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CNS-15-047

May 15, 2015

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Subject: Duke Energy Carolinas, LLC (Duke Energy)
Catawba Nuclear Station, Unit 1
Docket Number 50-413
Steam Generator Inservice Inspection Summary Report
for End of Cycle 21 Refueling Outage
Response to NRC Requests for Additional Information
(RAIs)

- References:
1. Letter from Duke Energy to NRC, dated September 25, 2014, ADAMS Accession Number ML14273A440
 2. Letter from NRC to Duke Energy, dated May 5, 2015, ADAMS Accession Number ML15124A775

The Reference 1 letter submitted the steam generator inservice inspection summary report associated with the subject refueling outage. The Reference 2 letter transmitted RAIs associated with the Reference 1 letter.

The purpose of this letter is to formally respond to the Reference 2 RAIs. The attachment to this letter provides this response. The format of the attachment is to re-state each RAI question, followed by its associated response.

There are no regulatory commitments contained in this letter or its attachment.

If you have any questions concerning this material, please call L.J. Rudy at (803) 701-3084.

Very truly yours,

Kelvin Henderson
Vice President, Catawba Nuclear Station

LJR/s

Attachment

A047
NRR

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xc (with attachment):

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Regional Administrator
U.S. Nuclear Regulatory Commission - Region II
Marquis One Tower
245 Peachtree Center Ave., NE Suite 1200
Atlanta, GA 30303-1257

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U.S. Nuclear Regulatory Commission
Catawba Nuclear Station

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Rockville, MD 20852-2738

Attachment

Steam Generator Inservice Inspection Summary Report
for End of Cycle 21 Refueling Outage

Response to NRC Requests for Additional Information (RAIs)

REQUEST FOR ADDITIONAL INFORMATION

CATAWBA NUCLEAR STATION. UNIT 1

SPRING 2014 STEAM GENERATOR TUBE INSPECTIONS

TAC NO. MF5459

DOCKET No. 50-413

By letter dated September 25, 2014 (Agencywide Documents Access and Management System Accession No. ML14273A440) Duke Energy Carolinas, LLC (the licensee), submitted information summarizing the results of the spring 2014 steam generator (SG) tube inspections at Catawba Nuclear Station, Unit 1. These inspections were performed during refueling outage 21 (RFO 21). In order to complete its review, the U.S. Nuclear Regulatory Commission staff requests the following additional information:

1. Please discuss the scope and results of any secondary side inspections.

Duke Energy Response:

Sludge lancing and Foreign Object Search and Retrieval (FOSAR) was performed in all four RSGs. Sludge lancing removed a total of 25.5 lbs; 9.5 lbs in the 1A RSG, 4.5 lbs in the 1B RSG, 5.5 lbs in the 1C RSG, and 6.0 lbs in the 1D RSG.

122 objects were identified with 24 removed, leaving 98 known objects in the steam generators. The objects were primarily stainless windings from spiral wound gaskets and small pieces of stainless wire from secondary system strainers. Other objects identified are small weld slag, machining remnants, and "S"-shaped hooks. The remaining objects were evaluated and left in service.

2. The two tubes reported to have indications greater than 20 inches from a tube support plate (TSP) are both in SG D (row 109, column 54 and row 63, column 90). Are the wear indications attributed to foreign objects? If not, please clarify the nature of the indications in these tubes and identify the tubes with foreign object wear.

Duke Energy Response:

There is 41 inches between support centerlines. The indication in tube row 109, column 54 is approximately 8 inches away from a tube support plate. The indication in tube row 63, column 90 is approximately 11 inches away from a tube support plate. These indications are attributed to foreign objects with no object present in the Condition Monitoring Operational Assessment (CMOA). Both indications are traceable to the baseline.

~~3. Please confirm that the following numbers of indications were identified during RFO-21:~~

- ~~a. 31 fan bar wear indications (FB) in 29 tubes and 1 TSP wear indication in 1 tube in SG A;~~
- ~~b. 33 FB wear indications in 22 tubes and 1 TSP wear indication in 1 tube in SG B;~~
- ~~c. 118 FB wear indications in 77 tubes and 2 TSP wear indications in 2 tubes in SG C; and~~
- ~~d. 66 FB wear indications in 53 tubes, 1 TSP wear indication in 1 tube, and 2 loose part wear indications in 2 tubes in SG D.¹~~

Duke Energy Response:

No response to this question is necessary.

¹ In the conference call dated April 30, 2015, Duke staff identified that the requested information was contained in the report. No further information is requested with respect to this question.