

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
5th 157B Lookout Place

January 28, 1986

WBRD-50-390/86-17
WBRD-50-391/86-13

U.S. Nuclear Regulatory Commission
Region II
Attention: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Dear Dr. Grace:

WATTS BAR NUCLEAR PLANT UNITS AND 2 - LACK OF ADEQUATE CALCULATIONS TO
DOCUMENT ELECTRICAL SYSTEM DESIGN BASIS - WBRD-50-390/86-17, WBRD-50-391/86-13
- INTERIM REPORT

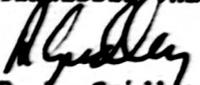
The subject deficiency was initially reported to NRC-OIE Inspector
Art Johnson on December 23, 1985 in accordance with 10 CFR 50.55(e) as SCR WBN
EEB 8571. Enclosed is our interim report. We expect to submit our next
report on or about July 1, 1986.

Delay in submittal of this report was discussed with Bob Carroll on
January 21, 1986.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY


R. L. Gridley
Manager of Licensing

Enclosure

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

Records Center (Enclosure)
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339

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ENCLOSURE

**WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
LACK OF ADEQUATE CALCULATIONS TO DOCUMENT
ELECTRICAL SYSTEM DESIGN BASIS**

WBRD-50-390/86-17, WBRD-50-391/86-13

SCR WBN EEB 8571

10 CFR 50.55(e)

INTERIM REPORT

Description of Deficiency

The Watts Bar Nuclear Plant (WBN) INPO review and TVA's Office of Quality Assurance audit identified specific electrical design calculations that have not been evaluated and documented. Due to these findings/deviations, problem identification reports (PIRs) WBN EEB 8527 and WBN EEB 8528 were initiated to correct the problems. In pursuing the corrective actions to resolve the PIRs, it was discovered that other calculations were also missing. This significant condition report (SCR) was written to address the fact that Watts Bar Engineering Project (WBEP) has failed to identify the minimum set of electrical calculations (calculations on safety-related systems required to shut down the plant), revise existing calculations to incorporate subsequent design changes, and has issued design documents and drawings without preparing or before completing supporting calculations. These calculations are necessary to ensure the technical adequacy and compliance with the plant design basis.

Safety Implications

At present, there is no indication that any of the safety-related electrical systems with missing or incomplete supporting documentation are deficient or would fail in any design basis event. However, without a minimum set of calculations to support the electrical system design basis and technical adequacy, inadequate assurance exists that the components and systems will function as required. This deficiency represents a potential condition which could adversely affect the safe operation of the plant.

Interim Progress

A preliminary minimum set of calculations has been identified and compared to existing calculations. This resulted in the identification of calculations that need to be performed and existing calculations that need to be revised before fuel loading. TVA is proceeding to perform these calculations based on the preliminary set. Sargent and Lundy has been contracted as a consultant to evaluate TVA's methods and procedures for identifying the minimum set of calculations. The results of the Sargent and Lundy evaluation will be factored into TVA's approach in identifying the required set of minimum calculations. The calculations will be maintained in accordance with OE procedures OEP-07, "Calculations," and OEP-11, "Change Control."

As the first step in formally identifying the minimum set of calculations, a special procedure WBEP Engineering Procedure (EP) 43.09, "Procedure for Identifying the Calculations Required to Support Electrical Design," has been prepared. This procedure provides the process for identifying the required calculations.

TVA will provide our next report to the NRC on this item on or about July 1, 1986.