

December 13, 1995

Mr. John P. Stetz
Vice President - Nuclear
Centerior Service Company
c/o Toledo Edison Company
Davis-Besse Nuclear Power Station
5501 North State Route 2
Oak Harbor, OH 43449

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING GENERIC LETTER 95-03,
"CIRCUMFERENTIAL CRACKING OF STEAM GENERATOR TUBES" - DAVIS-BESSE
NUCLEAR POWER STATION, UNIT 1 (TAC NO. M92238)

Dear Mr. Stetz:

On April 28, 1995, the U.S. Nuclear Regulatory Commission issued Generic Letter (GL) 95-03, "Circumferential Cracking of Steam Generator Tubes," which requested addressees to evaluate recent operating experience related to circumferential cracking, justify continued operation until the next scheduled steam generator tube inspections, and develop plans for the next steam generator tube inspections. The staff has reviewed the June 23, 1995, response provided by Toledo Edison Company for the Davis-Besse Nuclear Power Station, Unit 1, and has identified areas where additional information and/or clarification is needed. The enclosure to this letter contains the information needed to complete the review of your response to GL 95-03.

Please provide written responses to the enclosed questions by January 31, 1996. This request is within the original reporting burden for information collection of 350 hours covered by the Office of Management and Budget clearance number 3150-0011, which expires July 31, 1997.

Should you have any questions, please contact me at (301) 415-1380.

Sincerely,

Original signed by:

Linda L. Gundrum, Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-346

Enclosure: As stated

cc w/encl: See next page

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Mr. John P. Stetz
Toledo Edison Company

cc:

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Port Clinton, Ohio 43452

REQUEST FOR ADDITIONAL INFORMATION
RELATED TO THE GENERIC LETTER 95-03 RESPONSE FOR
DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1
DOCKET NO. 50-346

1. Discuss the design differences between the Davis-Besse 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:

Electric Power Research Institute (EPRI) report NP-6201 "PWR Steam Generator Examination Guidelines: Revision 3," dated November 1992, indicated that B&W plants have experienced denting at tube support plates and in the lower tubesheet. Circumferential indications have been observed at dented areas in recirculating steam generators. If denting has been observed at Davis-Besse and it is in a location 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., 2.75 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 being 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 if the eight tubes that did not receive the post-roll stress relief are still in service.

Clarify the inspections performed during the last outage at the expansion transition region. Address the probe used and the number of tubes inspected.

Provide the criteria to be used for determining whether expansion of the inspections for expansion transition indications is necessary.

4. Lane/Wedge Region:

Clarify the inspection scope in the lane/wedge region during the last steam generator tube inspections (including the probe type and number (and/or percentage) of tubes inspected).

Enclosure

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 nondestructive examinations performed on these pulled tubes in the laboratory at the expansion transition area.
6. Clarify whether the inspection method to be used at Davis-Besse 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.
7. Discuss the number and types of sleeves used at Davis-Besse along with their installation dates (i.e., month/year).

Clarify the extent of the inspections performed on these sleeved tubes during the last outage (e.g., 100% of all sleeve joints were examined with the "optimized" rotating cross wound probe).

8. During the Maine Yankee outage in July/August 1994, several weaknesses were identified in their eddy current program as detailed in NRC Information Notice 94-88, "Inservice Inspection Deficiencies Result in Severely Degraded Steam Generator Tubes". In Information Notice 94-88, the staff observed that several circumferential indications could be traced back to earlier inspections when the data was reanalyzed using terrain plots. These terrain plots had not been generated as part of the original field analysis for these tubes. For the rotating pancake coil (RPC) examinations performed at your plant at locations susceptible to circumferential cracking during the previous inspection (i.e., previous inspection per your Generic Letter 95-03 response), discuss the extent to which terrain plots were used to analyze the eddy current data. If terrain plots were not routinely used at locations susceptible to circumferential cracking, discuss whether or not the RPC eddy current data has been reanalyzed using terrain mapping of the data. If terrain plots were not routinely used during the outage and your data has not been reanalyzed with terrain mapping of the data, discuss your basis for not reanalyzing your previous RPC data in light of the findings at Maine Yankee.

Discuss whether terrain plots will be used to analyze the RPC eddy current data at locations susceptible to circumferential cracking during your next steam generator tube inspection (i.e., the next inspection per your Generic Letter 95-03 response).