



Progress Energy

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APR 05 2004

SERIAL: BSEP 04-0048
TSC-2002-09

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

Subject: 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
Core Flow Operating Range Expansion
(NRC TAC No. MB6692 and MB6693)

Reference: Letter from John S. Keenan to the U. S. Nuclear Regulatory Commission
(Serial: BSEP 02-0169), "Request for License Amendments - Core Flow
Operating Range Expansion," dated November 12, 2002

Ladies and Gentlemen:

On November 12, 2002, Carolina Power & Light Company, now doing business as Progress Energy Carolinas, Inc., requested a revision to the Technical Specifications (TSs) for the Brunswick Steam Electric Plant (BSEP), Units 1 and 2. The proposed license amendments revise TSs, as necessary, to support an expansion of the core flow operating range (i.e., Maximum Extended Load Line Limit Analysis Plus (MELLLA+)).

On March 12, 2004, the NRC provided an electronic request for additional information (RAI) concerning the affects of MELLLA+ on Irradiation Assisted Stress Corrosion Cracking (IASCC). The response to this RAI is enclosed.

Please refer any questions regarding this submittal to Mr. Edward T. O'Neil,
Manager - Support Services, at (910) 457-3512.

Sincerely,

Cornelius J. Gannon

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A001

MAT/mat

Enclosure:

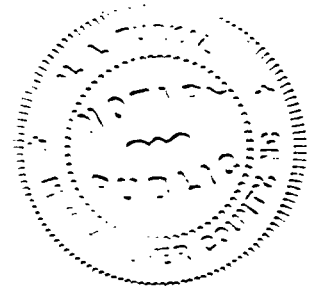
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William G. Noll, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, and agents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

W. G. Noll

Notary (Seal)

My commission expires: *May 18, 2008*



cc:

U. S. Nuclear Regulatory Commission, Region II
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U. S. Nuclear Regulatory Commission
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U. S. Nuclear Regulatory Commission **(Electronic Copy Only)**
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Ms. Jo A. Sanford
Chair - North Carolina Utilities Commission
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Ms. Beverly O. Hall, Section Chief
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Background

On November 12, 2002, Carolina Power & Light Company, now doing business as Progress Energy Carolinas, Inc., requested a revision to the Technical Specifications (TSs) for the Brunswick Steam Electric Plant (BSEP), Units 1 and 2. The proposed license amendments revise TSs, as necessary, to support an expansion of the core flow operating range (i.e., Maximum Extended Load Line Limit Analysis Plus (MELLLA+)).

On March 12, 2004, the NRC provided an electronic RAI concerning the affects of MELLLA+ on Irradiation Assisted Stress Corrosion Cracking (IASCC). The response to this RAI follows.

NRC Question 8-1

The applicant is to provide a plant-specific IASCC evaluation when implementing MELLLA+, which includes the components that will exceed the IASCC MELLLA+ threshold of 5×10^{20} n/cm² ($E > 1$ MeV), the impact of failure of these components on the integrity of the reactor internals and core support structures under licensing design bases conditions, and the inspections that will be performed on components that exceed the IASCC threshold to ensure timely identification of IASCC, should it occur.

Response to NRC Question 8-1

BSEP tracks the accumulated flux for welds that are predicted to exceed the threshold of 5×10^{20} n/cm² through license renewal. The fluence is considered in the analysis of each weld in accordance with the Boiling Water Reactor Vessel and Internals Project (BWRVIP) I&E Guidelines. The reactor components which will be exposed to a fluence greater than 5×10^{20} n/cm² ($E > 1$ MeV) during MELLLA+ operating conditions are the top guide and the beltline region of the core shroud. Potential safety consequences are documented in (1) BWRVIP-26, "BWR Vessel and Internals Project, BWR Top Guide Inspection and Flaw Evaluation Guidelines," (i.e., for the top guide) and (2) BWRVIP-01, "BWR Core Shroud Inspection and Flaw Evaluation Guidelines," BWRVIP-06-A, "Safety Assessment of BWR Reactor Internals," BWRVIP-07, "Guidelines for Reinspection of BWR Core Shrouds," and BWRVIP-63, "Shroud Vertical Weld Inspection and Evaluation Guidelines" (i.e., for the core shroud). BSEP will manage potential IASCC of the top guide and core shroud with the vessel internals inspection program, which is consistent with the BWRVIP recommendations described in BWRVIP-26 and BWRVIP-76, "BWR Vessel and Internals Project, BWR Core Shroud Inspection and Flaw Evaluation Guidelines."