

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA TENNESSEE 37401

400 Chestnut Street Tower II

August 20, 1981

WBRD-50-390/81-38

WBRD-50-391/81-37

Mr. James P. O'Reilly, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 3100
101 Marietta Street
Atlanta, Georgia 30303



Dear Mr. O'Reilly:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - EMERGENCY GAS TREATMENT SYSTEM
SHIELD WALL DEFICIENCIES - WBRD-50-390/81-38, WBRD-50-391/81-37 - FINAL
REPORT

The subject deficiency was initially reported to NRC-OIE Region II
Inspector R. V. Crlenjak on March 31, 1981 in accordance with 10 CFR
50.55(e) as NCR's SWP 8128 and 8133. Interim reports were submitted on
April 30, and June 18, 1981. Enclosed is our final report.

If you have any questions concerning this matter, please get in touch
with D. L. Lambert at FTS 857-2581.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure

cc: Mr. Victor Stello, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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ENCLOSURE
WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
EMERGENCY GAS TREATMENT SYSTEM SHIELD WALL DEFICIENCIES
10CFR50.55(e)
WBRD-50-390/81-38, -391/81-37
FINAL REPORT

Description of Deficiency

The Watts Bar Nuclear Plant (WBN) Final Safety Analysis Report (FSAR) states that the shield wall between the train A and train B emergency gas treatment system (EGTS) filter units adequately protects each system from fires and missiles originated in the other unit. In addition, the FSAR states that no other engineered safety feature (ESF) is installed in this room. However, portions of the common ductwork and crossover ducts are routed above the wall and are susceptible to a fire or missile generated by either filter system. The crossover ducts have isolation dampers at only one end; therefore, if the duct of one system were damaged the other system would be compromised. Also, there are train A and train B conduits and cable trays containing cables for ESF systems in the unit 2 reactor building which are routed above the shield wall and exposed to both filter systems. There are also two ESF coolers located side by side with trained piping and power connections that are physically located inside this room with no barrier between them and train B of the filter systems.

Safety Implications

This condition could result in damage to cable trays, ESF coolers, and the emergency gas treatment system filters. The damage could result in the failure of several safety-related systems, thus compromising the safe operation of the plant.

Corrective Action

TVA has identified the following corrective actions:

Missile Protection

The Watts Bar FSAR section 3.5.1.1.3 states that the only piece of equipment in the auxiliary building susceptible to generating missiles is the turbine driven auxiliary feedwater (TDAFW) pump. All equipment in the EGTS filter room is sufficiently separated from the TDAFW pump, thereby providing missile protection. Also, a safety evaluation has been performed and it was determined that the shield wall is adequate to protect the EGTS air cleanup units from missiles originated in the opposite train. Based on the above information, no corrective actions are required in these areas.

Fire Protection

The Watts Bar fire protection study provides for adequate protection for the room and all equipment. The FSAR statement that refers to the shield wall as providing adequate protection from fire is misleading. The wall itself is not intended for a fire protection barrier. Therefore, the part of the statement which addresses fire protection will be deleted from the FSAR by October 1, 1981. The room is protected by a sprinkler system, plus the air cleanup unit has a charcoal bed water spray in the event of a charcoal fire. However, the WBN fire protection study identified certain train A and train B electrical cables which require additional protection. The additional fire protection requirements are being incorporated by TVA's Engineering Change Notice (ECN) 2849. This will be completed by unit 1 fuel loading.

Safety-Related Equipment

Because there is other safety-related equipment in the room (EGTS room coolers), a revision to the FSAR has been initiated to delete the statement which states that no other engineered safety feature is installed in the room. The FSAR change will be made by October 1, 1981.

Since all later plants have fire protection and separation criteria which should prevent such conditions as these from occurring, no further action to prevent recurrence is required.