

DECEMBER 10 1979

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Docket No. 50-324

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

REGULATORY DOCKET FILE COPY

Dear Mr. Jones:

The Commission has issued the enclosed Amendment No. ⁴⁹ to Facility Operating License No. DPR-62 for the Brunswick Steam Electric Plant (BSEP) Unit No. 2. This amendment revises the Technical Specifications to provide corrected minimum Critical Power Ratio (MCPR) Limits for the latter part of Cycle 3, as requested by your letter dated October 10, 1979. In addition, a footnote to clarify the MCPR for 7x7 fuel was added for completeness.

We note that you have agreed to provide a summary of the corrective action taken to avoid recurrence of the MCPR error in future reloads. The adequacy of corrective actions will be considered during our review of your next reload application.

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

Sincerely,

Original signed by

Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Enclosures:

- 1. Amendment No. ⁴⁹ to DPR-62
- 2. Safety Evaluation
- 3. Notice

cc w/enclosures:
see next page

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8001070 332

*SEE PREVIOUS YELLOW FOR CONCURRENCES

OFFICE ▶	ORB#3	ORB#3	OELD	ORB#3	AD/ORP	RSB/DOR
SURNAME ▶	*SSheppard	*JHannon	*SLewis		*WGammill	*PCheck
DATE ▶	12/4/79	12/4/79	12/7/79	12/ /79	12/5/79	12/4/79

Docket No. 50-324

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

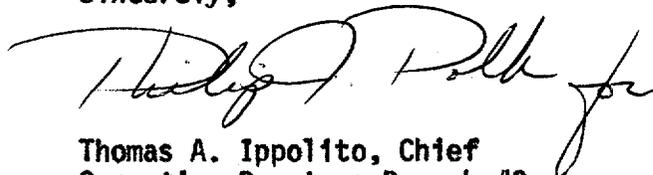
Dear Mr. Jones:

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Sincerely,



Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors

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cc w/enclosures:
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DATE	12/4/79	12/4/79	12/7/79	12/5/79	12/5/79	12/4/79

Mr. J. A. Jones
Carolina Power & Light Company

cc:

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Board of Commissioners
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Bolivia, North Carolina 28422

Denny McGuire (Ms)
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Division of Policy Development
116 West Jones Street
Raleigh, North Carolina 27603

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

Director, Technical Assessment Division
Office of Radiation Programs (AW-459)
US EPA
Crystal Mall #2
Arlington, Virginia 20460

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



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. 49
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 October 10, 1979, 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. 49, 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


Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 10, 1979

ATTACHMENT TO LICENSE AMENDMENT NO. 49

FACILITY OPERATING LICENSE NO. DPR-62

DOCKET NO. 50-324

Replace the following pages of the Technical Specifications contained in Appendix A of the above indicated license with the attached pages. The changed area of the page is reflected by a marginal line.

Remove

3/4 2-9*
3/4 2-10

Insert

3/4 2-9*
3/4 2-10

*Overleaf pages - no changes

POWER DISTRIBUTION LIMITS

3/4.2.2 APRM SETPOINTS

LIMITING CONDITION FOR OPERATION

3.2.2 The flow biased APRM scram trip setpoint (S) and rod block trip setpoint (S_{RB}) shall be established according to the following relationships:

$$S \leq (0.66W + 54\%) T$$

$$S_{RB} \leq (0.66W + 42\%) T$$

where: S and S_{RB} are in percent of RATED THERMAL POWER,
W = Loop recirculation flow in percent of rated flow,
T = Lowest value of the ratio of design TPF divided by the MTPF obtained for any class of fuel in the core ($T \leq 1.0$), and

Design TPF for: 8 x 8R fuel = 2.48
7 x 7 fuel = 2.60
8 x 8 fuel = 2.45

APPLICABILITY: CONDITION 1, when THERMAL POWER \geq 25% of RATED THERMAL POWER.

ACTION:

With S or S_{RB} exceeding the allowable value, initiate corrective action within 15 minutes and continue corrective action so that S and S_{RB} are within the required limits within 4 hours or reduce THERMAL POWER to less than 25% of RATED THERMAL POWER within the next 4 hours.

SURVEILLANCE REQUIREMENTS

4.2.2 The MTPF for each class of fuel shall be determined, the value of T calculated, and the flow biased APRM trip setpoint adjusted, as required:

- a. At least once per 24 hours,
- b. Whenever THERMAL POWER has been increased by at least 15% of RATED THERMAL POWER and steady state operating conditions have been established, and
- c. Initially and at least once per 12 hours when the reactor is operating with a LIMITING CONTROL ROD PATTERN for MTPF.

