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ACCESSION NBR: 8907130366 DOC. DATE: 89/06/30 NOTARIZED: NO DOCKET #
 FACIL: 50-269 Oconee Nuclear Station, Unit 1, Duke Power Co. 05000269
 50-270 Oconee Nuclear Station, Unit 2, Duke Power Co. 05000270
 50-287 Oconee Nuclear Station, Unit 3, Duke Power Co. 05000287

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SUBJECT: Discusses plans re installation of cavitating venturi in plant emergency feedwater lines.

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June 30, 1989

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
Installation of Cavitating Venturi

Dear Sir:

By letters dated May 28, 1987 and February 1, 1988, I had committed to install cavitating venturis in each Unit's Emergency Feedwater (EFW) lines. This commitment was made in order to relieve operator burden in ensuring that the EFW pumps were protected from runout in postulated accidents with low steam generator pressure. By my letter dated December 16, 1988 I had advised the NRC of my intention to change this commitment. My reasons for this change were briefly discussed within the December 16, 1988 letter. Further, I had also indicated that the information concerning the selected alternative and schedule for implementation would be provided by June 15, 1989.

Although I had anticipated being able to provide this information to you, at this time, we are unable to do so. We have been studying the various recommendations for enhancement of the emergency feedwater system that have been proposed by both NRC and the B&W Owners group. We have been unable to identify an optimum solution which addresses these various recommendations in a cost effective manner without increasing the complexity of the system. Attachment 1 provides the solutions to the runout issue alone that were considered and rejected.

We have also evaluated the operator burden during postulated accidents with low steam generator pressure. Due to the importance of the EFW system at Oconee, this is a major area for focus during simulator training. We find the small increment in burden to be acceptable in comparison to increasing the complexity of the system. We intend to continue studying the design of the Emergency Feedwater System at Oconee to see if cost effective modifications can be made without increasing the complexity of the system.

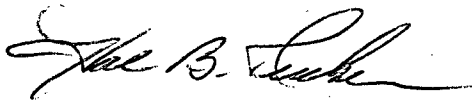
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June 30, 1989
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Members of my staff and I are aware of NRC concerns in this area. Accordingly, I am requesting that a meeting at Oconee be arranged in order to discuss this issue in depth.

Very truly yours,



H. B. Tucker

PFG/52/td

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Attachment 1

Duke Power Company
Oconee Nuclear Station

Options Reviewed for Emergency Feedwater Pump Runout Protection

Option I:

Replace FDW-315, 316 with air-operated (N₂ Backup) anticavitation valves. Add a new control signal for throttling FDW-315, 316 if the high flow setpoint (approx. 700 gpm) is reached. This signal would override the steam generator level signal.

Option II:

Add an air-operated (N₂ Backup) block valve to each EFW header which is bypassed by a 40 foot long, 1 1/2 inch friction tube. Each friction tube would include a normally open manual block valve and check valve. Upon receipt of a high flow signal, the new air-operated block valve would close and force the EFW flow through the friction tube. The tube will limit flow without causing cavitation, minimizing vibration. The speed of the EFW turbine driven pump will have to be reduced in order to accommodate the difference in the shape of the EFW pump head curves (turbine driven vs. motor driven).

Option III:

Upgrade the EFW pumps to assure 20-30 minutes of runout operation without damage. The pumps would have to be sent back to the manufacturer for modification and testing. Based on the results of the testing, the manufacturer would then be in a position to guarantee the operation of the pump at runout conditions for an extended period of time.