# TENNESSEE VALLEY AUTHORITY

5N 157B Lookout Place

April 29, 1986

WBRD-50-390/86-44
WBRD-50-391/86-42

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 1 AND 2 - FAILURE TO MODIFY CONTROL CIRCUITS ON ACTIVE VALVES REQUIRED FOR A DESIGN BASIS EVENT - WBRD-50-390/86-44, WBRD-50-391/86-42 - INTERIM REPORT

The subject deficiency was initially reported to NRC-Region II Inspector Bob Carroll on April 4, 1986 in accordance with 10 CFR 50.55(e) as NCR W-367-P. Enclosed is our interim report. We will provide the next report on this deficiency on or about August 15, 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, Director
Nuclear Safety and Licensing

Enclosure
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U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
FAILURE TO MODIFY CONTROL CIRCUITS ON ACTIVE VALVES REQUIRED
FOR A DESIGN BASIS EVENT
WBRD-50-390/86-44, WBRD-50-391/86-42
NCR W-367-P
10 CFR 50.55(e)
INTERIM REPORT

Description of Deficiency

In order to meet the intent of Regulatory Guide 1.106 and IE Circular 81-13, certain safety-related valves required to operate during a design basis event must have the thermal overload switches and the opening and closing torque switches bypassed to ensure operability. The closing torque switches for valves 1- and 2-FCV-26-240, -241, -242, -243, -244, -245; 2-FCV-68-332, and -333 were found to be improperly wired. The existing limit switch will not bypass the closing torque switch for the required 97 to 98 percent travel of the valve stem. These valves are listed as "active" for a design basis event in Table 3.9-25 of the Watts Bar Nuclear Plant (WBN) FSAR. Calculations have shown that these valves must have the proper bypasses to assure that they perform this design function. Also, valves FCV-74-8 and -9 are identified as "active" in Table 3.9-17 of the FSAR. These valves do have a closing limit switch configuration but do not have their opening torque switches or overload switches bypassed.

The apparent cause of this deficiency is failure to provide controlled design criteria documentation. The requirement that the above valves have their torque or overload switch circuitry bypassed existed in memorandums and was not incorporated into a design criteria. This condition has resulted in a deficiency in the final design.

Safety Implications

Failure to properly bypass the torque switch circuitry could have resulted in actuation of the torque switches during mid-travel of the valves. This deficiency could prevent the valves from reaching their intended position. The failure of the safety-related valves to fully respond on demand could prevent the affected systems from functioning as required during a design basis event. This condition could adversely affect the safe operation of the plant.

Interim Progress

Calculations have shown that valves FCV-74-8 and -9 do not require the torque and the overload switches to be bypassed. During normal operation, these valves are locked in the closed position with power removed. These valves do not receive a safety signal, and as such, do not need to meet the intent of the above-referenced NRC documents. No wiring changes to the torque or overload switch circuits are required for valves FCV-74-8 and -9.

Existing calculations show that all valves listed as "active" in Table 3.9-17 of the FSAR do not necessarily require torque and thermal overload switch bypasses. Wiring changes to the appropriate TVA drawings, selecting the proper closing torque bypass circuits for valves 1-, 2-FCV-26-240, -241, -242, -243, -244, -245; 2-FCV-68-332 and -333 are being made per engineering change notice (ECN) 6295 for unit 1 and ECN 6296 for unit 2. TVA will also review all valves listed as "active" in Table 3.9-25 to ensure that this deficiency does not exist for any of the other valves required for a design basis event.

In order to prevent recurrence, a controlled document specifying which valves require bypasses for torque or thermal overload switches will be prepared.

TVA will provide additional information in our next report to NRC on or about August 15, 1986.