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SUBJECT: Forwards response to 990222 RAI re NRC Bulletin 88-008, which includes updated info on thermal phenomena believed to have caused 2A1 crack, as supported by CFD analysis & current thermal monitoring effort.

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July 14, 1999

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Subject: Oconee Nuclear Site
Docket Nos. 50-269, -270, -287
Response to NRC Bulletin 88-08 Supplement 1 RAI

In a letter dated March 10, 1989, Duke Energy Corporation (Duke) submitted the original response to NRC Bulletin 88-08, "Thermal Stresses in Piping Connected to the Reactor Coolant System." On April 21, 1997, Oconee Unit 2 was shut down due to a leak in the 2A1 High Pressure Injection Normal Makeup (HPI/NMU) line. As a follow-up action stemming from the investigation of this leak, Duke committed in a letter to the NRC dated July 28, 1997 to update its response to NRC Bulletin 88-08 by March 1, 1998. The updated response (Supplement 1) was provided on February 26, 1998. Duke committed to do the following actions in this supplemental response:

1. A computational fluid dynamics (CFD) analysis of the HPI/NMU nozzles on the Reactor Coolant System (RCS) will be performed by Framatome Technologies. The CFD was to be completed by May 15, 1998.
2. Thermal monitoring of the HPI/NMU and HPI Emergency Injection (HPI/EI) lines will continue until 1EOC18 (Spring 1999), 2EOC17 (Fall 1999), and 3EOC18 (Spring 2000).
3. A final supplement to NRC Bulletin 88-08 will be provided after completion of the monitoring effort and related activities. The proposed date of this submittal was to be July 1, 2000.

Subsequently, the CFD analysis was completed as scheduled. The analysis adds significant information to the thermal phenomena and supports conclusions reached by the Duke FIP team regarding the cause of the 2A1 weld crack.

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U. S. Nuclear Regulatory Commission
July 14, 1999
Page 2

A request for additional information (RAI) related to Duke's supplemental response to NRC Bulletin 88-08 was issued by the staff on February 22, 1999. This RAI requested a response from Duke by July 16, 1999. Attached is Duke's response to this RAI, including updated information on the thermal phenomena believed to have caused the 2A1 crack, as supported by the CFD analysis and the current thermal monitoring effort.

If there are any questions regarding this submittal, please contact Larry Nicholson at (864) 885-3292.

Very truly yours



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