

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

5N 157B Lookout Place

SEP 25 1989

WBRD-50-390/89-08
WBRD-50-391/89-08

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 No. 50-390
50-391

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 AND 2 - KAPTON INSULATION PENETRATION
PIGTAIL DAMAGE - WBRD-50-390/89-08 - FINAL REPORT

The subject deficiency was initially reported to NRC Inspector Ken Barr on August 25, 1989, in accordance with 10 CFR 50.55(e) as Condition Adverse to Quality Report (CAQR) WBP 890302 for Unit 1. CAQR WBP 890436 documents this deficiency for Unit 2. Enclosed is our final report.

Enclosure 2 provides a list of commitments made in this submittal.

If there are any questions, please telephone G. R. Ashley at (615) 365-8527.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

W. R. Ray Jr.
Manager, Nuclear Licensing
and Regulatory Affairs

Enclosures
cc: See page 2

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cc (Enclosures):

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ENCLOSURE 1

WATTS BAR NUCLEAR PLANT UNIT 1
KAPTON INSULATED PENETRATION PIGTAIL DAMAGE
WBRD-50-390/89-08 AND WBRD-50-391/89-08
CONDITION ADVERSE TO QUALITY REPORTS (CAQRs)
WBP 890302 AND WBP 890436
10 CFR 50.55(e)

FINAL REPORT

Description of Deficiency

Primary containment electrical penetrations 1-PENT-293-27A and 1-PENT-293-52B contain Kapton insulated pigtails which have nicks in the insulation; in some cases, exposing the conductor. Further investigation identified similar damage at penetrations 1-PENT-293-35 and -38D, and the possibility exists that this condition may be applicable to other penetrations or devices where Kapton insulation is installed.

The damage appears to have resulted from the handling of these pigtails during Vimasco removal, or possibly during installation. The major contributing factor for the deficiency is that engineering did not specify precautionary requirements and acceptance criteria for containment penetration pigtails in General Construction Specification G-38 before May 3, 1989.

Safety Implications

If this deficiency had remained uncorrected, the potential exists that redundant safety-related circuits may have failed to perform their required safety function. Therefore, this condition could have adversely affected the safe operation of the plant had it remained uncorrected.

Corrective Action

Damage of Kapton insulated penetration pigtails have been found at various containment penetrations and the same problems are expected for Unit 2. While Unit 2 penetrations are currently inaccessible as a result of layup, CAQR WBP 890436 was initiated to ensure the condition is addressed for Unit 2.

TVA will issue a design output document, based on vendor recommendations, detailing inspection and repair/rework requirements for Kapton insulated pigtails.

Based on the design output document, TVA will issue a workplan requiring quality control (QC) inspection of the Kapton insulated pigtails.

Site procedures will be revised to incorporate the design output requirements for Kapton insulated pigtails.

TVA will repair or replace Kapton insulated pigtails determined by QC inspectors to be damaged.

Corrective action for this deficiency will be complete before fuel load for each unit.

ENCLOSURE 2

LIST OF COMMITMENTS

1. TVA will issue a design output document, based on vendor recommendations, detailing inspection and repair/rework requirements for Kapton insulated pigtaills.
2. Based on the design output document, TVA will issue a workplan requiring quality control (QC) inspection of the Kapton insulated pigtaills
3. Site procedures will be revised to incorporate the design output requirements for Kapton insulated pigtaills.
4. TVA will repair or replace Kapton insulated pigtaills determined by QC inspectors to be damaged.
5. Corrective action for this deficiency will be complete before fuel load for each unit.