

January 31, 1996

Mr. W. R. Campbell
Vice President
Brunswick Steam Electric Plant
Carolina Power & Light Company
Post Office Box 10429
Southport, North Carolina 28461

SUBJECT: ISSUANCE OF AMENDMENT NO. 212 TO FACILITY OPERATING LICENSE NO. DPR-62 REGARDING THE FUEL CYCLE 12 RELOAD - BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2 (BSEP 95-0299) (TAC NO. M93258)

Dear Mr. Campbell:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 212 to Facility Operating License No. DPR-62 for Brunswick Steam Electric Plant, Unit 2. The amendment changes the Technical Specifications in response to your submittal dated August 4, 1995.

The amendment changes the Technical Specifications to (1) reflect the use of a new type of fuel (GE13) and (2) modify the minimum critical power ratio safety limit and the standby liquid control system sodium pentaborate limits to accommodate the GE13 fuel.

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,

Original signed by:

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

Docket No. 50-324

Enclosures:

- 1. Amendment No. 212 to License No. DPR-62
- 2. Safety Evaluation

cc w/enclosures: See next page

FILENAME - G:\BRUNSWIC\BR293258.AMD

*See Previous Concurrence

LA:PDII-1*	PM:PDII-1 ²	OGC*	D:PDII-1 <i>BCB for</i>	SRXB	
<i>ED</i> EDunnington	<i>DT</i> DTrimble		<i>DM</i> DMatthews	<i>Re Jones</i>	
1/31/96	1/31/96	1/30/96	1/31/96	1/30/96	
(Yes/No)	(Yes/No)	Yes (No)	Yes (No)	(Yes/No)	

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Brunswick Steam Electric Plant
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AMENDMENT NO. 212 TO FACILITY OPERATING LICENSE NO. DPR-62 - BRUNSWICK, UNIT 2

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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. 212
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 August 4, 1995, 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. 212, 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 February 3, 1996, and shall be implemented prior to the startup of Unit 2 from the Reload 11 Outage (B212R1).

FOR THE NUCLEAR REGULATORY COMMISSION



David B. Matthews, 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: January 31, 1996

ATTACHMENT TO LICENSE AMENDMENT NO. 212

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

2-1

3/4 1-20

5-1

Insert Pages

2-1

3/4 1-20

5-1

2.0 SAFETY LIMITS AND LIMITING SAFETY SYSTEM SETTINGS

2.1 SAFETY LIMITS

THERMAL POWER (Low Pressure or Low Flow)

2.1.1 THERMAL POWER shall not exceed 25% of RATED THERMAL POWER with the reactor vessel steam dome pressure less than 800 psia or core flow less than 10% of rated flow.

APPLICABILITY: CONDITIONS 1 and 2.

ACTION:

With THERMAL POWER exceeding 25% of RATED THERMAL POWER and the reactor vessel steam dome pressure less than 800 psia or core flow less than 10% of rated flow, be in at least HOT SHUTDOWN within 2 hours.

THERMAL POWER (High Pressure and High Flow)

2.1.2 The MINIMUM CRITICAL POWER RATIO (MCPR) shall not be less than 1.09 with the reactor vessel steam dome pressure greater than 800 psia and core flow greater than 10% of rated flow.

APPLICABILITY: CONDITIONS 1 and 2.

ACTION:

With MCPR less than 1.09 and the reactor vessel steam dome pressure greater than 800 psia and core flow greater than 10% of rated flow, be in at least HOT SHUTDOWN within 2 hours.

