CP&L

Carolina Power & Light Company

AUG 15 1991

SERIAL: NLS-91-198
10 CFR 50.55a(g)

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

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-324/LICENSE NO. DPR-62
ASME CODE RELIEF REQUEST - INSERVICE INSPECTION PROGRAM
MAIN STEAM RELIEF VALVE PRESSURE TEST

Gentlemen:

In accordance with 10 CFR 50.55a(g)(6)(i), Carolina Power & Light Company (CP&L) hereby requests relief from the ASME Code, Section XI. A plant modification to replace the existing main feedwater containment isolation check valves is being performed to correct the continuing local leak rate test failures being experienced with the valves. To support the modification, a portion of the discharge piping for the F013H main steam safety/relief valve is being temporarily removed and subsequently re-installed. The ASME Code, Section XI, Subparagraph IWD-5223(f) requires a pneumatic test (at a pressure of 90 percent of the pipe submergence head of water) for relief valve piping that discharges into the containment suppression pool. The requested relief applies to the main steam relief valve discharge piping that runs between safety/relief valve F013H and the containment suppression pool.

The detailed relief request is provided in Enclosure 1. Approval of this relief request is needed by October 1, 1991 in support the Brunswick Unit 2 refueling outage scheduled to begin September 12, 1991.

Please refer any questions regarding this submittal to Mr. W. R. Murray at (919) 546-4661.

Yours very truly,

S. D. Floyd

S. D. Floyd
Manager
Nuclear Licensing Section

WRM/wrm (relief.wpf)

Enclosure

cc: Mr. S. D. Ebneter
Mr. N. B. Le
Mr. R. L. Prevatte

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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 relief request applies to the main steam relief valve discharge piping that runs between safety/relief valve F013H and the containment suppression pool. A portion of the piping between safety/relief valve F013H and the containment suppression pool is being removed and subsequently re-installed as part of a plant modification replacing the existing feedwater check valves.

II. IMPRACTICAL TEST REQUIREMENT

The Technical Specifications for the Brunswick Steam Electric Plant, Unit 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 Section XI Code edition and addenda applicable to the Brunswick Steam Electric Plant, Unit 2 are the 1980 Edition with Addenda through the Winter 1981.

The ASME Code, Section XI, IWA-4000 provides requirements for repairs to pressure retaining components. IWA-4400(a) requires the performance of a system hydrostatic test in accordance with IWA-5000 following welding repairs. IWA-5214(a) and IWA-5214(b) require the pressure test requirements comply with IWD-5223 for Class 3 components. IWD-5223(f) requires a pneumatic test (at a pressure of 90 percent of the pipe submergence head of water) for safety or relief valve piping which discharges into the containment pressure suppression pool in lieu of a system hydrostatic test.

III. BASIS FOR RELIEF

A plant modification to replace the existing main feedwater containment isolation check valves is being performed to correct the continuing local leak rate test failures being experienced with the valves. To support the modification, a portion of the discharge piping for the F013H main steam safety/relief valve is being temporarily removed and subsequently re-installed, as shown in the attached isometric drawing from the plant modification package. The affected discharge piping is located in the drywell portion of the primary containment.

As described above, subparagraph IWD-5223(f) of the ASME Code, Section XI requires a pneumatic test at a pressure of 90 percent of the pipe submergence head of water (i.e., 2.8 psi). The centerline of the tee-quencher for the relief valve discharge piping is 7.25 feet below the high water level in the containment suppression pool. Therefore, the

