



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

SAFETY EVALUATION
SURRY POWER STATION UNIT NO. 2, DOCKET NO. 50-281
REQUESTS FOR RELIEF FROM ASME SECTION XI
HYDROSTATIC TEST REQUIREMENTS

Introduction

By letters dated May 3 and June 21, 1985, pursuant to 10 CFR 50.55(a), the Virginia Electric and Power Company (the licensee) requested relief from certain ASME Code Section XI requirements concerning hydrostatic testing. This report provides a safety evaluation of these requests.

It is stated in 10 CFR 50.55a(g)(6)(i) that the Commission may grant relief from the ASME Section XI requirements when they are determined impractical for a facility, provided the Commission determines that the granting of the relief is authorized by law, will not endanger life or property or the common defense and security and that it is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility. The specific ASME Section XI requirements from which relief has been requested, the reliefs requested, the basis for the relief requests, and the NRC staff's evaluation and conclusions are described below.

Discussion

1) During the Surry 2 steam generator replacement (2/4/79 - 8/14/80), preservice pressure testing was conducted for the new steam generator components. A maximum test pressure of 1356 psig was attained in accordance with Westinghouse and ASME Code Section XI guidelines. In this preservice test, certain sections of piping, non-isolable from the steam generators, were not documented as having been inspected. Because of the difficulty normally associated with hydrostatic testing of the steam generators and non-isolable piping and the need to minimize the number of these tests to meet Westinghouse guidelines, the licensee has requested that the preservice pressure test be accepted in lieu of the 10 year inservice hydrostatic testing with the conditions that the next hydrostatic testing be performed within 120 months of the 1980 preservice pressure testing and that alternative testing be performed on the sections of piping not documented during the preservice test.

Paragraph IWA-2400 of ASME Section XI, 1974 Edition, Summer 1975 addenda requires examinations and pressure tests required by IWC for Class 2 components be completed during each ten-year interval of service. Paragraph IWC-2510 requires the performance of a hydrostatic test on Class 2 components. Components which are not exempt are required to be tested toward the end of the interval in accordance with IWC-2414(b).

All non-isolable piping was brought to hydrostatic test pressure during the steam generator preservice test. Had there been documentation on all non-isolable piping in the preservice test, then, according to the ASME Code requirements, the preservice test would have completed the requirement for hydrostatic testing of non-isolable Class 2 piping. As alternative testing, for the piping not documented as having been tested during the

preservice test, the licensee has performed an inservice pressure test (IWC-5221) and the associated visual examination (VT-2) conducted at a pressure of approximately 1000 psig.

2) During the last refueling outage, the licensee made repairs and replacements that involved the welding of the following non-isolable portions of the Blowdown System and Main Steam Drain System:

Steam Generator Blowdown Root Valves

Main Steamline Drain Valves

2-BD-1	2-MS-120
2-BD-4	2-MS-266
2-BD-11	2-MS-378
2-BD-14	2-MS-379
2-BD-21	
2-BD-24	

These components do not exceed 2 inch nominal pipe size and generally perform a drain function when activated.

ASME Section XI, Subarticle IWA 4400(a) requires hydrostatic testing of ASME Class 2 piping repaired by welding. Article IWC-5000 provides criteria for determining the required test pressure for performing the post repair hydrostatic tests. For testing the welding repair installation of ASME Class 2 valves, the IWC-5000 criteria specify a test pressure of 1.25 times system pressure. IWC-5000 states that the system pressure shall be the lowest pressure setting among the number of safety or relief valves provided for overpressure protection within the boundary of the system to be tested. The system pressure for the piping containing these valves is 1085 psig. Therefore, the test pressure is required to be 1356 psig.

To avoid the full hydrostatic pressurization of the steam generator required to test the welding repair of the installed valves, the licensee has requested alternative testing be accepted in lieu of the hydrostatic test required by ASME Section XI. As alternative testing, the licensee has conducted an inservice pressure test (IWC-5221) and the associated visual examination (VT-2) at approximately 1000 psig. In addition, a visual (VT-1) examination and surface (Liquid Penetrant) examination have been conducted.

Evaluation and Conclusions

In evaluating the licensee's requests, the staff has taken into consideration the size, location, and function of the involved piping, the alternate testing performed by the licensee, and the measures that would have been necessary to achieve the full specified test pressure. Based on its evaluation of these factors, the staff finds that a full pressure hydrostatic test of the steam generators is impractical for the given situation and that granting of the requested relief is authorized by law, will not endanger life or property or the common defense and that it is otherwise in the public interest. The relief requested is hereby granted.

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