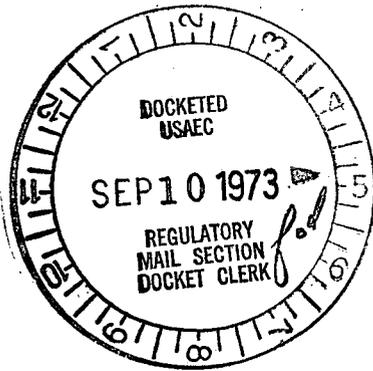


TENNESSEE VALLEY AUTHORITY  
CHATTANOOGA, TENNESSEE  
37401



September 5, 1973



Mr. John F. O'Leary, Director  
Directorate of Licensing  
U.S. Atomic Energy Commission  
Washington, DC 20545

Dear Mr. O'Leary:

Regulatory

File Cy.

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

In Amendment 19 to the Watts Bar Nuclear Plant Preliminary Safety Analysis Report (PSAR), we committed to design the Watts Bar containment in accordance with the criteria established on pages 3-7 and 3-8 of Supplement No. 1 to the staff's safety evaluation for the Watts Bar Nuclear Plant. However, we also stated in Amendment 19 that we would (1) continue to obtain the basic demonstration of conservatism that is needed, and (2) to the extent that we are successful, will seek to convince the staff that the additional design requirements imposed by the staff should be modified. The staff stated on page 3-9 of Supplement No. 1 that this approach is acceptable.

Subsequently, TVA joined with Duke Power Company and entered into a contract with Battelle Pacific Northwest Laboratories (BNW) to provide a totally independent review and evaluation of the ice condenser containment concept and, in particular, of the Westinghouse TMD computer program. BNW has completed their review of TMD and concluded that it conservatively predicts the short-term peak and differential compartment pressures following a postulated loss-of-coolant accident. Their report is included as Enclosure 1.

Due to the proprietary nature of the material contained in this report, we request this information be withheld from public disclosure in accordance with the Rules of Practice, 10 CFR Section 2.790 and that this information be safeguarded in accordance with 10 CFR Section 2.903. We believe withholding this information will not adversely affect the public interest.

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Mr. John F. O'Leary, Director

September 5, 1973

This information is for your internal use only and should not be released to persons or organizations outside the Directorate of Regulation and the ACRS without the approval of Westinghouse Electric Corporation. Should it become necessary to release this information to such persons as part of the review procedure, please get in touch with Westinghouse Electric Corporation and they will make the necessary arrangements required to protect their proprietary interests.

We are also enclosing a nonproprietary version of the report (Enclosure 2). The blank spaces enclosed in brackets indicate where information considered proprietary to Westinghouse has been deleted from the report. The nonproprietary version of the report may be made available for public disclosure.

Based on the findings presented in the BNW report, TVA now has increased confidence that the additional pressure margin design requirements imposed by the staff are unnecessarily conservative and should be modified.

Item 5 on page 3-8 of Supplement No. 1 for Watts Bar states, "To all further margins for uncertainties in describing the transient flow characteristics of the steam-air-water mixtures that flow past major flow obstructions (e.g., steam generators) or through the major relief paths from a subcompartment, it is recommended that mixture flow velocities projected to occur in these restricted flow regions be maintained at levels less than approximately three-fourths of the sonic velocity for the flowing mixture." The Westinghouse Electric Corporation, under our direction, has further investigated the phenomenon of sonic velocities for flow through major relief paths. The results of these studies indicate flow choking in major vent areas does not represent a threshold in the rate of pressure increase. Consequently, the setting of an arbitrary 75 percent sonic limit is not a meaningful or necessary design requirement. The results of these studies are contained in Enclosure 3.

Based on the results of BNW review of TMD and the results of the Westinghouse study on sonic velocity, we are convinced the criteria presented on pages 3-7 and 3-8 of Supplement No. 1 are unnecessarily conservative and should be modified to the original 20 percent pressure criteria.

Mr. John F. O'Leary, Director

September 5, 1973

We will be happy to meet with members of your staff to discuss the content of any of the enclosures.

Very truly yours,

A handwritten signature in cursive script that reads "J. E. Gilleland". The signature is written in dark ink and is positioned above the typed name.

J. E. Gilleland

Assistant to the Manager of Power

Enclosures