

TENNESSEE VALLEY AUTHORITY

ATLANTA, GEORGIA
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

83 JUL 19 AIO: 30 July 19, 1983

WBRD-50-390/82-03
WBRD-50-391/82-03

U.S. Nuclear Regulatory Commission
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - CABLE SEPARATION IN THE ERCW INTAKE
PUMPING STATION - WBRD-50-390/82-03, WBRD-50-391/82-03 - FINAL REPORT

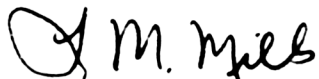
The subject deficiency was initially reported to NRC-OIE Inspector
R. V. Crlenjak on December 4, 1981 in accordance with 10 CFR 50.55(e)
as NCR WBN MEB 8114. Interim reports were submitted on January 8,
February 24, July 21, and November 19, 1982 and February 25, 1983.
Enclosed is our final report.

NRC-OIE Inspector Linda Watson was notified on June 14, 1983 concerning the
subject deficiency. A new submittal date of July 22, 1983 was established
for this report due to the report being prepared in a final form.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY


L. M. Mills, Manager
Nuclear Licensing

Enclosure

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

Records Center (Enclosure)
Institute of Nuclear Power Operations
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Atlanta, Georgia 30339

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
CABLE SEPARATION IN THE ERCW INTAKE PUMPING STATION
NCR WBN MEB 8114
WBRD-50-390/82-03, WBRD-50-391/82-03
10 CFR 50.55(e)
FINAL REPORT

Description of the Deficiency

A 20-foot spatial separation or circuit protection for the trained redundant safety related cable interactions was not provided within the Essential Raw Cooling Water (ERCW) intake pumping station. These redundant Train A and Train B ERCW pump and ERCW strainer power and control cables were not identified in TVA's fire protection shutdown analysis, Table 1.4 (contained in the Fire Protection Submittal forwarded to the NRC by letter from L. M. Mills to A. Schwencer dated September 9, 1980). This is a violation of the cable separation requirements for safe shutdown circuits in the event of fire.

This deficiency was discovered by design review and was caused by a design oversight which resulted in failure to list some of the affected circuits in table 1.4 of TVA's fire protection shutdown analysis and subsequently led to the failure to take corrective action inside the intake pumping station for any of the affected circuits.

Safety Implications

Had this condition remained uncorrected, the redundancy of essential safety-related equipment could have been lost during a fire because the required spatial separation between cable trays and conduits was not achieved. This would subsequently adversely affect the safe operation of the plant.

Corrective Action

All drawings have been revised per engineering change notices (ECNs) 3321 and 3134 to add one hour rated fire barrier protection for those Train B ERCW system cables routed less than 20 feet from Train A cables. ECN 3321 has been issued to the site for completion of construction. ECN 3134 will be issued for construction work by August 22, 1983, contingent upon the issuance of a revision to design criteria WB-DC-40-31.10, "Seismically Qualifying Conduit Supports" by July 30 1983. This revision will reflect the reduced maximum span lengths allowed between seismic conduit supports resulted from the additional weight of fire barrier material to be installed on the conduits.

All appropriate electrical conduit and grounding drawings have been revised per ECN 3738 to prevent recurrence of this deficiency by adding a note specifying the requirement of the 20-foot spatial separation or 1-hour rated fire barrier between the cable trays and conduits used to route cables for redundant circuits required in TVA's fire protection shutdown analysis. This design oversight is an isolated occurrence and does not indicate a generic condition. Therefore, adequate design review and coordination in accordance with Engineering Design procedures will prevent recurrence in the future. TVA expects to have all corrective actions completed by September 1, 1983.