

# TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

January 16, 1985

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 the Application of	)	Docket Nos. 50-390
Tennessee Valley Authority	)	50-391

At the NRC's request TVA provided an analysis verifying that Auxiliary Feedwater (AFW) pumps could survive the transition to the backup water source in the event the preferred source is unavailable. In Safety Evaluation Report (SER) section 10.4.9, the NRC Staff required TVA to provide concurrence of the results of the analysis by the vendor or to perform a suitable test to demonstrate that the pumps can survive the transfer.

The design of the AFW pump water supply has been analyzed to ensure that switchover of the safety-related essential raw cooling water (ERCW) supply to the AFW pumps will occur in a manner which assures that adequate net positive suction head (NPSH) is furnished. Maintenance of adequate NPSH is accomplished by using pressure switches to open the normally closed ERCW isolation valves whenever low pump suction pressure is detected. The pressure switch set point was selected above the minimum vendor NPSH requirements. A timer is required so that ERCW is not initiated spuriously due to very brief low suction pressure transients. Preoperational testing data was used to establish the minimum time delay and the vendor's NPSH requirements were used to establish the maximum time delay. A time delay less than that which would just meet the NPSH requirements has been selected. Calculations have been performed to establish and verify these set points.

Since the above design assures the vendor-defined minimum required NPSH is provided, no pump degradation will occur due to switchover to ERCW and we, therefore, consider this matter resolved.

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Ms. E. Adensam

January 16, 1985

If you have any questions concerning this matter, please get in touch with  
D. P. Ormsby at FTS 858-2682.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

*J. A. Domer*

J. A. Domer  
Nuclear Engineer

Sworn to and subscribed before  
me this 16<sup>th</sup> day of Jan. 1985.

*Paulette H. White*  
Notary Public  
My Commission Expires 8-24-88

cc: U.S. Nuclear Regulatory Commission  
Region II  
Attn: Mr. James P. O'Reilly, Regional Administrator  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30323