TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

November 18, 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

As stated in my October 13, 1982 letter to you, TVA is replacing portions of the Essential Raw Cooling Water (ERCW) System carbon steel piping with stainless steel piping to reduce corrosion buildup. As a result of subsequent telephone conversations with Carl Stahle of your staff, enclosed is our revised request for relief in the hydrostatic pressure test requirements for those replacement portions of the ERCW system piping.

If you have any questions concerning this matter, please get in touch with J. E. Wills at FTS 858-2682.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Licensing

Sworn to and subscribed before me
this 18th day of Nov. 1982
Paulette H. White
Notary Public
My Commission Expires 9-5-84

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

B021

ENCLOSURE

SEQUOYAH NUCLEAR PLANT

REQUEST FOR RELIEF

Components

Sequoyah Nuclear Plant essential raw cooling water (ERCW) system piping associated with the following (see attached flow diagram):

Auxiliary control air compressors 1A and 2B

Boric acid transfer pump and auxiliary feedwater pump space cooler 2B

Centrifugal charging pump room cooler 2B

Spent fuel pit pump and thermal barrier booster pump space cooler 1A

Class

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

Inspection Requirement

Subarticles IWD-7200, IWA-4600, 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 n.p.s. which is installed by welding be hydrostatically pressure tested before resumption of service at 1.10 times the system pressure, P_{sv}, for systems with design temperature of 200°F or less.

Basis for Relief

The replacement of carbon steel piping with stainless steel piping will improve the ERCW system and reduce the possibility of flow reducing corrosion buildup. TVA proposes to defer the system hydrostatic pressure test until after the completion of a number of the replacements listed below. A system hydrostatic pressure test will be performed on the then completed replacements by the end of the unit 1 cycle 3 outage.

The design Code of Record for the piping in question is ANSI B31.7, 1969 Edition through S'70 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 S'70 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 S'78 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 liquid penetrant 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 (less than 200°F) and the strength of this schedule 40 piping are considered.

TVA is presently in the process of replacing all 4-inch and smaller carbon steel piping and associated valves in the ERCW system with stainless steel piping under ECN 5009. TVA plans to perform the below listed replacements during the next several upcoming outages. Section XI requires TVA to perform system hydrostatic pressure tests following each of the below listed replacements. The pressure isolation boundary of each of these system hydrostatic pressure tests is identical.

Requiring redundant system hydrostatic pressure tests over the same piping and valves is highly impractical when, each time only a small percentage of piping is the replacement.

The request for relief from the system hydrostatic pressure test is for the following sections of piping (refer to marked up flow diagram attached, TVA 47W845-4 R13).

Scheduled for the present unit 1 cycle 1 refueling outage.

1. The supply piping for the auxiliary control air compressor 2B from the 6-inch supply header 2B to and including the 2-inch to 1-inch reducer and to and including valve 2-67-680.

2. The discharge piping for the auxiliary control air compressor 2B from and including valve 2-67-683 to and including the 2-inch to 1-inch reducer to the 4-inch to 6-inch reducer.

3. The supply piping for the auxiliary control air compressor 1A from the 3-inch supply piping (header 1A) to and including valve 1-67-680.

4. The discharge piping from the auxililary control air compressor 1A from and including valve 1-67-683 to the 3-inch discharge piping.

Presently scheduled for the next practical outages.

5. The supply piping for boric acid transfer pump and auxiliary feedwater pump space cooler 2B from the stainless steel flange near the 6-inch supply header to and including valve 0-67-648B.

6. The discharge piping for boric acid transfer pump and auxiliary feedwater pump space cooler 2B from and including valve 0-67-674B to the 6-inch discharge header.

7. The supply piping for centrifugal charging pump room cooler 2B from the stainless steel flange near the 6-inch supply header to and including valve 2-67-600B.

8. The discharge piping for centrifugal charging pump room cooler 2B from and including valve 0-67-602B to the stainless steel flange near the 6-inch discharge header.

9. The supply piping for spent fuel pit pump and thermal barrier pump space cooler 1A from 8-inch header to and including valve 0-67-645A.

10. The discharge piping for spent fuel pit pump and thermal barrier booster pump space cooler from and including valve 0-67-647A to the 6-inch to 4-inch reducer.

The safety injection pump oil cooler 1A-A and room cooler 1A piping between isolation valves is being replaced this outage (unit 1 cycle 1) and a system hydrostatic pressure test will be performed as required. The remainder of the piping to the above mentioned components, when replaced between the isolation valves, will be hydrostatically pressure tested before resumption of service.

TVA will perform a system hydrostatic pressure test on the completed portion of the above mentioned replacements by the end of the unit 1 cycle 3 refueling outage.

Alternate Inspection

A system functional test will be performed after each replacement at normal operating pressure of approximately 115 psig and in accordance with IWD-5222. A weld inspection (liquid penetrant inspection) will be performed at each weld. A hydrostatic pressure test will be performed by the end of the unit 1 cycle 3 refueling outage (currently scheduled for August 1985 through January 1986.)