 3, 1998. The amendments revise the minimum water volume of the condensate storage tank capacity requirements from 150,000 gallons to 228,200 gallons to ensure the Core Spray System requirement of 50,000 gallons.

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

Sincerely,

Original signed by:

David C. Trimble, Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-325
and 50-324

Enclosures:
1. Amendment No. 202 to License No. DPR-71
2. Amendment No. 232 to License No. DPR-62
3. Safety Evaluation

cc w/enclosures: See next page

FILENAME - G:\BRUNSWIC\BRA1483.AMD

PM:PDII-1	LA:PDII-1	SRXB:DSSA	OGC RMW NLO with comments	APD:PDII-1
DTrimble	EDunnington	TCollins	RWeisman	PTKuo
5/7 /98	5/6 /98	5/5 /98	5/14 /98	5/28 /98
Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

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PDR ADOCK 05000324
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#67
OGC comments incorporated 5/27/98 DCT

cc:

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AMENDMENT NO. 202 TO FACILITY OPERATING LICENSE NO. DPR-71 - BRUNSWICK, UNIT 1 AND AMENDMENT NO. 232 TO FACILITY OPERATING LICENSE NO. DPR-62 - BRUNSWICK, UNIT 2

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cc: Brunswick Service List

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CAROLINA POWER & LIGHT COMPANY, et al.

DOCKET NO. 50-325

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 202
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 April 3, 1998, 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 and B, as revised through Amendment No. 202 , 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 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

H E Edison for

Pao-Tsin Kuo, 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: June 5, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 202

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
3/4 5-4	3/4 5-4
B 3/4 5-2	B 3/4 5-2

EMERGENCY CORE COOLING SYSTEMS

3/4.5.3 LOW PRESSURE COOLING SYSTEMS

CORE SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.5.3.1 Two independent Core Spray System (CSS) subsystems shall be OPERABLE with each subsystem comprised of:

a. One pump, and

b. An OPERABLE flow path capable of taking suction from at least one of the following OPERABLE sources and transferring the water through the spray sparger to the reactor vessel:

1. In OPERATIONAL CONDITION 1, 2, or 3, from the suppression pool.

2. In OPERATIONAL CONDITION 4 or 5*:

a) From the suppression pool, or

b) When the suppression pool is inoperable, from the condensate storage tank containing at least 228,200 gallons of water.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, 4, and 5*.

ACTION:

a. In OPERATIONAL CONDITION 1, 2, or 3:

1. With one CSS subsystem inoperable, POWER OPERATION may continue provided both LPCI subsystems are OPERABLE; restore the inoperable CSS subsystem to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

2. With both CSS subsystems inoperable, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.

* The core spray system is not required to be OPERABLE provided that the reactor vessel head is removed and the cavity is flooded, the spent fuel pool gates are removed, and the water level is maintained within the limits of Specifications 3.9.8 and 3.9.9.

AUTOMATIC DEPRESSURIZATION SYSTEM (Continued)

ADS automatically controls 7 safety-relief valves, although the hazards analysis only takes credit for 6. It is therefore appropriate to permit one valve to be out-of-service indefinitely without materially reducing system reliability. Reactor operation is permitted to continue for up to 7 days with 2 safety-relief valves inoperable except that HPCI is required to be demonstrated to be OPERABLE.

The surveillance requirements provide adequate assurance that ADS will be OPERABLE when required. Although all active components are testable during reactor operation, a complete functional test results in reactor blowdown and therefore is scheduled around shutdowns.

3/4.5.3 LOW PRESSURE COOLING SYSTEMS

3/4.5.3.1 CORE SPRAY SYSTEM (CSS)

The CSS is provided to assure that the core is adequately cooled following a loss-of-coolant accident. Two redundant loops each provide adequate core cooling capacity for all break sizes from 0.2 ft^2 up to and including the double-ended reactor recirculation line break, and for smaller breaks following depressurization by the ADS.

