CP&L
A Progress Energy Company

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U. S. Nuclear Regulatory Commission
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BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
ADDITIONAL INFORMATION RELATED TO 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, by letter dated June 29, 2001, General Electric (GE) Nuclear Energy notified CP&L of a reportable condition under 10 CFR Part 21. Specifically, CP&L was notified of a non-conservative deficiency for high peak bundle power-to-flow ratio in the generic regional mode Delta Critical Power Ratio (CPR)/Initial CPR Versus Oscillation Magnitude (DIVOM) curve contained in NEDO-32465-A, "Reactor Stability Detect and Suppress Solutions Licensing Basis Methodology for Reload Applications," dated August 1996. This non-conservatism could result in Option III stability trip system setpoints that do not provide Minimum Critical Power Ratio (MCPR) Safety Limit protection for a limiting instability event. GE Nuclear Energy also notified the NRC of this potential non-conservatism in a letter dated June 29, 2001.

On January 30, 2002, in a telephone call between CP&L and the NRC, the NRC requested CP&L to document the plans for enabling the OPRM trip function, in light of the 10 CFR Part 21 issue discussed above. CP&L's Oscillation Power Range Monitor (OPRM) trip function will be fully operational during the first start-up following installation of the

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new PRNM system, with related Technical Specifications in place. The PRNM system with OPRM trip function will be installed on Unit 1 during the March 2002, refueling outage. The figure of merit calculation described in GE Nuclear Energy's letters to the NRC dated June 29, 2001, and August 31, 2001, will be performed, during the upcoming refueling outage, to determine if the existing generic regional mode DIVOM curve is applicable for BSEP Unit 1. If the results conclude that the existing DIVOM curve is applicable, then there is assurance that the Option III stability trip system setpoints will provide MCPR Safety Limit protection and CP&L will start-up Unit 1 with the OPRM trip function operable and enabled.

However, if the results of the figure of merit calculation conclude that the existing DIVOM curve is not applicable for BSEP Unit 1, CP&L will start-up with the OPRM trip function enabled but declared inoperable. As a compensatory action, an alternate method to detect and suppress thermal hydraulic instability oscillations will be implemented, as described in proposed Technical Specification 3.3.1.1, Condition I. If the figure of merit calculation demonstrates that the generic regional mode DIVOM curve is applicable for certain parts of the operating cycle, then the OPRM function will be considered operable only during those times when the generic curve bounds BSEP operation. The OPRM trip function will remain enabled but declared inoperable at all times when BSEP operation is not bounded by the generic analysis. Historically, a decade of plant operation using the alternate method to detect and suppress thermal hydraulic instability oscillations has not resulted in any thermal hydraulic instability events. By maintaining the OPRM trip enabled even if the setpoints do not meet the licensing criteria for MCPR Safety Limit protection, additional protection of instability events is provided. The OPRM would scram the plant early in an instability event, such that even if the MCPR limit were exceeded, significant fuel damage would be unlikely. The periodic rewetting of the fuel should provide adequate heat transfer beyond the time when an OPRM scram is completed. By letter dated August 31, 2001, GE Nuclear Energy provided final information concerning the non-conservative reload licensing calculations for stability Option III detect and suppress trip systems. As defined in that letter, BSEP Units 1 and 2 are Category 2 plants, and CP&L's implementation strategy, as described above, is consistent with the third resolution option for Category 2 plants (i.e., implement the system with a non-conservative setpoint and immediately declare the system inoperable).

The BWROG has re-established the Detect & Suppress committee to lead development of an improved methodology for performing stability detect and suppress reload licensing calculations. The final recommended solution from this committee is expected in the fourth quarter of 2002. Until long-term resolution of this issue is finalized, CP&L will continue to operate BSEP Unit 1 with the OPRM trip function either operable, or enabled but declared inoperable, as described above.

Implementation of the new Unit 2 PRNM system with OPRM trip function in March 2003, is expected to incorporate the final long-term solution developed by the BWROG Detect & Suppress committee. However, if long-term resolution of this issue has not been finalized by the startup following installation of the Unit 2 modification, Unit 2 OPRM trip function operability will be assessed by performing the figure of merit calculation as described for

Unit 1 above. OPRM trip function operability for both Units 1 and 2 will be assessed each cycle until long-term resolution of this issue is finalized.

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

Sincerely,

John S. Keenan

KMN/kmn

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: 8-29-04

cc:

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