

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

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SEP 25 1987

WBRD-50-390/86-53  
WBRD-50-391/86-51

10 CFR 50.55(e)

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

USNRC-DS  
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Gentlemen:

WATTS BAR NUCLEAR PLANT (WBN) - UNITS 1 AND 2 - PROBLEMS WITH STANDBY DIESEL GENERATOR RELAY CONTACTS - WBRD-50-390/86-53 AND WBRD-50-391/86-51 - REVISED REPORT (INTERIM)

The subject deficiency was initially reported to NRC-Region II Inspector Gordon Hunegs on May 14, 1986, in accordance with 10 CFR 50.55(e) as CR WBN EEB 8642. In our final report, submitted to NRC on June 12, 1986, TVA committed to reinspect and clean the diesel generator panels six months after completing corrective actions to ensure that the actions were effective. The reinspection revealed that the previous actions were not effective. Enclosed is our revised report (interim). We expect to submit our revised final report on or about July 15, 1988.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

R. L. Gridley, Director  
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Regulatory Affairs

Enclosure  
cc: See page 2

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U.S. Nuclear Regulatory Commission

**SEP 25 1987**

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## ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2  
PROBLEMS WITH DIESEL GENERATORS RELAY CONTACTS  
WBRD 50-390/86-53 AND 50-391/86-51  
SCR WBN EEB 8642  
10 CFR 50.55(e)  
REVISED REPORT (INTERIM)

### Description of Deficiency

TVA identified a deficiency involving an erratic operation of the automatic and manual voltage regulators and field flashing circuits for the standby diesel generators (DGs) at Watts Bar Nuclear Plant (WBN). A final report for this deficiency was submitted to the Nuclear Regulatory Commission (NRC) on June 12, 1986. TVA traced the problem to the K2, K3, and LR relay circuits and determined the problem to be caused by the formation of a layer of dust preventing complete relay contact closure and, subsequently, preventing transfer of the voltage regulator synchronizing (K2 and K3 relays) and field flashing (LR relays) signals. The aforementioned final report stated that TVA had removed the dust from the affected relay circuits which resulted in the relay circuits operating properly and, to prevent recurrence, would install sealed dust covers on the subject relays and improve the filtering system in the DG control panels. These actions were accomplished under Engineering Change Notice (ECN) 6366.

During a maintenance run of DG 2B-B on May 21, 1987, it was discovered that the K2 and K3 relays were again experiencing operating difficulties and causing erratic behavior of the automatic and manual voltage regulators. This was documented in significant condition adverse to quality report (CAQR) WBP870427. (The relays on DG 2B-B had performed properly during testing runs conducted on January 21, 1987 and March 25, 1987). In light of these latest problems, additional corrective actions are required and TVA is submitting this revised report.

### Safety Implications

If left uncorrected, the subject condition could adversely affect the ability of the DGs to accept loads upon a loss of preferred power. As such, this condition could adversely affect the safety of operations of the plant.

### Interim Progress

Specific corrective actions have not yet been finalized. Two options that TVA is considering are:

1. Replacing the manual voltage regulator with an automatic voltage regulator. This would result in the removal of the subject K2 and K3 relays. This action had been previously planned as an enhancement to be implemented after fuel load of unit 1.
2. Replace the subject relays with a different type of relay or switching device.

TVA will provide a final report on this subject to NRC on or about July 15, 1988, in line with our overall schedule for resolving outstanding work on plant systems. TVA will resolve this deficiency before fuel load of unit 1.