REACTOR COOLANT SYSTEM PRESSURE

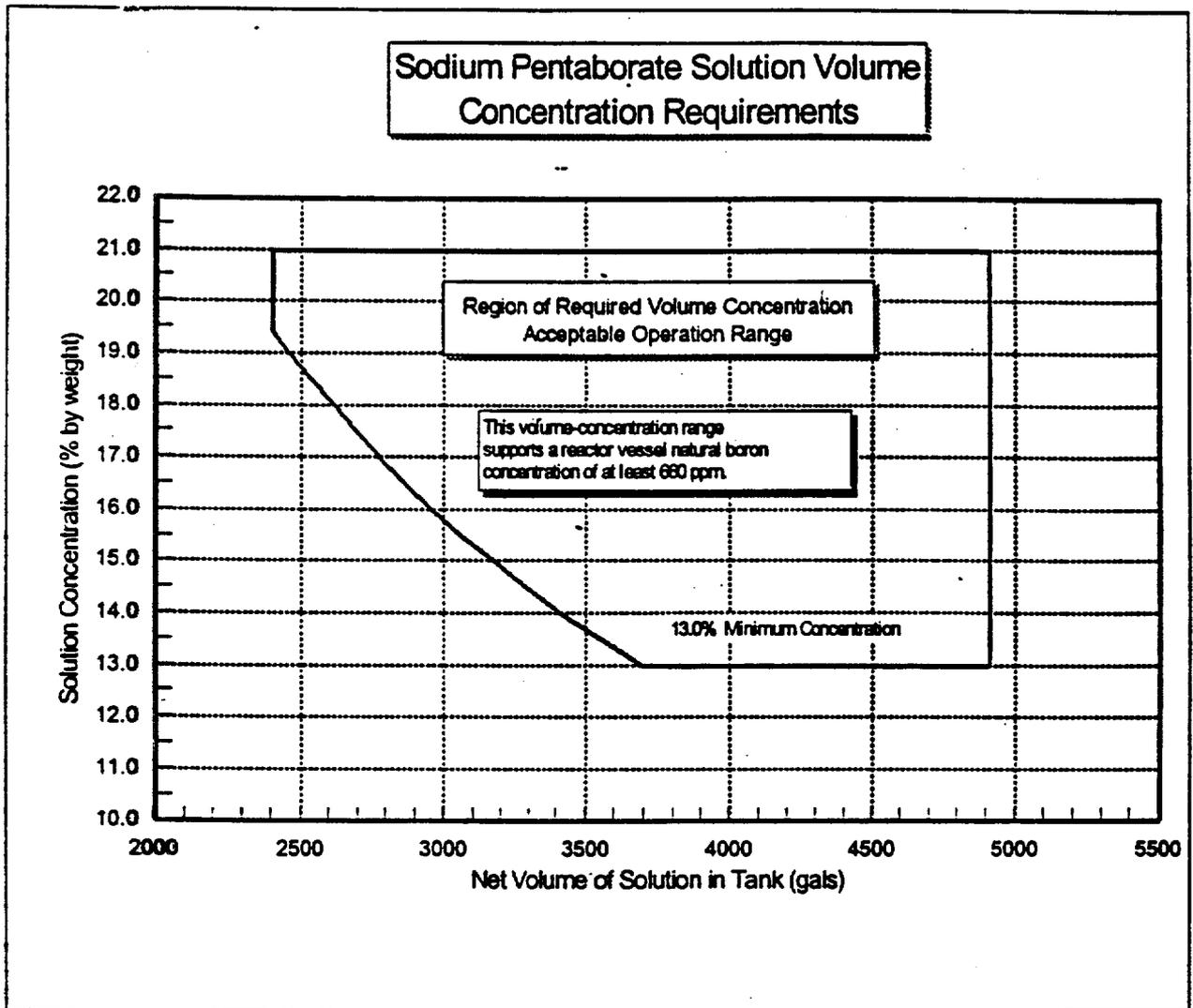
2.1.3 The reactor coolant system pressure, as measured in the reactor vessel steam dome, shall not exceed 1325 psig.

APPLICABILITY: CONDITIONS 1, 2, 3, and 4.

ACTION:

With the reactor coolant system pressure, as measured in the reactor vessel steam dome, above 1325 psig, be in at least HOT SHUTDOWN with reactor coolant system pressure \leq 1325 psig within 2 hours.

