

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

5N 157B Lookout Place

December 9, 1985

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WBRD-50-390/85-60

WBRD-50-391/85-56

U.S. Nuclear Regulatory Commission
Region II

Attn: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Dear Dr. Grace:

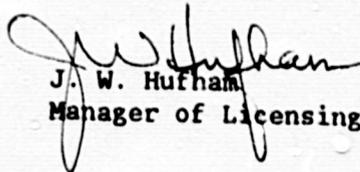
WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - INADEQUATE SUPPORT FOR AIR CLEANUP
UNITS DRAIN PIPING - WBRD-50-390/85-60, WBRD-50-391/85-56 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
Al Ignatonis on October 24, 1985, in accordance with 10 CFR 50.55(e) as SCRs
WBN MEB 8532 and WBN MEB 8533. Enclosed is our final report.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY


J. W. Hufham
Manager of Licensing

Enclosure

cc (Enclosure):

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

Record Center
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ENCLOSURE
WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
INADEQUATE SUPPORT FOR AIR CLEANUP UNITS DRAIN PIPING
WBRD 50-390/85-60 AND WBRD 50-391/85-56
SCRs WBN MEB 8532 AND WBN MEB 8533
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

The drainage piping attached to several safety-related air cleanup units (ACUs) at Watts Bar Nuclear Plant (WBN) is not supported for pressure boundary integrity. The piping (1/2, 1, 1-1/2, and 2 inches in diameter) provides drainage from the affected ACU moisture separator and/or from the charcoal bed filters in the event of a fire protection deluge. The drain piping must be capable of maintaining a safety-related pressure boundary at the drain trap. The affected ACUs are for the auxiliary building gas treatment system (unit 1), the emergency gas treatment system (unit 1), the reactor building purge (units 1 and 2), and the control building air cleanup (unit 1).

TVA has determined the assignable cause of this deficiency to be a failure of the designer and design review personnel to identify the drain traps in the affected piping as being safety-related pressure boundaries. TVA Design Criteria WBN-DC-40-36.1 identifies the design requirements for components in all heating, ventilating, and air-conditioning (HVAC) systems at WBN. However, equipment drains are only indirectly addressed under interface requirements in WBN-DC-40-36.1. Equipment drains, typically, were not considered to require classification since their loss would not jeopardize the integrity of the associated component or system.

Safety Implications

Without adequate support, the affected drain piping could break during a design basis seismic event. This could result in a failure of an affected ACU housing pressure boundary and, subsequently, could allow excessive housing inleakage. This inleakage could reduce the ability of the ACU to perform its intended design function. As a result, this could possibly result in doses to plant personnel or offsite in excess of 10 CFR 20 or 10 CFR 100 limits. As such, the subject deficiency could adversely affect the safety of operations of the plant.

Corrective Action

TVA will reanalyze the affected ACU drain piping and will modify existing supports or add new supports, as necessary, to ensure that the ACUs housing pressure boundary integrity is maintained through the drain traps. This work will be done per engineering change notices (ECNs) 5934 and 5935 for WBN units 1 and 2, respectively. Also, an inspection procedure will be written to require a periodic inspection of the affected drain traps to ensure that they remain full of water at all times during plant operation.

TVA will revise WBN-DC-40-36.1 to specifically address the design requirements for safety-related ACU drains. This will prevent recurrence of the subject deficiency.

All necessary corrective actions for this item will be completed by initial fuel loading for units 1 and 2, respectively.