POWER DISTRIBUTION LIMITS

3/4.2.3 MINIMUM CRITICAL POWER RATIO

LIMITING CONDITION FOR OPERATION

3.2.3 The MINIMUM CRITICAL POWER RATIO (MCPR), as a function of core flow, shall be equal to or greater than MCPR times the K_f shown in Figure 3.2.3-1, for

- a. Beginning-of-cycle (BOC) to end-of-cycle (EOC) minus 2000 MWD/t, with:
 1. MCPR for 7x7 fuel = 1.20,*
 2. MCPR for 8x8 fuel = 1.21,
 3. MCPR for 8x8R fuel = 1.26.
- b. EOC minus 2000 MWD/t to EOC, with:
 1. MCPR for 7x7 fuel = 1.22.*
 2. MCPR for 8x8 and 8x8R fuel = 1.29.

APPLICABILITY: CONDITION 1, when THERMAL POWER \geq 25% RATED THERMAL POWER.

ACTION:

With MCPR less than the applicable limit determined from Figure 3.2.3-1, initiate corrective action within 15 minutes and continue corrective action so that MCPR is equal to or greater than the applicable limit within 4 hours or reduce THERMAL POWER to less than 25% of RATED THERMAL POWER within the next 4 hours.

SURVEILLANCE REQUIREMENTS

4.2.3 MCPR shall be determined to be equal to or greater than the applicable limit determined from Figure 3.2.3-1:

- a. At least once per 24 hours,
- b. Whenever THERMAL POWER has been increased by at least 15% of RATED THERMAL POWER and steady state operating conditions have been established, and
- c. Initially and at least once per 12 hours when the reactor is operating with a LIMITING CONTROL ROD PATTERN for MCPR.

*For 7x7 fuel assemblies, the factor is based on the 112% flow curve of Figure 3.2.3-1 rather than the setpoint of 102.5%.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 49 TO FACILITY OPERATING LICENSE NO. DPR-62

CAROLINA POWER AND LIGHT COMPANY

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 2

DOCKET NO. 50-324

1.0 Introduction

By letter dated October 10, 1979 (Reference 1) the Carolina Power and Light Company (the licensee) documented an error in the end-of-cycle (EOC) Minimum Critical Power Ratio (MCPR) limits. The letter included a proposed Technical Specification change with justification in the form of a supplemental Reload License Submittal, NEDO-24182A (Reference 2).

The EOC MCPR error resulted from incorrectly using beginning-of-cycle (BOC) void coefficient data for the EOC calculations.

The operating MCPR limits calculated with the improper void coefficient were not conservative for the latter part of Cycle 3 (BOC to EOC - 2000MWD/T). However, the error was found and new MCPR limits were calculated prior to reaching the latter part of Cycle 3. The licensee administratively imposed the corrected MCPR limits prior to reaching EOC - 2000MWD/t, which occurred on October 15, 1979. This action was documented by letter dated October 23, 1979 (Reference 3).

2.0 Evaluation

With the analysis corrected for EOC void coefficients, Generator Load Rejection without bypass remained the most limiting transient, as expected. The operating MCPR limits were increased for each fuel type also as expected. Based on the corrected analysis submitted in Reference 2, we find the proposed operating MCPR limits acceptable for use during the latter part of Cycle 3.

In addition, we require and CP&L has agreed to provide a summary of procedural/program changes and corrective actions taken to avoid similar errors in the future, prior to the next refueling outage. We find this commitment acceptable.

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Environmental Consideration

We have determined that the amendment does not authorize 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 amendment involves an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR Section 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 this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does 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 the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: December 10, 1979

References:

1. Letter, E. E. Utley, CP&L to T. A. Ippolito, NRC, dated October 10, 1979.
2. Supplemental Reload Licensing Submittal for Brunswick Steam Electric Plant Unit No. 2 Reload 2 Revision 1: Revised Transient and GETAB Analysis NEDO-24182A, August 1979.
3. Letter, E. E. Utley, CP&L to T. A. Ippolito, NRC, dated October 23, 1979.

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-324CAROLINA POWER AND LIGHT COMPANYNOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 49 to Facility Operating License No. DPR-62, issued to Carolina Power and Light Company (the licensee) for operation of the Brunswick Steam Electric Plant, Unit No. 2 (the facility), located in Brunswick, North Carolina. The amendment is effective as of the date of issuance.

The amendment revises the Technical Specifications to provide corrected Minimum Critical Power Ratio (MCPR) Limits for the latter part of Cycle 3.

The application for the amendment 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 amendment. Prior public notice of the amendment was not required since the amendment does not involve a significant hazards consideration.

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

- 2 -

For further details with respect to this action, see (1) the application for amendment dated October 10, 1979, (2) Amendment No. 49 to License No. DPR-62, and (3) the Commission's related Safety Evaluation. These items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. 20555, and at the Southport-Brunswick County Library, 109 West Moore Street, Southport, North Carolina 28461. A copy of items (2) and (3) 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 10 day of December 1979.

FOR THE NUCLEAR REGULATORY COMMISSION


Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors