

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

March 1, 1982

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



Dear Ms. Adensam:

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

Enclosed is our response to your October 29, 1981 letter which requested information regarding seismic qualification of auxiliary feedwater systems (NRC Generic Letter 81-14). Our response provides the information requested by Enclosure 1 of the February 10, 1981 letter (NRC Generic Letter 81-14) that was enclosed with your October 29, 1981 letter.

If you have any questions concerning this matter, please get in touch with J. E. Wills at FTS 858-2683.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

Sworn to and subscribed before me
this 1st day of March 1982

Bryant M. Lowery
Notary Public

My Commission Expires 4/4/82

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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ENCLOSURE

SEQUOYAH NUCLEAR PLANT
SEISMIC QUALIFICATION OF AUXILIARY FEEDWATER SYSTEM
GENERIC LETTER 81-14
FINAL REPORT

The auxiliary feedwater (AFW) system including electrical and mechanical equipment (conduits, cable trays, piping, instrument air lines, etc.) necessary for the operation of the system has been designed to the requirements for seismic category I. In addition, the system is enclosed by the auxiliary building, the reactor building, and the main steam valve rooms in which all of these structures have been designed to withstand the loading effects of either the 1/2 safe shutdown earthquake (sse) or the sse.

In response to the letter, much of the information requested exists in the Final Safety Analysis Report (FSAR). Attention is directed to section 10.4.7.2.2, System Description, where a complete discussion is given pertaining to the design requirements of the system and also to operational preferences. Figures 10.4-12 through 10.4-21 delineate various design features of the AFW system such as control diagrams, logic diagrams, system flow diagrams, and pump operating test diagrams.

Section 3.9.2.5 highlights the piping design analysis. Isometrics of the AFW piping which constitute the computer math model for the stress analysis including support locations and types are provided in Figures 3.9-9 through 3.9-16. In addition, stress summaries resulting from all loading including the seismic contribution are provided in Tables 3.9-7 and 3.9-13.

The AFW system design includes within its scope seismic related bulletins 79-02, 79-04, 79-07, 79-14, and 80-11 and IE information notice 80-21. The concerns and requirements of all bulletins cited above either have been addressed or are in progress of review.

Table I from the generic letter lists primary water and supply path and the secondary water and supply path. The system description (FSAR section 10.4.7.2.2) speaks about the "preferred" sources of water for the AFW system as being the two 385,000 gallon condensate storage tanks. Reference to Figure 10.4-19 shows this source to be TVA class H which is a nonsafety-related source. "Preferred" in this case relates to the cleanliness or quality of water rather than from a safety viewpoint.

The source of water that is unlimited in supply and is safety related is the essential raw cooling water (ERCW) system. This system has been designed to seismic category I requirements as has the AFW system. Consequently, for the purposes of this response and to be consistent with terminology of Table I of the generic letter, the ERCW system is referred to as the primary water and supply path.

The condensate storage piping is isolated by a system of piping supports and restraints to preclude its failure during a seismic event from affecting the AFW system piping. The condensate storage system for the purposes of this response is considered as the secondary water and supply path.

Paragraphs B, C, and D of Enclosure 1 are not considered applicable since the AFW system has been completely designed to seismic category I requirements.

In conclusion, it is the position of TVA that the AFW system has been designed, constructed, and will be maintained in accordance with seismic category I requirements that conform to Regulatory Guide 1.29, applicable portions of the standard review plan, and appropriate seismic related bulletins and information notices.