The CSS specifications are applicable during CONDITIONS 1, 2, and 3 because CSS is a primary source of emergency core cooling after the reactor vessel is depressurized.

When in CONDITIONS 1, 2, or 3 with one CSS loop inoperable, the demonstrated OPERABILITY of the redundant full capacity CSS loop and the full capacity Low Pressure Coolant Injection System provides assurance of adequate core cooling and justifies the specified 7 day out-of-service period.

The CSS specifications are applicable in CONDITIONS 4 and 5 to provide a source for flooding of the core in case of accidental draining.

The specified total volume, which includes both usable and unusable volumes, of ≥228,200 gallons of water in the condensate storage tank (CST) ensures the CSS can supply at least 50,000 gallons of makeup water to the reactor pressure vessel. CSS air ingestion is expected to occur at the level which corresponds to a CST volume of 178,200 gallons.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CAROLINA POWER & LIGHT COMPANY, et al.

DOCKET NO. 50-324

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 232
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 April 3, 1998, 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. 232 , 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 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

H E Edison for

Pao-Tsin Kuo, 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: June 5, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 232

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
3/4 5-4	3/4 5-4
B 3/4 5-2	B 3/4 5-2

EMERGENCY CORE COOLING SYSTEMS

3/4.5.3 LOW PRESSURE COOLING SYSTEMS

CORE SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.5.3.1 Two independent Core Spray System (CSS) subsystems shall be OPERABLE with each subsystem comprised of:

a. One pump, and

b. An OPERABLE flow path capable of taking suction from at least one of the following OPERABLE sources and transferring the water through the spray sparger to the reactor vessel:

1. In OPERATIONAL CONDITION 1, 2, or 3, from the suppression pool.

2. In OPERATIONAL CONDITION 4 or 5*:

a) From the suppression pool, or

b) When the suppression pool is inoperable, from the condensate storage tank containing at least 228,200 gallons of water.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, 4, and 5*.

ACTION:

a. In OPERATIONAL CONDITION 1, 2, or 3:

1. With one CSS subsystem inoperable, POWER OPERATION may continue provided both LPCI subsystems are OPERABLE: restore the inoperable CSS subsystem to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

2. With both CSS subsystems inoperable, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.

* The core spray system is not required to be OPERABLE provided that the reactor vessel head is removed and the cavity is flooded, the spent fuel pool gates are removed, and the water level is maintained within the limits of Specifications 3.9.8 and 3.9.9.

AUTOMATIC DEPRESSURIZATION SYSTEM (Continued)

ADS automatically controls 7 safety-relief valves, although the hazards analysis only takes credit for 6. It is therefore appropriate to permit one valve to be out-of-service indefinitely without materially reducing system reliability. Reactor operation is permitted to continue for up to 7 days with 2 safety-relief valves inoperable except that HPCI is required to be demonstrated to be OPERABLE.

The surveillance requirements provide adequate assurance that ADS will be OPERABLE when required. Although all active components are testable during reactor operation, a complete functional test results in reactor blowdown and, therefore, is scheduled around shutdowns.

3/4.5.3 LOW PRESSURE COOLING SYSTEMS

3/4.5.3.1 CORE SPRAY SYSTEM (CSS)

The CSS is provided to assure that the core is adequately cooled following a loss-of-coolant accident. Two redundant loops each provide adequate core cooling capacity for all break sizes from 0.2 ft^2 up to and including the double-ended reactor recirculation line break, and for smaller breaks following depressurization by the ADS.

The CSS specifications are applicable during CONDITIONS 1, 2, and 3 because CSS is a primary source of emergency core cooling after the reactor vessel is depressurized.

When in CONDITIONS 1, 2, or 3 with one CSS loop inoperable, the demonstrated OPERABILITY of the redundant full capacity CSS loop and the full capacity Low Pressure Coolant Injection System provides assurance of adequate core cooling and justifies the specified 7 day out-of-service period.

