

September 1, 1995

Mr. M. S. Tuckman
Senior Vice President
Nuclear Generation
Duke Power Company
P. O. Box 1006
Charlotte, North Carolina 28201-1006

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING CIRCUMFERENTIAL
CRACKING OF STEAM GENERATOR TUBES - OCONEE, UNITS 1, 2, AND 3
(TACS M92257, M92258, AND M92259)

Dear Mr. Tuckman:

On April 28, 1995, the U.S. Nuclear Regulatory Commission issued Generic Letter (GL) 95-03 "Circumferential Cracking of Steam Generator Tubes" that requested addressees to evaluate recent operating experience related to circumferential cracking, justify continued operation until the next scheduled steam generator tube inspections, and to develop plans for the next steam generator tube inspections. The staff has reviewed your response for Oconee, Units 1, 2, and 3, dated June 27, 1995. As a result of the review of your response, the staff has identified areas for which additional information and/or clarification is needed. The enclosure to this letter contains the information needed for the staff to complete its review of your response to GL 95-03. You are requested to provide your response to this request within 30 days of your receipt of this letter.

The information requested by this letter is within the scope of the overall burden estimated in Generic Letter 95-03 of 350 hours. This request is covered by the Office of Management and Budget clearance number 3150-0011, which expires July 31, 1997.

If you have questions regarding this matter, contact me at (301) 415-1495.

Sincerely,

Original signed by:

L. A. Wiens, Senior Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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

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Request for Additional Information

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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Sincerely,

A handwritten signature in black ink, appearing to read "L. A. Wiens".

L. A. Wiens, Senior Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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

Enclosure:
Request for Additional Information

cc w/enclosure:
See next page

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REQUEST FOR ADDITIONAL INFORMATION

GENERIC LETTER 95-03

1. Discuss the design differences between the Oconee steam generators and the generic design information provided in the B&W Owners Group response, if any.
2. Dented Regions including dented tube support plates.

In the Electric Power Research Institute (EPRI) report NP-6201 "PWR Steam Generator Examination Guidelines: Revision 3", dated November 1992, it indicated that B&W plants have experienced denting at tube support plates and in the lower tubesheet. In your submittal it was indicated that larger voltage dents were inspected with a rotating pancake coil probe. Circumferential indications have been observed at dented areas in recirculating steam generators. If the dented locations in your steam generators are potentially susceptible to circumferential cracking, please submit the information requested in Generic Letter (GL) 95-03 per the guidance contained in the GL. If a voltage threshold is used for determining the threshold for examining dents, provide the calibration procedure used (e.g., 4.0 volts on 4-20% through-wall ASME holes at 550/130 mix).

EPRI report NP-6201 indicates that the fifteenth tube support plate contains both broached holes and drilled holes. The drilled holes have been prone to denting. Please clarify whether all of the tube support plates are of the broached hole designs or whether a number of them contain drilled holes. Discuss whether denting has been limited to the drilled hole locations, if applicable, or if it has been observed at other support plate intersections (i.e., broached holes).

3. Expansion transition examinations.

Clarify the type of probe that was used during the last inspection of the rerolled tubesheet joints at Oconee Units 1, 2, and 3. Provide the number of tubes currently in service that were rerolled after the furnace stress relief.

4. Lane/Wedge Region.

Provide the criteria to be used for determining whether the expanded inspection scope around any identified indications adjacent to the sleeved lane/wedge region is bounded.

5. Recently, several tubes have been pulled from B&W once through steam generators (OTSGs). Discuss any analyses performed on these pulled tubes for monitoring the development of circumferential cracking. For example, discuss the destructive and non-destructive examinations performed on these pulled tubes in the laboratory at the expansion transition area.

ENCLOSURE

6. Clarify whether the inspection method to be used at Oconee is qualified for the detection of circumferential cracks per Appendix H of Electric Power Research Institute (EPRI) report NP-6201 or whether a site specific qualification program will be used. If using site specific qualification procedures, state the differences and provide the justification for these criteria including a discussion of pulled tube data to support the detectability of circumferential cracks in the field.