



Carolina Power & Light Company  
P.O. Box 10429  
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March 11, 1997

SERIAL: BSEP 97-0034  
10 CFR 50.55(a)(3)

U. S. Nuclear Regulatory Commission  
ATTENTION: Document Control Desk  
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2  
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62  
ASME BOILER AND PRESSURE VESSEL CODE, SECTION XI  
REQUEST FOR APPROVAL TO USE ASME CODE CASE N-509

Gentlemen:

In accordance with 10 CFR 50.55a(a)(3), Carolina Power & Light (CP&L) Company requests approval for the Brunswick Steam Electric Plant, Unit Nos. 1 and 2, to use an alternative to the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code requirements for examination of Class 1, 2, and 3 integrally welded attachments. The requested alternative is delineated in ASME Code Case N-509, "Alternative Rules for the Selection and Examination of Class 1, 2, and 3 Integrally Welded Attachments Section XI, Division 1" which was approved by the ASME on November 25, 1992. Code Case N-509 has not yet been incorporated into Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability ASME Section XI Division 1." The basis for this request is provided in Enclosure 1. A list of the regulatory commitments contained in this letter is provided in Enclosure 2.

CP&L has reviewed the alternative requirements of ASME Code Case N-509 and determined that the use of this Code Case will provide an acceptable level of quality and safety based on the reasons provided in the enclosed basis for the request. CP&L considers this request to use ASME Code Case N-509 to be a regulatory burden reduction item for the Brunswick Steam Electric Plant with anticipated savings in excess of \$250,000 for the remaining period of operation currently authorized by the operating licenses.

Approval of ASME Code Case N-509 for use at the Brunswick Steam Electric Plant is requested by August 1, 1997, in order to support planning activities for the Unit 2 Reload 12 (B213R1) refueling outage.

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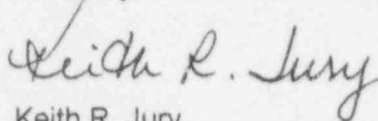
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Please refer any questions regarding this submittal to Mr. Mark Turkal, Supervisor – Licensing at (910) 457-3066.

Sincerely,



Keith R. Jury  
Manager – Regulatory Affairs  
Brunswick Steam Electric Plant

WRM/wrm

Enclosures:

1. Request for Approval to Use ASME Code Case N-509
2. List of Regulatory Commitments

cc: U. S. Nuclear Regulatory Commission  
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Mr. C. A. Patterson  
NRC Senior Resident Inspector - Brunswick Steam Electric Plant, Units 1 and 2

U.S. Nuclear Regulatory Commission  
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The Honorable J. A. Sanford  
Chairman - North Carolina Utilities Commission  
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Division of Boiler and Pressure Vessel  
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## ENCLOSURE 1

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2  
DOCKET NOS. 50-325 AND 50-324  
LICENSE NOS. DPR-71 AND DPR-62  
ASME BOILER AND PRESSURE VESSEL CODE, SECTION XI  
REQUEST FOR APPROVAL TO USE ASME CODE CASE N-509

In accordance with 10 CFR 50.55(a)(3), Carolina Power & Light (CP&L) Company requests approval for the Brunswick Steam Electric Plant, Unit Nos. 1 and 2 to use an alternative to the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code requirements for examination of Class 1, 2, and 3 integrally welded attachments. The requested alternative is delineated in ASME Code Case N-509, "Alternative Rules for the Selection and Examination of Class 1, 2, and 3 Integrally Welded Attachments Section XI, Division 1," which was approved by the ASME Code committee on November 25, 1992. ASME Code Case N-509 has not yet been incorporated into Regulatory Guide 1.147.

ASME Code Case N-509 allows alternative requirements for visual and surface examination of integrally welded attachments specified in Table IWB-2500-1 (Category B-H and B-K-1), IWC-2500-1 (Category C-C), and IWD-2500-1 (Category D-A, D-B, and D-C) of the ASME Code, Section XI. The alternative requirements of this Code Case reduce the burden imposed on CP&L by implementing a sampling plan similar to the one for component supports contained in Code Case N-491, "Alternative Rules for Examination of Class 1, 2, 3 and MC Component Supports of Light-Water Cooled Power Plants, Section XI, Division 1," which has been incorporated into Regulatory Guide 1.147.

The alternative requirements of ASME Code Case N-509 have been reviewed by CP&L, and CP&L has determined that the use of this Code Case would provide an acceptable level of quality and safety for the following reasons:

- Code Case N-509 improves the examination of Class 3 integrally-welded attachments by changing the Code-required VT-3 examination to a more applicable VT-1 examination. The VT-1 examination is more stringent and more likely to identify the kinds of degradation that are most detrimental to a welded attachment.
- Code Case N-509 no longer exempts integral attachments based on base material design thickness as currently allowed by ASME Section XI for Class 1 and Class 2 components. In addition, unlike Section XI of the ASME Code, this Code Case requires an examination whenever component support member deformation (e.g., broken, bent, or pulled out parts) is identified on Class 1, 2, and 3 components.
- This Code Case implements a sampling plan similar to the one for component supports contained in Code Case N-491 which has been incorporated into Regulatory Guide 1.147. Code Case N-509 requires selection of component supports for examination in accordance with IWF of the 1990 Addenda of the ASME Code. The Brunswick Plant will implement Code Case N-509 using the selection guidelines for component supports contained in Code Case N-491. Code Case N-491 contains the same requirements for selection of component supports for examination as the 1990 Addenda. Code Case N-491 has been approved by the NRC staff and incorporated into Regulatory Guide 1.147. The Brunswick Plant will examine a

minimum of 10 percent of the total number of non-exempt integral attachments on Class 1, 2, and 3 systems. Since a random sampling of component supports for examination in accordance with Code Case N-491 provides an acceptable level of quality and safety, then selecting a similar sampling of component support integral attachments for examination in accordance with Code Case N-509 also provides an acceptable level of quality and safety.

- The extent of examinations required by Code Case N-509 still includes essentially 100 percent of the length of the attachment weld by using methods approved by the ASME Code, Section XI. The smaller sample size receives an equal or more detailed examination which still provides for plant quality and safety but reduces engineering and examination costs as well as personnel radiation exposures overall. In addition, this Code Case still requires additional and successive examinations for attachments whose examinations reveal flaws or relevant conditions that exceed the acceptance standards of the ASME Code, Section XI.

The approval to use the alternative provisions of ASME Code Case N-509, "Alternative Rules for the Selection and Examination of Class 1, 2, and 3 Integrally Welded Attachments Section XI, Division 1" is requested for the remainder of the second ten-year inspection interval or until such time as Code Case N-509 is incorporated into Regulatory Guide 1.147.

ENCLOSURE 2

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2  
NRC DOCKET NOS. 50-325 AND 50-324  
OPERATING LICENSE NOS. DPR-71 AND DPR-62  
ASME BOILER AND PRESSURE VESSEL CODE, SECTION XI  
REQUEST FOR APPROVAL TO USE ASME CODE CASE N-509

LIST OF REGULATORY COMMITMENTS

The following table identifies those actions committed to by Carolina Power & Light (CP&L) Company in this document. Any other actions discussed in the submittal represent intended or planned actions by CP&L. They are described to the NRC for the NRC's information and are not regulatory commitments. Please notify the Manager - Regulatory Affairs at the Brunswick Steam Electric Plant of any questions regarding this document or any associated regulatory commitments.

Commitment	Committed date or outage
1. Implement Code Case N-509 using the selection guidelines for component supports contained in Code Case N-491.	N/A