CP&L

Carolina Power & Light Company

OCT 09 1992

SERIAL: NLS-92-260

United States Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 & 50-324/LICENSE NOS. DPR-71 & DPR-62
ASME CODE RELIEF REQUEST - INSERVICE INSPECTION PROGRAM
MAIN STEAM RELIEF VALVE PRESSURE TEST

Gentlemen:

The purpose of this letter is to request relief from the ASME Code, Section XI, in accordance with 10 CFR 50.55a(g)(6)(i), for the Brunswick Steam Electric Plant, Units 1 and 2. The ASME Code, Section XI (1980 Edition through Winter 1981 addenda) requires system pressure tests and visual examinations (VT-2) to be performed in accordance with Article IWA-5211(b) and (d) and/or Paragraph IWD-5223(f). IWD-5223(f) requires, for safety or relief valve piping which discharges into the containment pressure suppression pool, a pneumatic test (at a pressure of 90 percent of the pipe submergence head of water) that demonstrates leakage integrity shall be performed in lieu of a system hydrostatic test.

The requested relief applies to the main steam relief valve discharge piping that connects between the safety/relief valves (B21-F013A through F, J, K, and L) and the containment suppression pool. The proposed alternate testing (observing steam flow through the discharge piping in conjunction with the 18 month periodic test of the automatic depressurization system) will provide reasonable assurance of the integrity of the affected piping. As a substitution of the 40 month frequency pressure tests required by IWA-5211(b) or the 120 month pressure test required by IWA-5211(d) and/or IWD-5223(f), the proposed alternate testing at a frequency of approximately every 18 months is being proposed.

The detailed relief request is provided in Enclosure 1. Approval of this relief request is needed by November 15, 1992 to support startup of the Brunswick Plant, Units 1 and 2 from the current outages.

Similar requests applicable to the Brunswick Steam Electric Plant, Units 1 and 2 were submitted by CP&L letters dated February 26, 1992 (Serial: NLS-92-046) and August 15, 1991 (Serial: NLS-91-198), respectively. These requests were approved by NRC letters dated July 22, 1992 and October 29, 1991, respectively.

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Please refer any questions regarding this submittal to Mr. M. R. Oates at (919) 546-6063.

Yours very truly,

D. C. McCarthy

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Manager
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WRM/wrm (rr12ltr.wpf)

Enclosure

cc: Mr. S. D. Ebneter
Mr. R. H. Lo
Mr. P. L. Prevatte

ENCLOSURE 1

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2
NRC DOCKET NOS. 50-325 & 50-324
OPERATING LICENSE NOS. DPR-71 & DPR-62
ASME CODE RELIEF REQUEST - INSERVICE INSPECTION PROGRAM
MAIN STEAM RELIEF VALVE PRESSURE TEST

I. APPLICABLE COMPONENTS

This request is applicable to the Unit 1 and Unit 2 main steam system safety/relief valve (SRV) discharge piping from valves B21-F013A through H, J, K, and L. The main steam safety/relief valve discharge piping is classified as an ASME Code Class 3 component.

II. IMPRACTICAL TEST REQUIREMENT

The Technical Specifications for the Brunswick Steam Electric Plant, Units 1 and 2 state that inservice inspection of ASME Code Class 1, 2, and 3 components shall be performed in accordance with the requirements of the applicable edition and addenda of the ASME Code, Section XI except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). The ASME Code, Section XI edition and addenda applicable to the Brunswick Steam Electric Plant, Units 1 and 2 are the 1980 Edition with Addenda through the Winter 1981.

The ASME Code, Section XI requires system pressure tests and visual examinations (VT-2) to be performed in accordance with Article IWA-5211(b) and (d) and/or paragraph IWD-5223(f). IWD-5223(f) requires, for safety or relief valve piping which discharges into the containment pressure suppression pool, a pneumatic test (at a pressure of 90 percent of the pipe submergence head of water) that demonstrates leakage integrity shall be performed in lieu of a system hydrostatic or periodic pressure test. As a substitution of the 40 month frequency pressure tests required by IWA-5211(b) or the 120 month pressure test required by IWA-5211(d) and/or IWD-5223(f), the proposed alternate testing at a frequency of approximately every 18 months is being proposed.

III. BASIS FOR RELIEF

The discharge piping associated with the main steam system safety/relief valves is located in the drywell portion of the primary containment. The centerline of the tee-quencher for the safety/relief valve discharge piping is 7.25 feet below the high water level in the containment suppression pool. Accordingly, the ASME Code test pressure corresponding to 90 percent of the pipe submergence head of water is 2.8 psi.

The performance of the subject pneumatic test in lieu of IWA-5211(b) and (d) testing, as permitted by the Code, would be a significant hardship due to the required disassembly of the discharge piping from the safety/relief valves in order to pressurize the piping for the functional or pneumatic test. In addition, disassembly and reassembly of the safety/relief valves could result in inadvertent damage to the valve. The system design pressure is 450 psig and the system temperature is 560°F. The test pressure required by the ASME Code is significantly lower than the design pressure and operational pressure. The subject pressure testing under the ASME Code does not provide assurance of the integrity of the

piping and will result in personnel radiation exposure associated with performance of the test. Approximately 0.3 person-rem of personnel radiation exposure savings per safety/relief valve discharge line can be realized by not performing the pneumatic test in accordance with the ASME Code (i.e., a total personnel exposure savings of approximately 3.3 person-rem per unit).

In addition, it is noted that the 1992 Edition of the ASME Code, Section XI no longer requires the performance of the system hydrostatic test currently required by IWD-5223(f).

IV. ALTERNATE TESTING

As an alternative, at a frequency of approximately once every 18 months (in lieu of once per 40 months as required by IWA-5211(b) or once per 120 months as required by IWA-5211(d) and/or IWD-5223(f)), a periodic test will be performed to verify the operability of the automatic depressurization system. This alternate test involves verifying that each safety/relief valve opens by observing reactor steam flow or that the turbine bypass valve position indication shows a decrease. The safety/relief valve tailpipe temperature for each safety/relief valve will be monitored to ensure a minimum increase of 20°F. Additionally, the suppression pool is monitored for temperature changes to verify steam flow through the open ended portion of the piping.