TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
5N 157B Lookout Place

May 30, 1986 08:23

WBRD-50-390/86-51

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 UNIT 1 - FAILURE OF AUXILIARY FEEDWATER STEAM GENERATOR LEVEL CONTROLLERS - WBRD-50-390/86-51, - INTERIM REPORT

The subject deficiency was initially reported to NRC-Region II Inspector Art Johnson on April 30, 1986 in accordance with 10 CFR 50.55(e) as NCR W-370-P. Enclosed is our interim report. We expect to submit our next report on or about October 17, 1986.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. A. Domer

R. L. Gridley, Director
Nuclear Safety and 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

1/1 JE27

ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 1
FAILURE OF AUXILIARY FEEDWATER STEAM GENERATOR LEVEL CONTROLLERS
WBRD-50-390/86-51
NCR W-370-P
10 CFR 50.55(e)
INTERIM REPORT

Description of Deficiency

TVA has had three of eight auxiliary feedwater (AFW) steam generator level controllers fail to provide their rated 50 ma output. The controllers are manufactured by the Beckman Company and each controller had a component failure on the V/I (voltage/current) output board. Transistor Q6 on the board failed in two of the controllers and a regulating capacitor in the board failed in the third instance. Output current was limited to 32 ma with the failed transistors and 48 ma with the failed capacitor. The cause of the failure appears to be that the instruments were located in an environment of higher temperature than the maximum for which they were designed.

Safety Implications

The AFW steam generator level controllers are used to modulate the level control valves associated with the AFW turbine-driven or motor-driven pumps. As water level in the steam generator increases, current output of the controllers increases and the level control valves close. Failure of the controllers to produce their maximum current output could prevent full closure of the valves. This, in turn, could result in degraded performance of the AFW system which, under design basis conditions, could adversely affect safe plant operation.

Interim Progress

TVA is sending the defective controllers back to Beckman for their evaluation and determination of the cause of the failure as well as actions needed to correct the problem and to prevent a recurrence of the failures. Our next report will be provided on or about October 17, 1986.