



John S. Keenan
Vice President
Brunswick Nuclear Plant

JAN 14 2002

SERIAL: BSEP 02-0009
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U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING
REQUEST FOR LICENSE AMENDMENTS – THERMAL-HYDRAULIC STABILITY
OPTION III (NRC TAC NOS. MB2321 AND MB2322)

Ladies and Gentlemen:

On June 26, 2001 (Serial: BSEP 01-0076), Carolina Power & Light (CP&L) Company requested a revision to the Technical Specifications for the Brunswick Steam Electric Plant (BSEP), Units 1 and 2. The proposed amendments support a modification that will install a digital Power Range Neutron Monitoring (PRNM) system. The modification will supersede plant modifications previously installed in support of CP&L's implementation of the Boiling Water Reactor Owners' Group (BWROG) Enhanced Option I-A Reactor Stability Long-Term Solution, and will allow full implementation of the BWROG Option III Reactor Stability Long-Term Solution.

Subsequently, on December 19, 2001, the NRC provided an electronic version of a Request for Additional Information (RAI) regarding the proposed changes. The response to this RAI is enclosed.

Please refer any questions regarding this submittal to Mr. Leonard R. Beller, Manager - Regulatory Affairs, at (910) 457-2073.

Sincerely,


John S. Keenan

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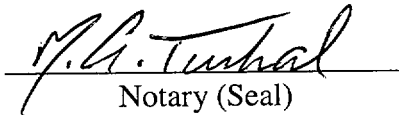
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KMN/kmn

Enclosure:

Response to Request for Additional Information

John S. Keenan, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, and agents of Carolina Power & Light Company.


Notary (Seal)

My commission expires: *May 18, 2003*

cc:

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ENCLOSURE

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
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STABILITY OPTION III (NRC TAC NOS. MB2321 AND MB2322)

Background

On June 26, 2001 (Serial: BSEP 01-0076), Carolina Power & Light (CP&L) Company requested a revision to the Technical Specifications for the Brunswick Steam Electric Plant (BSEP), Units 1 and 2. The proposed amendments support a modification that will install a digital Power Range Neutron Monitoring (PRNM) system. The modification will supersede plant modifications previously installed in support of CP&L's implementation of the Boiling Water Reactor Owners' Group (BWROG) Enhanced Option I-A Reactor Stability Long-Term Solution, and will allow full implementation of the BWROG Option III Reactor Stability Long-Term Solution.

Subsequently, on December 19, 2001, the NRC provided an electronic version of a Request for Additional Information (RAI) regarding the proposed changes. The response to this RAI is enclosed.

NRC RAI

Ref: Brunswick Steam electric Plant, Units 1 and 2, Revision to Technical specifications to support Installation of GE NUMAC PRNM system. Licensee's submittal dated June 26, 2001.
(TAC Nos. MB2321 and MB 2322)

Please provide additional information and/or clarification for the following items: It is possible that the requested information might have been included in the submittal and missed by the staff. In that case, please identify places where the requested information has been included in the submittal.

NRC Question 1

Section 3.2.10 requires rod block to result from an condition when an LPRM count below the normal minimum occurs. Does the current plant design has this design requirement? If not, is this requirement incorporated in the proposed changes? (Ref. Submittal Page E1-4, B.1 Functions, "APRM Inop.")

Response to Question 1

In the current PRNM system, the minimum number of Local Power Range Monitor (LPRM) detectors in a level is controlled procedurally with no automatic actions or alarms. If the minimum number of total LPRMs in a channel falls below the minimum required, then an automatic Reactor

Protection System (RPS) half-scrum signal will be initiated along with an Annunciator alarm and a rod block signal.

In the new system, if the number of LPRM detectors falls below the minimum required, an automatic rod block will be initiated and the "AVERAGE POWER RANGE MONITOR (APRM) TROUBLE" alarm will be activated. The low LPRM count is not included in the automatic APRM Inop Trip in order to eliminate unnecessary trips. Since the minimum LPRM count is a worst-case limit, the APRM channel will in fact be performing satisfactorily in many cases even if the minimum count is reached. Since LPRM detector count affects only one APRM channel, even if the channel is inoperable, per Technical Specification requirements, the operator will have a minimum of six hours to resolve the problem.

NRC Question 2

Section 8.4.3.2 requires 2-out-of-4 Voter function operable only during Mode 1 (i.e., Power Operation). The proposed change requires it to be operable in Mode 2 (i.e., Startup) also. (Ref. B.3 page E1-5 of the submittal)

Response to Question 2

Technical Specification Table 3.3.1.1-1, "Reactor Protection System Instrumentation," has been revised to add a "pseudo function" (i.e., Function 2.e, 2-Out-Of-4 Voter)." Supplement 1 to General Electric Nuclear Energy Licensing Topical Report (LTR) NEDC-32410P, "Nuclear Measurement Analysis and Control Power Range Neutron Monitor (NUMAC PRNM) Plus Option III Stability Trip Function," dated November 1997, changed the operability requirement for this function from Mode 1 only to Mode 1 and 2. CP&L's submittal is consistent with Supplement 1 of LTR NEDC-32410P.

NRC Question 3

Supplement 1 of LTR LCO 3.3.1.1, requires that Action A-2, and Condition B are not applicable to functions 2.a, 2.b, 2.c, 2.d, and 2.f, but the Section B9, page E1-8 paragraph 1 of the submittal identifies only function 2.f.

Response to Question 3

The description contained in paragraph 1 under Section B9 on page E1-8 does not clearly state the intent of the proposed PRNM change. LCO 3.3.1.1 Condition A and associated Required Action A.1 will be applicable to the new Oscillation Power Range Monitor (OPRM) Upscale Function 2.f along with other APRM Functions 2.a, 2.b, 2.c, 2.d, and 2.e.

OPRM Upscale Function 2.f will be excluded from Required Action A.2 and Condition B, similar to other APRM Functions 2.a, 2.b, 2.c, and 2.d. The BSEP PRNM Technical Specification changes associated with LCO 3.3.1.1 have been submitted consistent with Supplement 1 of the LTR.

NRC Question 4

Reference: PRNM LTR Section 8.3.1.4, Utility Actions. Response to the following is missing from the licensee's submittal (page E4 -14, 15):

Add a "2-out-of-four Voter" pseudo function to the RPS Instrumentation "function" table, and Modify the Bases descriptions of the APRM Inop function as needed to reflect the replacement PRNM system. Add related surveillance requirements, perform necessary analysis for setpoints and modify the Bases sections as needed.

Response to Question 4

The Plant Specific Responses included in CP&L's June 26, 2001, submittal omitted the following discussion under Section 8.3.1.4 on Page E4-15.

Section No.	Utility Action Required	Response
8.3.1.4	4. Add a "2-Out-Of-4 Voter" pseudo function to the RPS instrumentation "function" table.	The PRNM modification and proposed Technical Specification includes a "2-Out-Of-4 Voter" pseudo function consistent with the LTR.
	5. Modify the Bases descriptions of the APRM Inop function as needed to reflect the replacement PRNM System.	The proposed Technical Specification Bases changes include revisions which are consistent with the PRNM LTR.