

TENNESSEE VALLEY AUTHORITY

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OCT 29 1987

WBRD-50-390/86-01
WBRD-50-391/87-20

10 CFR 50.55(e)

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of the Application of)
Tennessee Valley Authority)

Docket Nos. 50-390
50-391

WATTS BAR NUCLEAR PLANT (WBN) UNITS 1 AND 2 - INCORRECT DOOR CHECK ON FIRE
DOORS AND PRESSURE CONFINING DOORS - WBRD-50-390/86-01 AND WBRD-50-391/87-20 -
REVISED FINAL REPORT

The subject deficiency was initially reported to NRC Region II Inspector
Al Ignatonis on November 12, 1985, in accordance with 10 CFR 50.55(e) as
NCR 6306. Our final report was submitted on January 9, 1986. Enclosed is our
revised final report that includes unit 2 in the scope of the identified
deficiency.

If there are any questions, please telephone R. D. Schulz at (615) 365-8527.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



R. Gridley, Director
Nuclear Licensing and
Regulatory Affairs

Enclosure
cc: See page 2

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U.S. Nuclear Regulatory Commission

OCT 29 1987

cc (Enclosure):

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ENCLOSURE

WATTS BAR NUCLEAR PLANT (WBN) UNITS 1 AND 2
INCORRECT DOOR CHECK ON FIRE DOORS AND PRESSURE CONFINING DOORS
WBRD 50-390/86-01 AND WBRD 50-391/87-20
NCR WBN 6306 AND CAQR WBP 870901
10 CFR 50.55(e)

REVISED FINAL REPORT

Description of Deficiency

A deficiency was identified for WBN by an employee concern (NSRS Report IN-85-311-008) in which a fire-rated door had the wrong door check (closure mechanism) installed. The affected door was No. A143, located on elevation 757' in the WBN Auxiliary Building. The subject deficiency was identified as a result of the inability of the affected door to close automatically against airflow. Further investigation of this deficiency by TVA resulted in the identification of additional closure mechanisms which required rework. Some of these mechanisms were the correct type specified for the installation, but would not function against airflow.

While the design drawings specified closure mechanisms to be supplied by Russwin Division of Emhart Hardware Group, Berlin, Connecticut, the contract for the mechanisms was awarded to an "equal" supplier, Yale Security products, Charlotte, North Carolina. Yale uses a different identification system to denote closer strength. The affected design drawings were not revised to reflect the actual closures procured. The root cause of this deficiency has been determined to be failure in the formulation of design input to adequately address the requirement for the closure mechanisms to close doors against airflow and to accurately specify the equipment to be installed in applicable design output documents.

This deficiency was found to be applicable to unit 2 and has been documented on CAQR WBP 870901.

Safety Implications

The failure of a fire door to close and/or remain closed could allow a fire to propagate through a fire barrier from one compartment or area to another. This could possibly result in damage to redundant, safety-related equipment and could degrade the capability to achieve and maintain a safe shutdown during a fire, as required by 10 CFR 50 Appendix R. This could adversely affect the safe operation of the plant.

The Auxiliary Building secondary containment enclosure (ABSCE) is maintained at a subatmospheric pressure by the Auxiliary Building gas treatment system (ABGTS) during an accident to reduce the concentration of radioactive nuclides in air releases to the environs. Failure of ABSCE boundary doors to close or remain closed during an accident could reduce the effectiveness of the ABGTS in performing this function and could therefore increase offsite doses.

Corrective Action

An analysis has been performed to document the specific mechanism required for closure of each door against airflow conditions, and TVA drawing series 46W454 has been revised to specify door closure requirements. TVA has inspected doors that are required to close against airflow, resulting from differential pressure, to verify which closure mechanism had been installed. This included doors that are required to close automatically to provide fire compartmentalization, and doors which are a part of the ABSCE boundary. All inadequate door closure mechanisms have been reworked.

To prevent recurrence of this deficiency, TVA has revised WBN Quality Control Procedure (QCP) 2.18 to require affected quality control personnel to verify the type and model number of closure mechanisms. To achieve this, TVA has shown on design drawings for units 1 and 2 the actual manufacturer and model number of door closure mechanisms procured and required. This is a clarification of the final report in which TVA committed to providing a cross-reference and additional descriptive information to adequately identify substitute door closure mechanisms. Additionally, the latest revision (R3) to WBN Design Criteria WB-DC-20-15, "Pressure Confining Personnel Doors for Auxiliary Building and Control Building" now requires that these door installations close properly against various area design pressures. This criteria requires that the actual force exerted on doors be determined and that closure mechanisms capable of overcoming that force be specified.