



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION RELATING TO REQUEST FOR RELIEF
FROM PRESSURE TEST REQUIREMENTS FOLLOWING
REPLACEMENT OF A MAIN STEAM LINE VENT VALVE
VIRGINIA ELECTRIC & POWER COMPANY
NORTH ANNA POWER STATION UNIT 1
DOCKET NO. 50-338

Background

Section XI of the ASME Boiler and Pressure Vessel Code requires that pressure-boundary components be subjected to nondestructive examinations and pressure tests after repair, replacement, or modifications. During operation of North Anna Power Station, Unit No. 1, (NA-1) a steam leak was discovered in a main steam line vent valve. Virginia Electric & Power Company, (the licensee) chose to replace the 1 1/2-inch socket-welded vent valve and, by letter dated August 3, 1984, requested relief from the hydrostatic pressure test requirement following the valve replacement. Pursuant to 10 CFR 50.55a(g)(e)(i), the request and supporting information provided has been evaluated to determine if the necessary findings can be made to grant relief as requested.

Relief Request

Relief from the hydrostatic pressure test requirements of the 1974 Edition through Summer 1975 Addenda of Section XI of the ASME Code is requested after replacement of the 1 1/2-inch globe valve (1-MS-3) on the main steam header.

Code Requirements

The system hydrostatic test pressure shall be at least 1.25 times the system design pressure and conducted at a test temperature not less than 100°F except as may be required to meet the fracture toughness criteria applicable to ferritic materials.

Licensee Basis for Requesting Relief

To hydrostatically test this valve replacement weld, a secondary hydrostatic pressure test must be performed on the "A" steam generator up to the main steam trip valve. It is noted that the steam generators were designed for a limited number of hydrostatic tests.

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Alternative Examinations And Tests

In order to reduce the number of hydrostatic tests performed on the steam generator, the licensee has proposed that a liquid penetrant examination be performed on the joint end prep and final weld. This will be supplemented by a leakage test at operating pressure performed in accordance with Section XI, Subsection IWC-5000.

Staff Evaluation and Conclusion

The weld made in replacing the 1 1/2-inch vent valve on the main steam header cannot be isolated from Steam Generator "A" or the main steam line. To comply with the Code pressure test requirement following replacement of the valve would subject the steam generator to an unnecessary pressure cycle at 1.25 times the design pressure. Considering the replacement valve size, the valve location in the main steam system, and type of weld being made, the staff finds the hydrostatic pressure test requirement to be impractical to perform and the licensee's alternative examination and leakage test at operating pressure is adequate to provide the necessary assurance of the welds structural integrity. Therefore, the staff recommends that relief from the Code required hydrostatic pressure test be granted as requested by the licensee.

A Notice of Environmental Assessment and Finding of No Significant Impact relating to this relief was published in the Federal Register on August 28, 1984 (49 FR 34112).

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