

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
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MAY 12 1986 10:49

WBRD-50-390/86-32
WBRD-50-391/86-27

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 - INCORRECT WIRING TYPE USED IN CONTROL
PANEL MODIFICATIONS - WBRD-50-390/86-32, WBRD-50-391/86-27 - INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
Bob Carroll on January 22, 1986 in accordance with 10 CFR 50.55(e) as NCR WBN
6537. Enclosed is our interim report. We expect to provide our next report
on or about May 16, 1986.

Delay in submittal of this report was discussed with Mr. Carroll on
February 20, 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
INCORRECT WIRING TYPE USED IN CONTROL PANEL MODIFICATIONS
WBRD-50-390/86-32, WBRD-50-391/86-27
NCR WBN 6537
10 CFR 50.55(e)
INTERIM REPORT

Description of Deficiency

In the main and auxiliary control room panels at Watts Bar Nuclear Plant (WBN), several cases have been identified where internal wiring modifications were made with No. 10 or No. 12 AWG SIS type wiring. This wiring does not conform to Westinghouse Equipment Specification 952367, nor to WBN FSAR section 7.1.2.2.2. The Westinghouse equipment specification requires that all wiring shall be Teflon type E or type K, 600V per MIL-W-16878D. WBN FSAR section 7.1.2.2.2 requires that internal wiring that is used in the control board shall have a rating of 600V, 200°C temperature rating, and have noncombustible insulation of Teflon type E per MIL-W-16878 and metallic woven braid applied to the outer jacket of critical wires.

TVA has determined the cause of this deficiency to be that TVA drawing No. 45N1640 requires that when No. 16 AWG or No. 18 AWG wire is used it shall be Teflon insulated. However, the drawing did not specify what type of wire is to be used if No. 10 or No. 12 AWG wire is required.

Safety Implications

The maximum copper temperature for the required teflon-insulated wire is 200°C, whereas the maximum temperature for the SIS type wire is 90°C. If the temperatures rise in the wiring, due to current flow coupled with the maximum anticipated ambient temperature, to exceed 90°C, affected class 1E circuits could open or short out as a result of this deficiency. This could possibly result in a loss of or spurious actuation of affected safety-related equipment. As such, the subject condition potentially could have adversely affected the safety of operations of the plant.

Interim Progress

TVA has requested Westinghouse to analyze the implications of this condition and to determine the acceptability of the use of SIS type wiring inside the WBN control panels. TVA will complete the evaluation of this item to determine necessary corrective actions upon receipt of the results of Westinghouse's analysis.

TVA will provide the next report on this item to the NRC on or about May 16, 1986.