

ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 AUXILIARY FEEDWATER PUMP ERCW VALVES 10 CFR 50.55(e) NCR MEB 79-19 FINAL REPORT

Description of Condition

The Auxiliary Feedwater (AFW) System normally takes suction from the condensate storage tank, which is not seismically qualified. In the original AFW System design the alternate pump suction supply was from the High Pressure Fire Protection System, at a pressure of more than 100 psig. The alternate supply was later changed to the Essential Raw Cooling Water (ERCW) System discharge header, at a pressure of only several psig. At the time of the change, the times for opening of the ERCW supply valves were not considered. A subsequent calculation which did consider the valves opening times, revealed that the condensate supply might be terminated and the ERCW supply valves not open fast enough to prevent pump damage due to the pumps running dry.

Safety Implications

The plant FSAR description takes credit for AFW System operability to bring the plant from operating temperature and pressure to the point where the Residual Heat Removal System can be put into operation. This capability would have been negated by the loss of AFW pumps caused by the conditions discussed above. There is no generic implication in this problem. The similar valves at Sequoyah Nuclear Plant are oversized such that no similar problem exists.

Corrective Action

The presently installed ERCW System supply valve operators are to be replaced with faster acting ones. The opening times of the new operators are coordinated with the actuating pressure switches setpoints and delay times such that adequate pump net positive suction head and suction pressure (water level) will be maintained. These modifications will be completed before fuel loading in each plant unit, respectively.