

ENCLOSURE

SEQUOYAH NUCLEAR PLANT UNITS 1 AND 2
WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
EXCESSIVE OUTPUT FLUCTUATIONS OF FOXBORO INSTRUMENTATION
SEQUOYAH NCR SWP 79-S-5
WATTS BAR NCR'S 1778R AND 1779R
10 CFR 50.55(e)
FIRST INTERIM REPORT

Description of Condition

Personnel at Sequoyah and Watts Bar Nuclear Plants have noted erroneous output signals coming from Foxboro equipment containing magnetic amplifiers (current/current repeaters and square root converters). This instrumentation was supplied by Westinghouse on the NSSS contract. The equipment is not performing according to the specifications in the Foxboro Equipment Manual which specifies this equipment to have an accuracy of $\pm 1/2$ percent with input voltage variations of ± 10 percent. Tests have shown that a 1.5 and 4.5 percent input variation resulted in a 5.0 and 15.5 percent output current change. These excessive output variations have caused spurious operations of plant equipment by producing erroneous safety injection signals. Some of the Foxboro units are used to actuate safeguards equipment and to initiate reactor trip signals. There are 168 modules per unit containing magnetic amplifiers at Sequoyah Nuclear Plant and approximately 250 modules per unit at Watts Bar Nuclear Plant.

Corrective Action

TVA and Westinghouse are working on possible solutions to this problem. The corrective action may involve modification to the Foxboro instruments to bring them into accordance with the specifications.

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