



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381

SEP 21 1995

CDR-50-390/90-04
CDR-50-390/95-02

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) - CABLE DAMAGE AT SPLICES - CONSTRUCTION DEFICIENCY REPORT (CDR) 390/90-04 - CABLE DAMAGE NEAR SPLICES AND TERMINATIONS - CDR 390/95-02 - VIOLATION 390/94-53-01

The purpose of this submittal is to provide NRC supplemental information concerning CDRs 390/90-04 and 390/95-02 which identified cable damage at splice and termination locations. In addition, this submittal changes a previous commitment involving the identification of spare and abandoned cables made in the response to Violation 390/94-53-01 dated October 21, 1994. The enclosure provides the details of this information. TVA's proposed resolution of these items has been discussed with the NRC resident inspectors.

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

Sincerely,

R. R. Baron
Nuclear Assurance
and Licensing Manager (Acting)

Enclosure
cc: See page 2

9509270249 950921
PDR ADOCK 05000390
S PDR

JE27.1

U.S. Nuclear Regulatory Commission
Page 2

SEP 21 1995

cc (Enclosure):

INPO Record Center
700 Galleria Parkway
Atlanta, Georgia 30339

NRC Resident Inspector
Watts Bar Nuclear Plant
Rt. 2, Box 700
Spring City, Tennessee 37381

Mr. P. S. Tam, Senior Project Manager
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, Maryland 20852

U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

ENCLOSURE

SUPPLEMENTAL INFORMATION

Construction Deficiency Reports (CDRs) 390/90-04, 390/95-02

Background

CDR 390/90-04 was initially reported to NRC on November 1, 1990, describing cable damage which had been identified at splices and terminations located in harsh environments. Interim reports for this issue were provided on November 30, 1990, and February 21, 1991. TVA indicated in the final report dated December 20, 1991, that Class 1E and non-1E splices which were worked during the timeframe from May 3, 1989 to October 25, 1990, would be inspected for damage, evaluated, and dispositioned as required. A portion of these inspections were performed under old program M-5835 work plan series. These inspections were interrupted by the construction stop work which occurred from December 1990 through November 1991.

During the construction stop work, the M-5835 series work plans were closed with remaining work list (RWL) items created for work not completed. These RWL items were later incorporated into new program work implementing documents. However, it was discovered that the rework effort conducted under both programs had not adequately identified and repaired the damage. As a result, TVA issued Significant Corrective Action Report (SCAR) WBSA950002 which was subsequently reported as CDR 390/95-02 (final report dated April 14, 1995).

In CDR 390/95-02, TVA committed to inspect and disposition Class 1E/10CFR50.49 splice and termination locations inside containment for damage, and pending these results, determine a course of action outside containment.

Based on the results of the inside containment inspections, TVA made a determination to inspect only 10CFR50.49 splices and terminations located in harsh environments outside containment. TVA's basis for not inspecting Class 1E cables located in mild environments was provided in a letter to NRC dated May 23, 1995. Further, TVA's course of action to address this issue for the various voltage levels and categories of cables is provided below:

V1/V2 - Low Level Signal/Medium Level Signal - Based on the results of the containment inspections, TVA chose to discontinue inspection for damage for these voltage levels. The basis for this discontinuation is contained within SCAR WBSA950002 and was discussed with NRC management in public meetings held on May 24, 1995, and July 7, 1995. The identified damage from the M-5835 series for these voltage classes were addressed as part of the SCAR WBSA950002 activity. No further evaluation is required for damage in these voltage classes for cables located in mild environment areas subject to moisture intrusion.

V3/V4 - Control/480V Power - As a result of the containment inspections, TVA chose to continue inspection for damage for these

voltage levels for only the 10CFR50.49 splices and terminations located in harsh environments outside containment. For those cables located in mild environments subject to moisture intrusion, the condition which would most likely result in a failure in these wet locations would be cuts to the copper which is the most severe type of cable damage identified in SCAR WBSCA950002. Results of the WBSCA950002 inspections found 21 exposed copper examples (0.3%) out of a total population of 8,376 conductors inspected. Based on the low percentage of cuts to the copper identified during these inspections, the evaluations previously performed for V1, V2, and 6.9kV cables and recent inspections/rework in the manholes, damage which would result in the failure of a safety-related circuit is unlikely to exist. Therefore, the scope of the WBSCA950002 inspections was not expanded to the mild environment splices and terminations subject to moisture intrusion.

V5 - 6.9kV Medium Voltage - This voltage level was excluded from inspection since this voltage level cable (6.9kV) damage would be detected during high potential testing performed on these cables after the application of stress cones. This basis was discussed with NRC during a telecon between representatives from TVA, NRC Region II, and NRR on May 11, 1995. Additionally, SCAR WBSCA940063 programmatically addressed terminal lugs for these cables which have identified damage during inspection/rework activities. No further evaluation is required for damage for the medium voltage (6.9kV) cables in mild environment areas subject to moisture intrusion.

Clarification

Prior to closure of CDR 390/90-04, clarification is required for the Class 1E and non-1E splices and terminations subject to moisture intrusion. As discussed above, inspections were performed under old program M-5835 work plan series. These work plans identified damage to the subject population of splices. The root cause for CDR 390/95-02 determined that this damage was not corrected due to the following two reasons: 1) The damage identified by the M-5835 work plan series were inadequately translated into new program work documents, and 2) a misinterpretation of the cable damage criteria occurred during implementation of the new program work documents. To address this situation, known damage from the M-5835 work plan has been incorporated into the 390/95-02 inspections. This known damage, documented by SCAR WBP900450SCA (CDR 390/90-04), has been confirmed as having been corrected with the remainder incorporated into SCAR WBSCA950002 for inclusion in the 390/95-02 inspections. SCAR WBP900450SCA has been closed based upon these actions. Therefore, based upon the above discussions, no further inspections of mild environment splices and terminations subject to moisture intrusion is considered necessary.

CHANGE IN PREVIOUS COMMITMENT 390/94-53-01

Previous Commitment

"TVA has added an attribute to the cable tray walkdown discussed in example 4 above. This attribute requires walkdown personnel to visually inspect accessible tray segments to identify spare and abandoned cables (excluding segments concealed by Vimasco, fire stops, firewraps, existing tray covers, or other structural obstructions, etc.) found in trays. In addition, this walkdown is to verify that cables found with abandoned numbers are in CCRS and those not found tagged are tagged and added to CCRS."

Change of Commitment

"TVA has added an attribute to the cable tray walkdown discussed in example 4 above. This attribute requires walkdown personnel to visually inspect accessible tray segments to identify spare and abandoned cables (excluding segments concealed by Vimasco, fire stops, firewraps, existing tray covers, or other structural obstructions, etc.) found in trays. Those cables found not tagged during this walkdown will be tagged with the walkdown document number and identified as "abandoned" with no further action required."

Basis

Based on data collected during inspection to date, the percentage of additional spared/abandoned cables being identified adds no appreciable weight to trays and are within design margins which presents no safety impact.