

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

December 3, 1982

Director of Nuclear Reactor Regulation
Attention: Ms. E. Adensam, Chief
Licensing Branch No. 4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Ms. Adensam:

In the Matter of) Docket Nos. 50-327
Tennessee Valley Authority) 50-328

This letter requests relief of the ASME Section XI requirement to hydrostatically pressure test replacement piping of the Essential Raw Cooling Water System (ERCW).

Enclosed is our justification for deferral of the requirement for the ERCW replacement piping associated with safety relief valve 0-65-550B. This matter has previously been discussed with your staff.

If you have any questions concerning this matter, please get in touch with R. H. Shell at FTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills
L. M. Mills, Manager
Nuclear Licensing

Sworn to and subscribed before me
this 3rd day of Dec. 1982

Paulette T. White
Notary Public

My Commission Expires 9-5-84

Enclosure

cc: U.S. Nuclear Regulatory Commission
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

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Drawing To: BC

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ENCLOSURE

COMPONENTS

Sequoyah Nuclear Plant essential raw cooling water (ERCW) system 2-inch piping associated with safety relief valve 0-67-550B (see attached TVA drawing 47W845-2).

CLASS

TVA safety Class C, ANSI B31.7; C1.3.

INSPECTION REQUIREMENT

Subarticles IWD-7200, IWA-4600, and IWA-4400 and paragraphs IWA-5214 and IWD-5223 of ASME Section XI, 1977 Edition, Summer 1978 Addenda, require that replacement piping greater than 1-inch nominal pipe size installed by welding to be hydrostatically pressure tested before resumption of service at 1.10 times the system pressure, Psv, for systems with design temperature of 200°F or less.

BASIS FOR RELIEF

During the unit 1, cycle 1 outage, TVA will replace a portion of discharge piping associated with safety relief valve 0-67-550B. The discharge piping being replaced is 2-inch schedule 40 carbon steel running from safety relief valve 0-67-550B to 24-inch schedule 40 carbon steel piping. The discharge piping will be replaced with a 3-foot section of 2-inch schedule 40 carbon steel pipe.

The request for relief from the system hydrostatic pressure test is for the following section of pipe (refer to attached marked-up flow diagram TVA drawing 47W845-2).

TVA proposes to defer the system hydrostatic pressure test identified above due to the design of the ERCW system: the volume of piping involved, the absence of isolation valves, the design of butterfly valves which will not withstand hydrostatic pressures, and the manpower and time required to perform such an involved hydrostatic examination. To perform a hydrostatic pressure test on this 2-inch line, TVA would be required to pressure test very long runs of 24-inch pipe and 36- and 30-inch discharge headers.

These piping streams contain no isolation valves and the butterfly valves are not designed to withstand the hydrostatic pressures. In order to blank all the butterfly valves and prepare the system for a hydrostatic test would require several days and a large work force in addition to the actual hydrostatic pressure test of the ERCW system. Therefore, TVA feels the involved process of this hydrostatic pressure test is not practical at the present time. TVA will perform a system hydrostatic pressure test on the above described piping by the end of the unit 1, cycle 3 refueling outage (currently scheduled for August 1985 through January 1986).

The design code of record for the piping in question is ANSI B31.7, 1969 Edition through Summer 1970 Addenda. This code references ANSI B31.1 for Class 3 piping fabrication and installation requirements. Therefore, the fabrication and installation code of record for the subject piping is ANSI B31.1, 1967 Edition through Summer 1970 Addenda. TVA proposes to install the replacements in accordance with the 1977 Edition of ANSI B31.1, which is permissible under IWA-7110(C) of ASME Section XI, 1977 Edition through Summer 1978 Addenda. The 1977 Edition of ANSI B31.1 requires that the installation welds in question be visually examined and permits an initial service leak test at nominal operating pressure when a hydrostatic pressure test is not practical. However, TVA will perform a surface examination of the installation welds as well as performing an initial service leak test at nominal operating pressure. Because TVA will perform a more stringent NDE than that required by the installation code, the integrity of the replacement welds is equal to or better than that required by the installation code.

The difference in pressure between a system hydrostatic pressure test (176 psig) and the system functional test (approximately 115 psig) is not significant when the design temperature (130°F) is less than 200°F and the strength of this schedule 40 piping are considered. Also, plant construction codes (1977 Edition of ANSI B31.7) allow a system functional test in lieu of a system hydrostatic pressure test when the latter is impractical. TVA does not consider this to be a safety issue.

ALTERNATE INSPECTION

A system functional test will be performed at normal operating pressure of approximately 115 psig in accordance with IWD-5222: A surface examination shall be performed at each weld. A hydrostatic pressure test will be performed by the end of the unit 1, cycle 3 refueling outage.