

TENNESSEE VALLEY AUTHORITY

3 P3: 00 5M 157B Lookout Place

March 31, 1986

WBRD-50-390/86-34  
WBRD-50-391/86-31

U.S. Nuclear Regulatory Commission  
Region II  
Attention: Dr. J. Nelson Grace, Regional Administrator  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30323

Dear Dr. Grace:

**WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - QUESTIONABLE QUALIFICATION OF  
INSTALLED TYPE N RAYCHEM MATERIALS - WBRD-50-390/86-34, WBRD-50-391/86-31 -  
INTERIM REPORT**

The subject deficiency was initially reported to NRC-OIE Inspector Bob Carroll on February 27, 1986 in accordance with 10 CFR 50.55(e) as NCR WBN 6623. Enclosed is our interim report. We expect to submit our next report on or about July 18, 1986.

If there are any questions, please get in touch with R. H. Shell at FTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

  
R. L. Gridley  
Manager of Licensing

Enclosure

cc: Mr. James Taylor, Director (Enclosure)  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Records Center (Enclosure)  
Institute of Nuclear Power Operations  
1100 Circle 75 Parkway, Suite 1500  
Atlanta, Georgia 30339

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## ENCLOSURE

### WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 QUESTIONABLE QUALIFICATION OF INSTALLED TYPE N RAYCHEM MATERIALS

WBRD-50-390/86-34, WBRD-50-391/86-31

NCR 6623

10 CFR 50.55(e)

#### INTERIM REPORT

#### Description of Deficiency

TVA personnel have identified that cable splicing and terminations using Raychem heat shrinkable breakouts, caps, and sleeving completed before December 2, 1985 do not meet current installation requirements as listed in the manufacturer's application guide for class 1E terminations and splices in harsh environment areas and incorporated into TVA's Standard Drawings and General Construction Specification G-38 on December 2, 1985. The cables spliced before that date using heat shrinkable tubing had different application ranges than those presently required in a loss of coolant accident/high energy line break (LOCA/HELB) area. For cable breakouts and end caps, the current requirement for use of an overall sleeve on the breakouts and end caps was not initiated at WBN until the above date when the requirement was shown on a revision to TVA standard drawing SD-E12.5.8.

In 1982 Raychem's design for their breakouts and end caps was changed. Also, the Raychem heat shrinkable sleeves for cable splicing were modified before December 1985 due to a manufacturing change with respect to application ranges for individual tubing sizes. The changes for these Raychem products were not incorporated into TVA's applicable design documents until December, 1985. TVA is in the process of determining the cause of these delays.

#### Safety Implications

TVA has not established the environmental qualification of the cable splices, breakouts and end caps which were installed prior to December 2, 1985. Until such qualification can be established, TVA assumes the components could fail under LOCA/HELB environmental conditions and adversely affect safe plant operation.

#### Interim Progress

TVA is in the process of revising TVA standard drawings SD-E12.5.3 through SD-E12.5.9 as well as G-38 in order to clarify and delineate the application of qualified splice and termination materials with respect to plant areas and service applications. On completion of that work a determination will be made on which terminations and splices, if any, do not meet the revised requirements, and necessary rework will be initiated. TVA will provide a final report on this item by July 18, 1986.