

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

June 8, 1984

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WBRD-50-390/84-27
WBRD-50-391/84-25

U.S. Nuclear Regulatory Commission
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Dear Mr. O'Reilly:

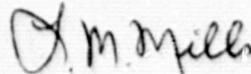
WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - FAILURE TO PROVIDE FIRE DETECTORS IN
ROOMS CONTAINING REDUNDANT SAFE SHUTDOWN CIRCUITS - WBRD-50-390/84-27,
WBRD-50-391/84-25 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
P. E. Fredrickson on May 11, 1984 in accordance with 10 CFR 50.55(e) as NCR WBN
MEB 8415. Enclosed is our final report.

If you have any questions, please get in touch with R. H. Shell at
FTS 858-2683.

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
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
FAILURE TO PROVIDE FIRE DETECTORS IN ROOMS CONTAINING
REDUNDANT SAFE SHUTDOWN CIRCUITS
NCR WBN MEB 8415
WBRD-50-390/84-27 AND WBRD-50-391/84-25
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

This nonconformance report involves a failure to properly locate fire detectors in the postaccident sampling rooms on Auxiliary Building elevation 729.0.

Fire suppression and detection systems are required to be installed in these rooms by section III.G.2 of 10 CFR 50 Appendix R due to the presence of redundant safe shutdown circuits. The circuits involve three of four channels of instrumentation associated with steam generator main steam header pressure. The redundant circuits are routed in separate conduits but are located in close proximity to each other. The conduits are wrapped in one-hour rated fire barriers.

Preaction sprinkler systems have been provided in the postaccident sampling rooms, but the fire detectors that automatically actuate the sprinkler systems have been incorrectly located in the ventilation and purge air rooms on Auxiliary Building elevation 737.0. The sprinkler systems can be manually actuated at the preaction control valves.

Safety Implications

If the nonconforming condition were not corrected, a fire in the postaccident sampling rooms would not be detected nor the sprinkler system manually actuated in a timely manner. This could result in a failure to actuate the sprinkler system in a timely manner. Fire damage to redundant safe shutdown equipment could adversely affect plant safety.

Corrective Actions

Cross-zoned ionization smoke detectors will be added in the postaccident sampling rooms to actuate the existing preaction sprinkler systems. The new detectors will also annunciate fire and trouble conditions at local detection panels in the Auxiliary Building and at the central alarm panel in the main control room.

The fire detectors that were incorrectly located in the ventilation and purge air rooms will remain in their current location. However, they will be connected to the same detection input circuits as other fire detectors located in the ventilation and purge air rooms.

All required modifications will be implemented for unit 1 areas by June 29, 1984, under engineering change notice (ECN) 4871 and for unit 2 areas by December 31, 1984, under ECN 4872.

Actions Required to Prevent Recurrence

TVA's management controls emphasize the review of all design efforts for critical plant features as the method of identifying such individual mistakes. Recent revisions to EN DES Engineering Procedure (EP) 3.10, "Design Verification Methods and Performance of Design Verifications," have strengthened the management controls over the independent reviews on drawings and associated design efforts. These controls provide reasonable assurance that similar errors are minimized. As such, no further action to prevent recurrence is necessary.