

ENCLOSURE

SEQUOYAH NUCLEAR PLANT UNITS 1 AND 2 HIGH FLOW ALARM IN ERCW PIPING NCR MEB 79-4 FINAL REPORT

Description of Deficiency

A supply of Essential Raw Cooling Water (ERCW) to the nonseismically-qualified air compressors is provided through two 4-inch TVA Class H pipes. An evaluation has been performed to determine the effects of a failure of these nonseismically-qualified lines. It has been found that a break in these lines during an ERCW system design basis event for two units would result in an unacceptable loss of water. This loss would prevent critically needed equipment from receiving a sufficient amount of cooling water under this design basis event. Qualified motor operated valves capable of being closed from the main control room are provided in the lines and could serve to isolate a break in the non-qualified piping. However, there is no main control room alarm to alert the operator of this situation.

Safety Implications

Under a design basis accident for two units simultaneous with a failure of the nonqualified lines, there would be less than the design basis ERCW flow rate supplied to safety-related equipment. This situation could cause safety-related equipment to overheat, thereby creating an unsafe condition.

Corrective Action

Qualified flow measuring instrumentation will be provided in a TVA Class C section of both 4-inch supply lines. This instrumentation will actuate a qualified monitor light and a nonqualified alarm in the unit 1 main control room whenever excess flow occurs. In this way the operator will be notified of the need to close valves FCV-67-205 and FCV-67-208. This modification is required only for the simultaneous operation of unit 1 and unit 2. There is sufficient excess flow for operation of unit 1 alone to allow for the loss of water through the nonqualified piping. Therefore there are no adverse effects on the safety function of the ERCW system before operation of unit 2. For this reason, these modifications are to be implemented before unit 2 fuel loading.

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