TENNESSEE VALLEY AUTHORITY
CHATTANOOGA TENNESSEE 37401
400 Chestnut Street Tower II

August 26, 1982

WBRD-50-390/82-79
WBRD-50-391/82-75

U.S. Nuclear Regulatory Commission
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - DEFECTIVE GE TYPE HFA RELAY COILS - WBRD-50-390/82-79, WBRD-50-391/82-75 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector D. Quick on July 26, 1982 in accordance with 10 CFR 50.55(e) as NCR WBN EEB 8206. Enclosed is our final report. We consider 10 CFR Part 21 applicable to this deficiency.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Licensing

Enclosure
cc: Mr. Richard C. DeYoung, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
DEFECTIVE GE TYPE HFA RELAY COILS
NCR WBN EEB 8206
WBRD-50-390/82-79, WBRD-50-391/82-75
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

The General Electric service advice letter dated November 21, 1980, PSM-721-152.2, identifies the potential for coil failure of GE type HFA relays manufactured between 1974 and 1979. The Lexan coil spools of these relays are susceptible to stress cracks and embrittlement caused by thermal aging and improper mixing of the Lexan. This nonconformance is significant in that a cracked coil spool could result in improper relay function upon energization or deenergization of the relay. All contracts at Watts Bar including NSSS were investigated and Class 1E GE type HFA relays were found only on contract 74C2-84376. These relays (110 total with manufacture date between 1974-1979) were furnished on the Class 1E 6.9-kV switchgear supplied by General Electric Company, Chattanooga, Tennessee. A survey of these relays showed a total of 27 relays with cracked coils.

Safety Implications

The continued use of HFA relay coils which incorporate Lexan spools could cause the failure of the relay as the Lexan spools could break apart. Failure of a relay in the 6.9 kV switchgear could interfere with the operation of safety-related circuits powered through the switchgear and could adversely affect the safe operation of the plant.

Corrective Action

All type HFA class 1E relays (110 total) with a date code showing manufacture between 1974 and 1979 have been identified and will have the coil replaced with a GE century series coil by August 1, 1983. Because General Electric has changed the spool material to Tefzel on all HFA relays manufactured since January 1979 no further action is necessary to prevent a recurrence.

These relays were discovered as a result of a generic investigation resulting from General Electric service advice letter PSM-721-152.2, and a similar deficiency at Bellefonte has been reported in NCR BLN EEB 8101. Any deficiencies found at other TVA plants will be reported separately.