

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

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JUN 30 1987

WBRD-50-390/87-01

WBRD-50-391/87-01

10 CFR 50.55(e)

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

Gentlemen:

WATTS BAR NUCLEAR PLANT (WBN) - UNITS 1 AND 2 - INADEQUATE SUPPORT SHOWN ON
TYPICAL VALVE SUPPORT DRAWINGS - WBRD-50-390/87-01, WBRD-50-391/87-01 -
FINAL REPORT

The subject deficiency was initially reported to NRC-Region II Inspector
Gordon Hunegs on December 17, 1986, in accordance with 10 CFR 50.55(e)
as SCR WBN CEB 8684. Our interim report was transmitted to NRC on
January 16, 1987. Enclosed is our final report.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY


R. Gridley, Director
Nuclear Safety and Licensing

Enclosure

cc: See page 2

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U.S. Nuclear Regulatory Commission

JUN 30 1987

cc: (Enclosure):

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ENCLOSURE 1
WATTS BAR NUCLEAR PLANTS UNITS 1 AND 2
INADEQUATE SUPPORT SHOWN ON TYPICAL VALVE DRAWINGS
WBRD-50-390/87-01, WBRD-50-391/87-01
SCR WBN CEB 8684
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

TVA typical valve drawings 47A054-41 and -42 for Watts Bar Nuclear Plant (WBN) provide for the support of a valve by attachment only to the upper part of the valve. The bottom of the valve is unsupported. This configuration does not comply with the support requirements for seismic qualification of the affected valves. TVA has identified this deficiency to be applicable only to solenoid-actuated valves attached to 3/8-inch heavy wall tubing used in radiation sampling lines, System 43. Approximately 125 valves are affected by this deficiency (75 valves for unit 1 and 50 valves for unit 2).

This deficiency resulted from a failure by responsible design personnel to have the typical support design reviewed and qualified by component qualification personnel at the time of initial design.

Safety Implications

The present design does not provide adequate support for the affected valves. The attached tubing is inadequate to restrain the dynamic mass of the valve under worst-case loading conditions. As a result, the tubing could break and render the radiation sampling system incapable of performing its design function. This could result in false or inadequate information being available for operator use and, subsequently, could result in incorrect actions/responses by the operator. This could adversely affect the safety of the operations of the plant.

Corrective Action

TVA will revise applicable design drawings as appropriate to require the valves to be supported in the vicinity of the attachment of the tubing lines. TVA will add new supports to the existing valve installations per the revised design drawings. All work for unit 1 and unit 2 will be completed before fuel load of the applicable unit.

Procedure CEB-DI 121.01, "Seismic Design, Review, and Control," provides for the analysis and review of safety-related structures, systems, and components to ensure acceptable levels of seismic qualification. This procedure has provisions which would require that typical support designs be routed to the responsible functional section (i.e., component qualification section) for review for acceptability of the design. Additional training in this procedure (with special emphasis on the above requirements) will be provided to typical support design personnel by September 1, 1987. The subject typical support designs had previously been inactivated and cannot be used without specific design approval.