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Serial: RA-20-0104

United States Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Catawba Nuclear Station, Unit No. 2
Docket No. 50-414 / Renewed License No. NPF-52

SUBJECT: Response to NRC Request for Additional Information - Catawba Nuclear Station - SG Report (RA-19-0391) - C2R23

REFERENCES:

1. Duke Energy Letter, *Catawba Unit 2, Refuel (C2R23) Inservice Inspection (ISI) and Steam Generator Inspection (SG-ISI) Report (RA-19-0391)*, dated December 19, 2019 (ADAMS Accession No. ML19353A416).
2. NRC Email from M. Mahoney to A. Zaremba, *Request for Additional Information – Catawba Nuclear Station – SG Report (RA-19-0391) – C2R23*, dated March 13, 2020 (ADAMS Accession No. ML20073F383).

Ladies and Gentlemen:

By letter dated December 19, 2019, Duke Energy Carolinas, LLC (Duke Energy) submitted the Catawba Unit 2, Refuel 23 (C2R23) Inservice Inspection (ISI) and Steam Generator Inservice Inspection (SG-ISI) Summary Reports (Reference 1). By the email dated March 13, 2020 (Reference 2), the NRC requested additional information regarding the SG-ISI report. The Duke Energy response to the request for additional information (RAI) is provided in the Enclosure.

This submittal contains no regulatory commitments. Should you have any questions concerning this letter, or require additional information, please contact Art Zaremba, Manager – Nuclear Fleet Licensing, at 980-373-2062.

Sincerely,

Mandy Hare
Nuclear Support Services Manager, Catawba Nuclear Station

NDE
CC:

M. Mahoney, NRC Project Manager, NRR

L. Dudes, NRC Regional Administrator, Region II

J.D. Austin, NRC Senior Resident Inspector, Catawba Nuclear Station

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Enclosure

Duke Energy Carolinas, LLC

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**Duke Energy Response to NRC Request for Additional Information for the
Catawba Unit 2 Steam Generator Inspection Report (RA-19-0391)**

NRC Request

By letter RA-19-0391, dated December 19, 2019 (Agencywide Documents Access and Management System Accession No. ML19353A416), Duke Energy (the licensee) submitted information summarizing the results of the fall 2019 steam generator inspections performed at Catawba Nuclear Station, Unit 2. These inspections were performed during refueling outage 23 (RFO 23). A report from each steam generator inspection is submitted to the U. S. Nuclear Regulatory (NRC) in accordance with the plant Technical Specifications (TS).

The NRC staff has reviewed the application and, based upon this review, determined that additional information is needed to complete our review. Please provide a response on the docket within 30 days of this correspondence.

Request for Additional Information (RAI-01)

The tube at Row 31 Column 33 (R31C33) in Steam Generator 2A (SG 2A) was plugged during refueling outage 23 (RFO 23) due to an eddy current indication of axial cracking just above the 3H tube support plate. The tube inspection report states that the indication met the condition monitoring criteria for leakage because the eddy current voltage was less than the threshold voltage for leakage. In this case, the measured voltage was being compared to a screening criterion for axial outside diameter stress corrosion cracking (ODSCC) in the EPRI Steam Generator In-Situ Pressure Test Guidelines. In the tube inspection report, this single axial indication (SAI) lists two voltage measurements of 2.05 V and 2.09 V from Channel P4.

- a. For in-situ pressure-test screening, the EPRI Guidelines provide +Point probe threshold voltage values for the 300 kHz analysis frequency. What was the 300 kHz voltage for this flaw?
- b. Please describe the frequency or frequencies used for Channel P4 and how Channel P4 relates to the 300 kHz signal in terms of performing the screening.
- c. If the 300 kHz voltage exceeds the threshold value, discuss how this flaw would be processed through the in-situ pressure test guidelines.

Duke Energy Response

- a. The 300 kHz voltage for this flaw is 2.09 volts, the same as the P4 channel.
- b. P4 is 300 / 100 kHz mix channel to suppress the tube support plate. Ch 3 is the 300 kHz channel. Both were normalized to the requirements of Steam Generator Management Program: Steam Generator In-Situ Pressure Test Guidelines, Revision 5. EPRI, Palo Alto, CA: 2016 3002007856.
- c. The 300 kHz voltage did not exceed the threshold voltage for leakage.