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MAR 3 1 1993

CDR-50-390/87-01
CDR-50-391/87-01

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	)	Docket Nos. 50-390
Tennessee Valley Authority	)	50-391

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

Reference: Watts Bar Nuclear Plant Units 1 and 2 - Inadequate Support Shown on Typical Valve Support Drawings - Final Report - June 30, 1987

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 Significant Corrective Action Report (SCAR) SCRWBNCEB8684.

The referenced final report outlined specific corrective actions which would be performed to ensure consistency between the valve support designs and the valve seismic qualifications. Those corrective actions entailed design drawing revisions and support additions in the vicinity of tubing attachments. During the course of the Hanger and Analysis Update Program (HAAUP) Corrective Action Program implementation, minor revisions occurred to these defined corrective actions, allowing the additional option of calculational qualification of the valve, which served to more effectively achieve resolution of the original concern.

Enclosure 1 provides the revised 10 CFR 50.55(e) final report which describes those corrective action changes.

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Enclosure 2 is the list of commitments contained in this submittal.

Should there be any questions regarding this report, please telephone P. L. Pace at (615) 365-1824.

Very truly yours,

William J. Museler

Enclosures
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ENCLOSURE 1

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

REVISED 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

As discussed in the initial 10 CFR 50.55(e) final report, the original support design might not provide adequate support for the affected valves. The attached tubing was potentially 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 has revised the typical valve support drawings and reevaluated the seismic qualification of the affected valves to ensure consistency between the valve support design and the valve seismic qualification. TVA will perform field modifications, as required, to the existing valve installations in accordance with the revised design drawings. All work for Unit 1 and Unit 2 will be completed before fuel load of the applicable unit.

Independent of the corrective action for this issue, Nuclear Engineering Procedure (NEP) 3.5, "Seismic/Structural Qualification Program," was issued (August 23, 1991), which requires the assurance of compatibility of Category I equipment seismic/structural qualification levels with calculated loads from system qualification analyses. This NEP also requires that supports, mountings, and anchorages for systems, components, and equipment be designed and qualified in accordance with applicable design criteria and consistent with qualification results/assumptions.

ENCLOSURE 2

LIST OF COMMITMENTS
REVISED 50.55(e) FINAL REPORT
INADEQUATE SUPPORT SHOWN ON TYPICAL VALVE SUPPORT DRAWINGS

TVA will perform field modifications, as required, to the existing typical valve installations in accordance with the revised design drawings. All work for Unit 1 and Unit 2 will be completed before fuel load of the applicable unit.