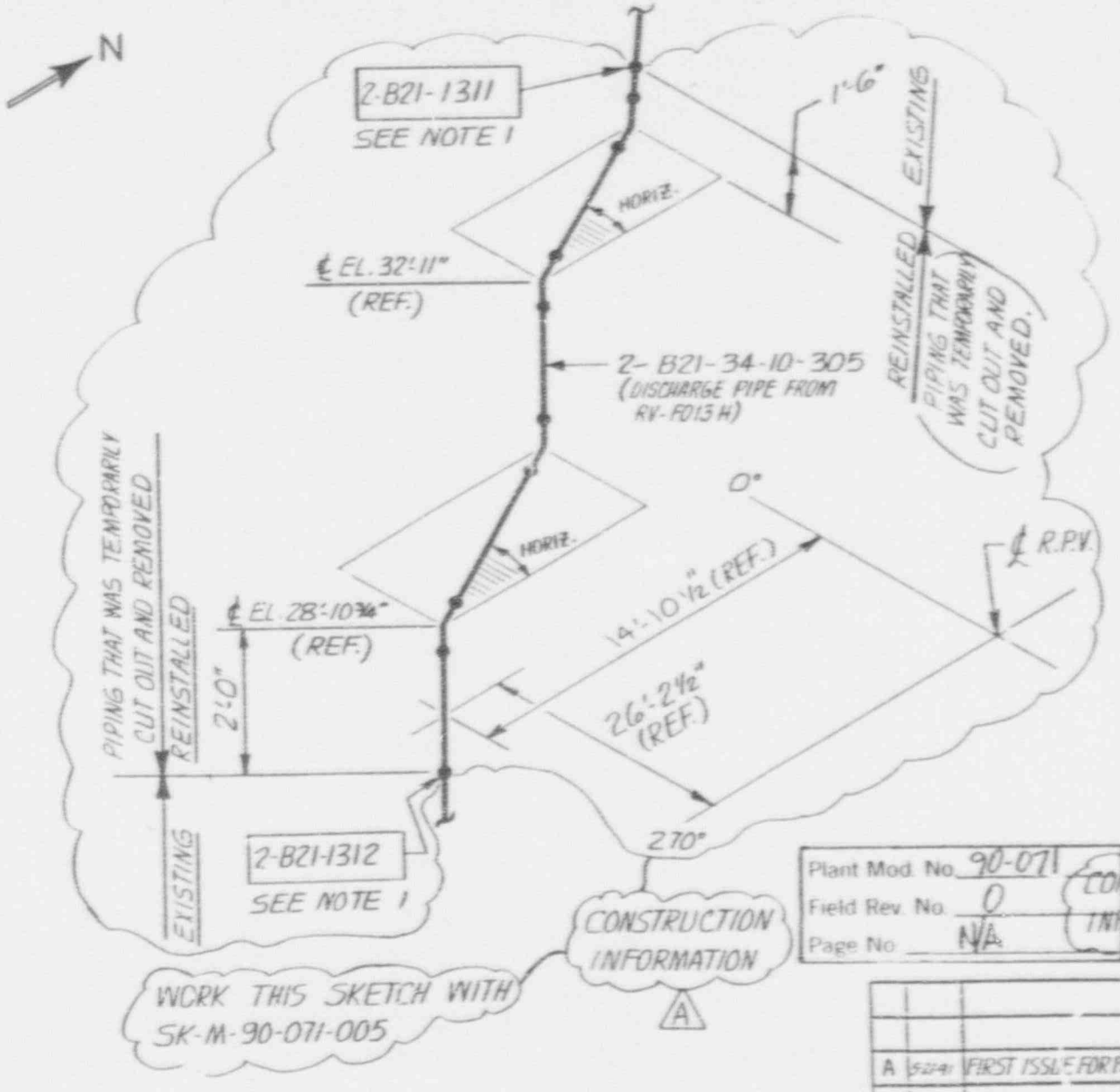
test pressure corresponding to 90 percent of the pipe submergence head of water, as required by the ASME Code, Section XI, Subparagraph IWD-5223(f), is 2.8 psi.

Implementation of the modification is currently being scheduled after performance of a chemical decontamination of the recirculation system piping. Nevertheless, approximately 0.3 man-rem of personnel radiation exposure savings can be realized by not performing the pneumatic test in accordance with IWD-5223(f).

Performance of the pneumatic pressure test will require disassembly of the F013H safety/relief valve in order to pressurize the piping to the 2.8 psi test pressure and perform the examination. The design pressure and temperature for the piping is 450 psig and 560 degrees F. The test pressure required by IWD-5223(f) (i.e., 2.8 psi) is significantly lower than the design pressure of the piping and the operating pressure typically experienced by the piping; therefore, the Company does not believe the IWD-5223(f) test provides assurance of the integrity of the piping commensurate with the personnel exposure associated with performance of the test. Based on the estimated personnel radiation exposure to perform this test, as well as the potential for inadvertently damaging the F013H safety/relief valve, the Company believes the test requirement is impractical and requests relief in accordance with 10 CFR 50.55a(g).

IV. ALTERNATE TESTING

The field welds will be examined to the most stringent optional requirement of the ASME Code, Section III, Class 3 (i.e., using RT examination). Based on the alternate testing, it is highly improbable that a weld that passes a volumetric examination will leak at a test pressure of 2.8 psi (a test pressure of 90 percent of the pipe submergence head of water).



LINE NO. 2-B21-34-10-305

NOTE:

1. NDE REQUIRED: ASME SECTION III CLASS 3 FOR WELD NO. 2-B21-1311 AND 2-B21-1312 ONLY. NUCLEAR SAFETY RELATED
2. EXISTING MATERIAL IS 248-117 CLASS 305. PIPE: SA-106 OR A-106 GR B, SA 333 OR A 333 GR 6 SEAMLESS. SCH 80. FITTINGS: SA/A-234 WPB SEAMLESS, BUTT WELD, SCH 80
3. NEW MATERIAL IS PROVIDED ON A CONTENGENCY BASIS AND MAY BE NEEDED DEPENDING ON WHETHER EXISTING PIPING IS SUITABLE FOR REUSE. NEW MATERIAL IS TO MEET REQUIREMENTS OF NOTE 2 ABOVE.
   40'-0" 10" DIA. PIPE
   6 10" 90° L.R. ELBOW

A PM 90-071

Plant Mod. No. 90-071
Field Rev. No. 0
Page No. N/A

CONSTRUCTION INFORMATION

CAROLINA POWER & LIGHT CO.
BRUNSWICK STEAM ELECTRIC PLANT
UNIT NO. 2
MAIN STEAM RELIEF VALVE DISCHARGE
KELLOGG ISO 2-B21-2

REV.	DATE	DESCRIPTION	BY	CHK'D	APP'D
A	5/24/91	FIRST ISSUE FOR PM 90-071	[illegible]	[illegible]	[illegible]

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