

February 25, 2000

Mr. J. A. Scalice  
Chief Nuclear Officer and  
Executive Vice President  
Tennessee Valley Authority  
6A Lookout Place  
1101 Market Street  
Chattanooga, Tennessee 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 1 - NOTICE OF ENFORCEMENT  
DISCRETION REGARDING MAIN TURBINE TRIP SURVEILLANCE  
RESPONSE TIME TEST (TAC NO. MA8273) (NOED NO. 00-6-004)

Dear Mr. Scalice:

By letter dated February 24, 2000, the Tennessee Valley Authority (TVA) requested that the U.S. Nuclear Regulatory Commission (NRC) exercise enforcement discretion not to enforce compliance with certain requirements of Technical Specification (TS) Surveillance Requirement (SR) 3.3.2.10, "ESFAS Response Times." The letter documented information previously discussed with the NRC staff in a telephone conference call on February 23, 2000, starting at 1:00 p.m. The principal NRC staff members who participated in that telephone conference call included R. Emch, L. Wiens, R. Hernan, C. Schulten, W. Lyon, P. Fredrickson, D. Rich, and P. Fillion. You stated that, based on an unforeseen situation that had been revealed as discussed below, entry into TS Limiting Condition for Operation 3.0.3 would be necessary at 5:00 p.m. (1700 hours) on February 23, 2000, and would require the Watts Bar Nuclear Plant (WBN), Unit 1, to be shut down.

You requested that a Notice of Enforcement Discretion (NOED) be issued pursuant to "NRC's General Statement of Policy and Procedures for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, and be effective starting at 5:00 p.m. on February 23, 2000, for a period of 30 days. This letter documents our verbal approval of the NOED, which was the subject of a second telephone conference call at 2:00 p.m. on February 23, 2000. In that call, we orally issued this NOED for the period stated above and conditioned on a TVA commitment to submit a formal TS change request by February 25, 2000, to alleviate the deviation from the TS on a one-time basis.

The WBN engineering staff was reviewing a work package for a future plant modification. During the course of this review, the engineer discovered that response time testing (RTT) had not been performed for the Train B turbine trip solenoid valve (1-FSV-47-027-B) during WBN's Unit 1 Cycle 2 Refueling Outage in Spring 1999. This surveillance (SR 3.3.2.10) is required by TS Limiting Condition for Operation (LCO) 3.3.2, Engineered Safety Features Actuation System (ESFAS) Function 5(b), Steam Generator Water Level High-High, on a frequency of 36 months. Because of this discovery, WBN Unit 1 entered TS SR 3.0.3 on February 22, 2000, at 5:00 p.m. As a result of this entry into SR 3.0.3, WBN was required to complete performance of the subject SR within 24 hours (e.g., by 5:00 p.m. on February 23, 2000) or declare the Steam Generator Water Level function inoperable and enter the appropriate TS Condition. In this case, the appropriate TS after the 24-hour period allowed for performance of the SR would be

LCO 3.0.3, which requires action to be initiated within 1 hour to place the unit in Mode 3 within the next 7 hours. Performance of SR 3.3.2.10 cannot be performed at full power since initiation of a turbine trip is required. During the telephone conference call, TVA stated that the plant must be in Mode 3 to perform this surveillance and concluded that shutting down the unit to perform the subject surveillance introduces an unnecessary plant transient that would not be commensurate with the public health and safety for the given condition.

Solenoid valve 1-FSV-47-027-B trips the main turbine from a Train B feedwater isolation signal from the Train B reactor protection system. In its NOED request of February 24, 2000, TVA stated that, during the last plant refueling outage, this solenoid was replaced as part of a preventive maintenance (PM) activity. The post-maintenance test (PMT) procedure for this PM only specified functional testing and did not specify a response time test. However, this solenoid valve is part of the response time test for the Train B Turbine Trip/Feedwater Isolation from the High-High Steam Generator Level engineered safety feature (ESF) function. Because the solenoid valve was replaced, the applicable portion of the Train B response time test should have been performed. The response time tests are run on a train-staggered basis. The Train B response time test was run during the previous outage, Refueling Outage 1, and the Train A response time test was run during the last outage, Refueling Outage 2. Because the response time of this component is not quantitatively known, the overall response time of the Train B Turbine Trip from High-High Steam Generator Level is also not quantitatively known. The apparent root cause of this event appears to be an inadequate PMT procedure.

TS LCO 3.3.2 requires turbine trip and feedwater isolation for Steam Generator Water Level High-High, Safety Injection, and Valve Vault Room Level High. SR 3.3.2.10, "Verify ESFAS Response Times," is applicable to Steam Generator Water Level High-High. The WBN Technical Requirements Manual (TRM) technical requirement (TR) 3.3.2 specifies that Steam Generator Water Level High-High trips the turbine in 2.5 seconds and performs feedwater isolation in 8 seconds. TR 3.3.2 for safety injection and valve vault room level high does not specify a response time for turbine trip, only for feedwater isolation.

During discussions between TVA and WBN's Nuclear Steam Supply System (NSSS) vendor, Westinghouse, regarding their qualitative review of the WBN Feedwater Malfunction analysis, Westinghouse stated that they model turbine trip and feedwater isolation off of the steam generator high-high water level setpoint, with a 2.5 second response time for turbine trip. The event is analyzed primarily to demonstrate that the Departure from Nucleate Boiling (DNB) design basis is satisfied. The minimum DNB Ratio (DNBR) in the current WBN analysis occurs prior to the time of turbine trip. In addition, the DNBR remains relatively constant up until the time of the turbine trip and is well above the safety analysis limit DNBR. Therefore, an increase in response time would not result in a more limiting condition for this analysis, but would only delay the time that the event is terminated. Even if the turbine trip does not occur, the feedwater isolation signal would cause the steam generator to drain down and the transient would simply behave as a loss-of-normal feedwater/inadvertent emergency core cooling system (ECCS) at power event. The resultant transient would be bounded by the existing Final Safety Analysis Report (FSAR) analyses.

In its request, TVA stated that the turbine trip function in question is an equipment protection function, as described in the TS Bases. This function prevents possible damage to the turbine due to water in the steam lines. TVA's position is that failure to obtain response time data for the Train B solenoid does not pose an issue of safety significance.

As discussed during the February 23, 2000, conference call, TVA submitted an exigent license amendment request on February 25, 2000, which would revise the WBN TS on a temporary one-time basis to delete applicability of SR 3.3.2.10, "Turbine Trip and Feedwater Isolation," for the period February 23, 2000, until restart of the main turbine following the next time the main unit turbine is removed from service.

On the basis of the NRC staff's evaluation of your request, we have concluded that a NOED is warranted because we are clearly satisfied that this action involves minimal or no safety impact, is consistent with the enforcement policy and staff guidance, and has no adverse impact on public health and safety. Therefore, it is our intention to exercise discretion not to enforce compliance with TS SR 3.3.2.10, as required by Function 5.b of TS Table 3.3.2-1, for the period from 5:00 p.m. on February 23, 2000, until 5:00 p.m. on March 24, 2000, or until the TS revision requested by TVA letter dated February 25, 2000, is issued by the NRC, whichever occurs first. The staff plans to complete its review and issue the license amendment within 4 weeks of the date of this letter.

As stated in the Enforcement Policy, action will be taken, to the extent that violations were involved, for the root cause that led to the noncompliance for which this NOED was necessary.

Sincerely,

*/RA/*

Herbert N. Berkow, Director  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-390

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Herbert N. Berkow, Director  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-390

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