SODIUM PENTABORATE SOLUTION VOLUME CONCENTRATION REQUIREMENTS
FIGURE 3.1.5-1





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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATING TO AMENDMENT NO. 212 TO LICENSE NO. DPR-62

CAROLINA POWER & LIGHT COMPANY

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2

DOCKET NO. 50-324

1.0 INTRODUCTION

By letter dated August 4, 1995, Carolina Power & Light Company (CP&L, the licensee) proposed changes to the Technical Specifications (TS) for the Brunswick Steam Electric Plant (BSEP), Unit 2. The proposed changes include the Minimum Critical Power Ratio (MCPR) safety limit for the new GE13 fuel, the use of the new fuel type (GE13), and new sodium pentaborate volume-concentration limits for the standby liquid control system.

2.0 EVALUATION

The licensee requested TS changes in accordance with 10 CFR 50.90 and 2.101. The revised Specifications were proposed as follows:

(1) Specification 2.1.2

Due to the use of GE13 fuel, the safety limit for MCPR is changed to 1.09 for operation with the reactor steam dome pressure greater than 800 psia and core flow greater than 10% of rated flow.

The staff has reviewed the General Electric Company's (GE) submittal (JFK94-014 MFN-118-94) on "Safety Limit MCPR [SLMCPR] for GE13 Fuel," dated September 28, 1994, and found that the proposed SLMCPR of 1.09 for the GE13 fuel is acceptable for this reload application while the staff continues to resolve some generic issues for the GEXL09 correlation. The proposed SLMCPR of 1.09 for BSEP Unit 2 is acceptable since the R-factor calculation method uses the same staff-approved equation stated in the General Electric Standard Application for Reactor Fuel (GESTAR) (NEDE-24011-P-A) and the term of ΔX_G in the GEXL09 correlation has no impact on the SLMCPR calculation.

(2) Specification 5.3.1

The GE13 fuel type is added to the list of reactor core fuel assembly types. This addition is acceptable since the licensee indicated that the GE13 fuel type design fully complies with the acceptance criteria contained in the approved Amendment 22 of NEDE-24011-P-A.

(3) Figure 3.1.5-1

A portion of the standby liquid control system (SLCS) sodium pentaborate volume-concentration range shown in TS Figure 3.1.5-1 (applicable to the lower range of tank volume) is being revised to increase the required concentration of sodium pentaborate solution to account for the additional shutdown reactivity needed based on the planned use of GE13 fuel assemblies as reload for the Unit 2 Cycle 12 reactor core. For the currently approved fuel types, a minimum shutdown margin of 2.6%ΔK is required in the SLCS analysis; and for the GE13 fuel type, GE methodology requires a shutdown margin of 3.6%ΔK. GE calculations show that an in-vessel concentration of 660 ppm boron results in an estimated SLCS shutdown margin of 4.1%ΔK, which exceeds the minimum required shutdown margin of 3.6%ΔK, based on the current minimum SLCS tank concentration of 13% by weight. The proposed increase in the required concentration of sodium pentaborate solution to raise in-vessel concentration from 600 ppm to 660 ppm is acceptable for this plant-specific application, since the proposed concentration results in a higher shutdown margin than the required minimum of 3.6%ΔK. In addition, GE has committed during a January 4, 1996, conference call to submit its methodology for generic review in response to the staff's question on the documentation of the previous methodology used in support of this application.

The NRC staff has concluded that the changes to the TS regarding the use of GE13 fuel and the revised MCPR safety limit are acceptable for the BSEP Unit 2 reload application since the changes are based upon methodology and acceptance criteria previously approved by the NRC staff. In addition, previous industry experience has shown that the GE methodology that was used in establishing the revised shutdown margin requirement is conservative. Since GE has calculated that the proposed increase in the required concentration of sodium pentaborate solution results in a higher shutdown margin than the required minimum, the proposed concentration change 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 amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes 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 amendment involves 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 amendment involves no significant hazards consideration, and there has been no public comment on such finding (60 FR 49931). Accordingly, the amendment meets 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 amendment.

5.0 CONCLUSIONS

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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: T. Huang

Date: January 31, 1996