The CSS specifications are applicable in CONDITIONS 4 and 5 to provide a source for flooding of the core in case of accidental draining.

The specified total volume, which includes both usable and unusable volumes, of ≥228,200 gallons of water in the condensate storage tank (CST) ensures the CSS can supply at least 50,000 gallons of makeup water to the reactor pressure vessel. CSS air ingestion is expected to occur at the level which corresponds to a CST volume of 178,200 gallons.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

TECHNICAL SPECIFICATIONS CHANGES

CAROLINA POWER & LIGHT COMPANY

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2

DOCKET NO.50-324,325

1.0 INTRODUCTION

By letter dated April 3, 1998, Carolina Power & Light Company (CP&L), the licensee, requested an amendment to Facility Operating License Nos. DPR-71 and DPR-62 for the Brunswick Steam Electric Plant (BSEP) Units 1 and 2. The amendment would revise the specified minimum volume of the Condensate Storage Tank (CST) from 150,000 gallons to 228,200 gallons. This is to ensure that 50,000 gallons of water is available for Core Spray System (CSS) operation as specified by the staff in its SER issued on May 26, 1986.

2.0 EVALUATION

During power operation, High Pressure Coolant Injection (HPCI) and Reactor Core Isolation Cooling (RCIC) pumps take their suction from the CST, and the Suppression Pool is the back-up source. As required by the Technical Specifications (TS), 100,000 gallons of water in the CST are dedicated for HPCI and RCIC operation, but for the CSS pumps, the Suppression Pool is the normal suction source and the CST is the back-up. The current TS Bases 3/4.5.3.1 CORE SPRAY SYSTEM (CSS) requires assurance of the availability of 50,000 gallons of water for the CSS. When the Suppression Pool is inoperable, a total of 150,000 gallons of water are reserved for RCIC, HPCI and CSS.

During a recent review of industry operating experience, CP&L determined that, with the system as at present, the CST volume requirement contained in TS 3.5.3.1 LIMITING CONDITION FOR OPERATION would not assure the availability of 50,000 gallons of water for the CSS as indicated in the TS Bases Section 3/4.5.3.1, which indicates that the water in CST needs to last for about 5 minutes with both CSS pumps operating at full capacity of 5000 gpm. The CSS pump suction connection to the CST is about 10 feet above the bottom of the tank to assure that RCIC and HPCI have sufficient water of 100,000 gallons exclusively for their operation. This requirement is not changed. The proposed change puts the requirement for all three systems, CSS, HPCI, and RCIC at 150,000 gallons. In addition, the licensee has determined that adequate suction without vortices to the CSS pump would require CST volume to be maintained above 178,200 gallons. This is now increased to 228,200 gallons to accommodate the proposed change of guaranteeing 50,000 gallons for CSS.

TS CHANGES

The proposed TS changes increase the requirements for water volume in the CST from 150,000 gallons to 228,200 gallons. The minimum system capacity for the CSS specified by the staff SER issued in 1986 is only 50,000 gallons.

Unit 1 and Unit 2, Page B 3/4 5-2, TS Bases 3/4.5.3.1 - In the present bases, there is no mention of allowance for air ingestion. The proposed new revision accounts for air ingestion and increases the requirement from 150,000 gallons of water to 228,200 gallons of water. CSS air ingestion is not expected to occur above the level which corresponds to a CST volume of 178,200 gallons. The proposed changes are conservative and therefore are acceptable.

Unit 1 and Unit 2, Page 3/4 5-4, TS 3.5.3.1.b.2.b - 150,000 gallons is changed to 228,200 gallons. Based on the foregoing, this is acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of North Carolina official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (63 FR 25103). Accordingly, the 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 the amendments.

5.0 CONCLUSION

The Commission 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) 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: George Thomas, SRXB, DSSA

Date : June 5, 1998