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MAR 7 1995

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

Gentlemen:

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

WATTS BAR NUCLEAR PLANT (WBN) - NRC INSPECTION REPORT 50-390, 391/94-37 - REVISED  
REPLY TO NOTICE OF VIOLATION (NOV) 50-390, 391/94-37-01, EXAMPLE 2

The purpose of this letter is to provide a revised reply to NOV 50-390, 391/94-37-01, Example 2, and provide the additional information requested in NRC letter dated December 20, 1994.

On October 18, 1994, TVA provided a reply to Notice of Violation (NOV) 50-390, 391/94-37-01, Examples 1, 3, 4, 5, 6, and 8. On November 11, 1994, TVA provided a reply to NOV Examples 2 and 7. (TVA provided bases for the denial of NOV Examples 2 and 7.)

By letter dated December 20, 1994, NRC provided the results of their review of the TVA replies. NRC determined that NOV Example 2 remains as originally stated. Additionally, NRC requested TVA to provide a supplemental response describing the extent of condition and cause for those wiring deficiencies identified in vendor-supplied equipment related to the EDGs. In order to resolve this issue, TVA is revising the previous reply to NOV 50-390, 391/94-37-01, Example 2 (Enclosure).

If you should have any questions, contact P. L. Pace at (615)-365-1824.

Sincerely,

  
O. J. Zeringue

Enclosure  
cc: See page 2

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Enclosure

cc (Enclosure):

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2  
REVISED REPLY TO NOTICE OF VIOLATION 50-390, 391/94-37-01, EXAMPLE 2

TVA REVISED REPLY TO NOV 50-390, 391/94-37-01, EXAMPLE 2

To close this issue, TVA chooses to accept this violation example.

Reason For The Violation

This issue was caused by the lack of specific procedural guidance in Startup Manual Procedure (SMP)- 14.0, "Test Deficiencies." Criteria used for determining what circumstances constitute an adverse trend and when to initiate a Problem Evaluation Report (PER) for issues identified during testing were not well defined.

Corrective Steps Taken And The Results Achieved

1. TVA conducted a review of Test Deficiency Notices (TDNs) which involved wiring errors and identified the following information:

From January 1994 through September 1994, the period under discussion in the subject NRC letter, 2131 GTEXXX-02 tests were conducted and completed. This is the generic component test during which most wiring errors are discovered. As indicated by NRC, 353 wiring error TDNs were generated during this period. In an attempt to place that number in perspective, a completed test package for a typical component (motor operated valve in containment, operated by a handswitch in the control room) was chosen. Approximately 300 wiring connections were identified in the circuit checked during the component test. Although this is typical for a motor operated valve in containment, which makes up a substantial number of the GTEXXX-02 tests performed during the subject nine month period, TVA does not contend that this is a typical number of wiring connections for every GTEXXX-02 test performed. However, if a much lower number of 50 wiring connections is used for the average number of wiring connections for each of the 2131 GTEXXX-02 tests performed during the subject period, a total of 106,550 wiring connections would have been involved.

Because most of the wiring errors identified involved two rolled leads, the 353 wiring errors identified could be as many as 706 affected wiring connections. For 106,550 wiring connections, the error rate using 706 affected wiring connections is well below one percent. Although TVA does not contend that this figure is the specific wiring error rate at WBN, this discussion is intended to put into perspective the rough magnitude of wiring errors found. In summary, no problem of a substantial nature is concluded to exist. However, TVA agrees that, without an analysis similar to the one above being available at the time those TDNs were being assessed, a PER would be the appropriate vehicle to initiate an investigation.

2. Procedure SMP-14.0 has been revised to require that monthly TDN trend reports include an update to the above analysis to confirm continuation of the low wiring error rate.
3. In December 1994 an informal management review of TDN trending and trend-related issues was performed by WBN Nuclear Assurance. This assessment recommended: (1) a formal TDN trending assessment be performed; and (2) a periodic review of TDNs be conducted through routine Nuclear Assurance assessment reporting which looks specifically for PER applicability. Accordingly:
  - a. A formal assessment of the TDN Trending Program was performed and documented in Assessment NA-WB-95-0017.

- b. Five periodic (weekly) assessments (NA-WB-95-0019, -0021, -0026, -0033 and -0040) have been performed to date. These assessments concluded that the TDNs reviewed were appropriately processed as TDNs and that PER applicability reviews were effectively performed by Startup personnel. Based on these results, assessments are now being performed on a monthly basis.
4. The NA organization trended TDNs for a period of time before July 1994, and reviewed the wiring error issue at that time. A select group of wiring errors were evaluated by NA. The wiring errors were found to be principally the result of old work, performed prior to November 1991. On that basis, NA determined that an adverse condition did not exist for which recurrence controls were not already in place. For new work, a review initiated by NA of the number of wiring errors indicated a failure rate of about one percent. The aforementioned analysis of the subject 353 wiring errors by WBN Startup appears to be consistent with the earlier NA initiated review and the current results of new work monitoring by the Quality Control Department.

#### Corrective Steps Taken To Avoid Further Violations

1. Change Notice 1 to SMP-14.0 added the following statement: "Guidelines for initiation of PERs for conditions identified by TDNs are provided in SSP-3.04, Appendix I." Those guidelines ensure that conditions adverse to quality identified through TDN trending result in initiation of a PER.
2. Site Standard Practice (SSP)-3.04, "Corrective Action Program," has been revised to add Appendix I, "ACP Application Criteria." SSP-3.04, Appendix I, page 8 of 8, contains the TDN application criteria which includes PER attributes.

#### Date When Full Compliance Will Be Achieved

Based on the above actions, TVA is in full compliance.

#### ADDITIONAL INFORMATION REQUESTED BY NRC LETTER DATED DECEMBER 20, 1994

The five wiring deficiencies associated with the EDGs discussed in the subject inspection report were as follows:

1. TDNs 94-0086 and 94-1038 were both initiated on the first EDG tested. Neither condition was found to exist when the equivalent test was performed on each of the three remaining engines. The panels containing these deficiencies were not manufactured by the same vendor, nor were they manufactured by the EDG vendor. The cause for the wiring deficiencies in the vendor-supplied wiring is not known. The extent of condition is considered to be limited to the affected EDG.
2. DN-01 (GTEXXX-02, CSI 1082A2104E02000), TDN 93-061, and TDN 94-0947 describe wiring errors incurred as a result of inadequate implementation of a design change at WBN and affected the air start system of all four EDGs. The wiring errors were not the result of faulty vendor-supplied wiring. The extent of condition is considered to be limited to the work order associated with the modification to the EDG air start system. Operability of the four EDGs was not affected by the deficiency.

These wiring errors were detected during the WBN testing program following significant modifications to the EDG wiring. Other TVA sites have undergone their own preoperational test program, and their EDGs are tested periodically in accordance with technical specification surveillance requirements.