

December 10, 1999

LICENSEE: Duke Energy Corporation (Duke)

FACILITY: Oconee Nuclear Station, Units 1, 2, and 3

SUBJECT: SUMMARY OF DISCUSSIONS BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION (NRC) STAFF AND DUKE REPRESENTATIVES REGARDING SAFETY EVALUATION REPORT (SER) OPEN ITEM 3.1.1-1 RELATED TO THE OCONEE LICENSE RENEWAL APPLICATION (LRA)

Duke submitted its responses to SER open items related to the Oconee LRA by letter dated October 15, 1999. The staff had a follow-on question relating to one of Duke's responses. Specifically, the staff had a question regarding Duke's response to SER open item 3.1.1-1. The staff's question and Duke's response can be found in Enclosure 1. Based on Duke's response contained in Enclosure 1 the staff considers this issue resolved.

Original Signed By

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Docket Nos. 50-269, 50-270,
and 50-287

Enclosure: As stated

cc w/encls: See next page

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DATE	12/4/99	12/7/99	12/7/99	12/2/99	12/10/99

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Followon Question Regarding SER Open Item 3.1.1-1

Question: The Recirculated Cooling Water (RCW) coolers need to maintain their pressure boundary and thus some aging management program (AMP) should be specified. The applicant assumes the RCW system is operating and thus has a system pressure greater than the pressure in the Condenser Circulating Water (CCW) system. Because the system is not within the scope of LR, it may not be operable (and thus not at pressure) should a design-basis event occur. CCW has a 12 inch line going through each RCW cooler. A leak this size could affect the CCW system intended function. This issue is repeated on the bottom of page 62 of Duke's October 15, 1999, submittal.

Response:

The Recirculated Cooling Water (RCW) System is a normally operating closed cooling water system that is shown schematically in UFSAR Figure 9-13. RCW heat exchangers A, B, C, and D are within the scope of license renewal as they are a part of the pressure boundary of a portion of the Condenser Circulating Water (CCW) System that is within the scope of license renewal. RCW heat exchangers 3A and 3B are not within the scope of license renewal because those portions of the CCW System on Unit 3 are not within the scope of license renewal. During normal unit operation, the RCW System operates at a pressure of approximately 85 to 90 psig. The CCW System provides cooling water to the RCW heat exchangers at a pressure of approximately 15 to 20 psig during normal operation. Since the RCW System pressure is higher than the CCW System pressure, a leak in the RCW heat exchanger will result in RCW System water entering the CCW System, which would not affect the CCW System intended function. Any leakage would be detected by a declining level in the RCW System surge tank.

If the RCW System is not operating during certain design basis events, CCW System pressure at the RCW heat exchangers could be up to 20 psig higher than the RCW System pressure. A leak in the RCW heat exchangers will result in CCW System water entering the RCW System.

The CCW System intended function of concern is having adequate NPSH for the safety-related Low Pressure Service Water (LPSW) System pumps. An analysis was performed by Duke to determine the affect on the CCW System function with seismically induced failures at seismic/non-seismic boundaries within the CCW System. In this analysis, Duke assumed a clean break in the 18-inch diameter CCW supply line to the RCW heat exchangers immediately after exiting the floor. The results of the analysis showed an acceptable NPSH margin of 2 feet using the most conservative assumptions. Regardless, due to the small amount of acceptable margin, Duke conservatively upgraded the piping through the RCW heat exchangers to Oconee Pipe Class D. This reclassification caused the piping to meet the license renewal scoping criteria and brought this portion within the scope of license renewal.

The RCW heat exchangers have 635 tubes with a combined flow rate of 2800 gpm that is delivered to the heat exchanger in a 12-inch diameter line. The 12-inch diameter line branches off the 18-inch line considered in the analysis described above. Based on the analysis performed by Duke, in the unlikely event of a failure of all the tubes in the heat exchanger that is supplied by a 12-inch diameter line will also not result in a loss of the CCW System intended function of delivering adequate NPSH to the LPSW System pumps. Since the aging of the heat exchanger will not result in a loss of the CCW System intended function, an aging management program for the RCW heat exchangers is not required. Based on the design of the Service Water Piping Corrosion Program, the aging of the Class D piping is managed by this program credited in license renewal.

Enclosure 1