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FEB 11 1993

CDR-50-390/91-04
CDR-50-391/91-04

10 CFR 50.55(e)

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of the Application of)
Tennessee Valley Authority)

Docket Nos. 50-390
50-391

WATTS BAR NUCLEAR PLANT (WBN) UNITS 1 AND 2 - INADEQUATE DESIGN OF VARIOUS AIR HANDLING UNIT (AHU) CONTROL CIRCUITS - CDR-50-390/91-04 AND CDR-50-391/91-04 - REVISED FINAL REPORT

The purpose of this letter is to revise TVA's final report for CDR-50-390, 391/91-04, dated April 5, 1991. In that report, TVA discussed Procedure Method 86-19 (Electrical Engineering Branch [EEB]), "Relay Logic," as a recurrence control. Procedure Method 86-19 was relied upon to ensure that electrical circuits would be designed such that the controlled load would assume its fail-safe position upon loss of control power. In September 1992, Procedure Method 86-19 was cancelled and not replaced or superseded by a similar document.

Procedure methods were developed by corporate TVA engineering during the 1986 to 1987 timeframe as a short-term solution for the lack of adequate procedures, standards, and experience within engineering disciplines. Procedure methods were basically desk-top compilations of associated design principles for each engineering discipline and were issued in memorandum format. They were never intended for long-term use. As system descriptions and design criteria were enhanced at the site level to include minimum regulatory design requirements, the need for various procedure methods became obsolete and were cancelled. Such was the case for Procedure Method 86-19.

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The specific requirement regarding fail-safe relay logic is based on 10 CFR 50, Appendix A, General Design Criterion 23, "Protection System Failure Modes." This design criterion literally applies to protection systems (i.e., Reactor Protection System [RPS] and Engineered Safety Features Actuation System [ESFAS]). The requirements of General Design Criterion 23 are directly reflected in System Description N3-99-4003, "Reactor Protection System," which describes the reactor trip subsystem and ESFAS subsystem.

The air conditioning systems that were the subject of TVA's final report do not perform a primary safety function, but do perform a secondary safety function. The functional requirements of secondary safety features often necessitate use of fail-safe logic. The current functional requirements specified in System Descriptions N3-30AB-4001, "Auxiliary Building - Heating, Ventilation, and Air Conditioning System," and N3-30CB-4002, "Control Building Heating, Ventilation, Air Conditioning, and Air Cleanup System," make it imperative that fail-safe logic be used in order to achieve functional secondary safety objectives for the Main Control Room, Electrical Board Room, and Shutdown Board Room air conditioning systems. The schematic drawings for these air conditioning systems now reflect the proper functional requirements.

There are few examples of logic requiring a standby unit to start automatically on loss of a unit in automatic operation at WBN. From a review of standby switch applications, such as those identified above, only two similar applications were identified. The two applications were the Emergency Gas Treatment System fans and the Station Fire Pumps. The proper functional requirements were reflected in System Descriptions N3-26-4002, "High Pressure Fire Protection System," and N3-65-4001, "Emergency Gas Treatment." The schematic drawings were also reviewed and verified to reflect the proper functional requirements.

Based on the above, reliance on Procedure Method 86-19 to ensure that electrical circuits will be designed such that the controlled load will assume its fail-safe position upon loss of control power is no longer required.

Should there be any questions regarding this report, please telephone P. L. Pace at (615) 365-1824.

Very truly yours,

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