

April 19, 2004

Mr. D. M. Jamil
Vice President
Catawba Nuclear Station
Duke Energy Corporation
4800 Concord Road
York, South Carolina 29745

SUBJECT: CATAWBA NUCLEAR STATION, UNIT 1 RE: REQUEST FOR ADDITIONAL
INFORMATION (TAC NO. MC1703)

Dear Mr. Jamil:

By letter dated December 23, 2003, Duke Energy Corporation submitted information concerning the steam generator tube inspection report for End of Core 14 at Catawba Nuclear Station, Unit 1. The Nuclear Regulatory Commission technical staff has reviewed your submittal and has determined that additional information is required for the staff to complete its review, as identified in the Enclosure.

We discussed these issues with your staff on April 1, 2004. Your staff indicated that you would attempt to provide your response by June 1, 2004.

Please contact me at (301) 415-1842, if you have any questions on these issues.

Sincerely,

/RA/

Sean E. Peters, Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-413

Enclosure: Request for Additional Information

cc w/encl: See next page

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REQUEST FOR ADDITIONAL INFORMATION

DUKE POWER COMPANY

CATAWBA NUCLEAR STATION, UNIT 1

DOCKET NO. 50-413

The Nuclear Regulatory Commission (NRC) staff has reviewed the licensee's submittal dated December 23, 2003, forwarding the End of Core (EOC) 14 Steam Generator Tube Inspection Report for Catawba Nuclear Station (Catawba), Unit 1. The NRC staff has identified the following information that is needed to enable the continuation of its review.

1. The steam generators at Catawba, Unit 1, were replaced in 1996 with Babcock and Wilcox International CFR 80 steam generators. In several locations in your reports, you reference tube support structures (e.g., fan bar 4) and tube locations (e.g., Row 14 Column 55). In order for the NRC staff to better understand the location of the indications, please provide (1) a sketch of the Unit 1 steam generators which depicts the tube support naming conventions and (2) a tubesheet map which depict the rows and columns of the tubes. In addition, please provide the following general design information: tube manufacturer, tube material, tube outside diameter, tube wall thickness, tube support (including fan bar/anti-vibration bar) material and configuration, tube support (including fan bar) thickness, tube pitch and orientation (e.g., 1.1-inch triangular pitch), expansion method, and any other noteworthy design characteristics from a steam generator tube integrity standpoint (e.g., full length stress relief of the row 1 through row 10 tubes). Furthermore, discuss whether measurements from a tube support are from the middle of the support or the edge of the support. For example, does fan bar 5 minus 0.9 inches specify an indication 0.9 inches from the bottom edge of the fan bar?
2. For the EOC 14 inspections, please clarify the scope and extent of the inspections. For example, please discuss what probes were used during the inspection, how many tubes were inspected, and what portions of the tubes were inspected with these probes (e.g., 100 percent full-length inspection with a bobbin probe, rotating-probe inspection of the hot-leg expansion transition region (± 3 inches) for 100 percent of the inservice tubes, etc.).
3. Please clarify the results of your inspection. For example:
 - a. For the volumetric indications reported, please discuss the source and significance of these indications.
 - b. Please clarify the difference between an "NQI" and an "NQS" indication.

Enclosure

- c. Please clarify the potential and actual degradation mechanisms observed in your steam generators. For example, several wear indications have been reported. Please briefly discuss the cause of these indications and the population of tubes susceptible to these mechanisms. In addition, several tubes were inspected/classified as “proximity” tubes in a previous inspection. Please describe this categorization and the tubes potentially affected by this issue.
4. Seven tubes were plugged and stabilized in steam generator C as a result of a loose part that could not be removed. Please clarify the source and nature of this part. In addition, briefly summarize the corrective actions taken and your basis for the corrective actions (e.g., all steam generators were inspected, the part was surrounded by plugged and stabilized tubes and is not expected to move based on analysis, etc).
5. Several indications were reported as “CHG” indications. Please clarify the meaning of this acronym. Assuming this acronym implies the indication has changed, please discuss what signal characteristic changed and the cause of the change (or provide a description of actions that you may be planning to take to investigate the reason for the change). For the criteria used to determine if a signal exhibits little or no change, discuss how the criteria was determined. For example, was test repeatability evaluated for these types of indications such that the criteria would identify a signal change when the change was greater than normal test repeatability?

Catawba Nuclear Station

cc:

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