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F. L. CLAYTON, JR.
Senior Vice President

Alabama Power
the southern electric system

September 8, 1980

Docket No. 50-364

Director of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. A. Schwencer

Gentlemen:

Joseph M. Farley Nuclear Plant - Unit 2
Request for Additional Information

Enclosed is Alabama Power Company's response to NRC Reactor Systems Branch question 210.1, item 3. Alabama Power Company will respond to item 4 by March, 1981.

If you have any further questions, please advise.

Yours very truly,

for F. L. Clayton, Jr.

RWS:de

Enclosure

cc: Mr. R. A. Thomas
Mr. G. F. Trowbridge
Mr. L. L. Kintner
Mr. W. H. Bradford

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Enclosure

Item 3

The resolution of the concerns noted below plus the provisions of adequate NPSH under non-debris conditions, and adequate housekeeping practices are expected to reduce the likelihood of problems during recirculation. However, in the event that LPI recirculation system problems such as pump cavitation or air entrainment do occur, the operator should have the capability to recognize and contend with the problems.

Both cavitation and air entrainment could be expected to cause pump vibration and oscillations in system flow rate and pressure. Show that the operator will be provided with sufficient instrumentation and appropriate indications to allow and enable detection of these problems. List the instrumentation available giving both the location of the sensor and the readout.

The incidence of cavitation, air entrainment or vortex formation could be reduced by reducing the system flow rate. The operator should have the capability to perform indicated actions (e.g., throttling or terminating flow, resort to alternate cooling system, etc.). Show that the emergency operating instructions and the operator training consider the need to monitor the long-term performance of the recirculation system and consider the need for corrective actions to alleviate problems.

Response

The following list of instrumentation and indications is sufficient to allow and enable detection of both cavitation and air entrainment:

RHR (LHSI) System

1. PUMP DISCHARGE PRESSURE INDICATOR

   Sensor Location: Pump Discharge, outside of containment

   Readout Location: Main Control Board

2. RHR FLOW INDICATOR

   Sensor Location: Downstream of RHR Pump and Heat Exchanger, outside of containment.

   Readout Location: Main Control Board

3. RHR Pump Corrent Indicator

Sensor Location: F and G 4160 Buses

Readout Location: Main Control Board

CTMT SUMP

1. CTMT SUMP LEVEL INDICATOR

Sensor Location: CTMT Sump

Readout Location: Balance of Plant Panel (Main Control Room)

The operator will monitor the above parameters in accordance with emergency operating procedures. If there is indication that one sump (train) is experiencing clogging, then flow through the affected train will be terminated or throttled to prevent pump cavitation. If conditions warrant termination of RHR flow, the screen could be backflushed using water from the RWST. In addition, surveillance on the unaffected train and Component Cooling Water flow to the unaffected RHR heat exchanger would be increased to ensure maximum cooldown capability.

Operator training includes instruction on the emergency operating procedures and discussion of general corrective action to alleviate pump cavitation, air entrainment, and sump clogging problems.

The operator is supervised by and consults with the Shift Supervisor who is further backed up by Operations Department Management, and the Emergency Director (i.e., Plant Manager or his designee).