TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

July 3, 1984

WBRD-50-390/84-32
WBRD-50-391/84-29

U.S. Nuclear Regulatory Commission
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Dear Mr. O'Reilly:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - ERRATIC OPERATION OF STEAM GENERATOR BLOWDOWN ISOLATION VALVES - WBRD-50-390/84-32, WBRD-50-391/84-29 - FIRST INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector P. E. Fredrickson on June 11, 1984 in accordance with 10 CFR 50.55(e) as NCR WBN NEB 8407. Enclosed is our first interim report. We expect to submit our next report on or about September 7, 1984.

If you have any questions, please get in touch with R. H. Shell at FTS 858-2635.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills

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, 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
ERRATIC OPERATION OF STEAM GENERATOR BLOWDOWN ISOLATION VALVES
NCR WBN NEB 8407
WBRD-50-390/84-32, WBRD-50-391/84-29
10 CFR 50.55(e)
FIRST INTERIM REPORT

Description of Deficiency

While conducting preoperational test W-3.1F, the steam generator blowdown isolation valves (FCV 1-7, 1-14, 1-25, 1-32, 1-181, 1-182, 1-183, and 1-184) performed unreliably. Several of these valves improperly reopened upon the essential safety feature (ESF) signal reset, and valve limit switch contacts were found to be damaged. There is also a question regarding valve leakage at atmospheric pressure and slow operating times.

In investigating this nonconformance report (NCR), TVA has determined that the damage to the limit switches caused the switches to fail in the closed position, which, due to circuit design, caused valve reopening upon the ESF signal reset. These switches have a continuous current rating of 0.5 amp at 125V dc. However, TVA's circuit design placed these switches in series with the solenoid valve which draws a continuous current of 3.5 amps, thus exposing the switches to excessive currents.

Interim Progress

TVA is revising the valve control circuits to remove the limit switches from the present series connection to the coils. Also, due to insufficient data to assess the problems relating to valve operating times and leakage, a retest of the valves is being rescheduled to collect additional quantitative information on the valves' performance.

It should be noted that these valves perform no safety function during fuel loading. Therefore, resolution of this NCR should not affect the unit 1 fuel load schedule. This condition should be corrected before initial criticality.

TVA, upon completion of the retesting, will provide a final report on this item to the NRC.