DUKE ENERGY®

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CNS-16-020

March 18, 2016

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

Subject: Duke Energy Carolinas, LLC
Catawba Nuclear Station, Unit 1
Docket Number 50-413
Inservice Inspection Report for End of Cycle 22 Refueling Outage

In accordance with Section XI of the ASME Code, please find attached the subject 90-day report which provides the results of the inservice inspection associated with the subject outage.

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

xc (with attachment):

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

G.A. Hutto III, Senior Resident Inspector
U.S. Nuclear Regulatory Commission
Catawba Nuclear Station

J.A. Whited (addressee only)
NRC Project Manager (Catawba)
U.S. Nuclear Regulatory Commission
One White Flint North, Mail Stop 8-B1A
11555 Rockville Pike
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Attachment

Catawba Unit 1 End of Cycle 22 Inservice Inspection Report

CASE
N-532-5

FORM OAR-1 OWNER'S ACTIVITY REPORT

Report Number Owner's Activity Report for Refueling Outage 1EOC22

Plant Catawba Nuclear Station, 4800 Concord Road, York, SC 29745

Unit No. 1 (if applicable) Commercial service date 06/29/1985 Refueling outage no. 1EOC22

Current inspection interval See Attachment - Page 2 (1st, 2nd, 3rd, 4th, other)

Current inspection period See Attachment - Page 2 (1st, 2nd, 3rd)

Edition and Addenda of Section XI applicable to the inspection plans See Attachment - Page 2

Date and revision of inspection plans See Attachment - Pages 3 & 4

Edition and Addenda of Section XI applicable to repair/replacement activities, if different than the inspection plans Same

Code Cases used: The following Code Cases are permitted by the ISI Plans: N-513-3, N-532-5, N-586-1, N-613-1, N-639, N-643-2, N-648-1, N-663, N-706-1, N-712, N-722-1, N-729-1, N-735, N-770-1 (if applicable)

CERTIFICATE OF CONFORMANCE

I certify that (a) the statements made in this report are correct; (b) the examinations and tests meet the Inspection Plan as required by the ASME Code, Section XI; and (c) the repair/replacement activities and evaluations supporting the completion of 1EOC22 (refueling outage number) conform to the requirements of Section XI.

Signed Austin C. Keller Date 3/7/2016

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of South Carolina and employed by HSB Global Standards of CT have inspected the items described in this Owner's Activity Report, and state that, to the best of my knowledge and belief, the Owner has performed all activities represented by this report in accordance with the requirements of Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the repair/replacement activities and evaluation described in this report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Kenneth Donthit Commissions ND12410 I N A
Inspector's Signature National Board, State, Province, and Endorsements

Date 3-7-16

Attachment

The Catawba Nuclear Station Unit 1 Third Ten Year Inservice Inspection (ISI) Plan complies with 10CFR50.55a(g), which implements, by reference, the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, 1998 Edition with 2000 Addenda.

The Catawba Nuclear Station Unit 1 Fourth Ten Year Inservice Inspection (ISI) Plan complies with 10CFR50.55a(g), which implements, by reference, the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, 2007 Edition with 2008 Addenda.

This summary report is being submitted pursuant to the reporting requirements of ASME Section XI as amended by ASME Code Case N-532-5, "Repair/Replacement Activity Documentation Requirements and Inservice Inspection Summary Report Preparation and Submission Section XI, Division 1".

Contained within this summary report are the form OAR-1 (Owner's Activity Report) and Tables 1 and 2 of Code Case N-532-5 for Catawba Nuclear Station during cycle 22 and Refueling Outage 22 (1EOC22). 1EOC22 is the third and last outage of the third period in the third inspection interval and includes the Repair/Replacement activities from June 28, 2014 through December 18, 2015. Additionally, 1EOC22 is the first outage of the first period in the fourth inspection interval.

Attachment

Catawba Unit 1 End of Cycle 22 Inservice Inspection Report

Date and Revision of Inservice Inspection Plans:

I. Third Interval Inservice Inspection Plans

1. The following documents comprise the Catawba Nuclear Station 3rd Interval Inservice Inspection Plan for Unit 1 (Class 1, 2, and 3 Components):

    a. Third Interval Inservice Inspection Plan Catawba Nuclear Station Units 1 and 2 General Requirements, Document #CISI-1462.10-0030-GEN REQ, Rev 1, dated 06/26/2008, including the following addenda:

        i. CISI-1462.10-0030-3CNS-021 through CISI-1462.10-0030-3CNS-038

    b. Catawba Nuclear Station Unit 1-Third Inspection Interval Inservice Inspection NDE Plan, Document #CISI-1462.10-0030-UNIT 1, Rev 1, dated 06/26/2008, including the following addenda:

        i. CISI-1462.10-0030-3CNS1-028 through CISI-1462.10-0030-3CNS1-086

2. The following documents comprise the Catawba Nuclear Station 3rd Interval Inservice Inspection Pressure Test Plan for Unit 1:

    a. Third Inspection Interval Inservice Inspection Pressure Test Plan for Catawba Unit 1, Document #CISI-1462.20-0020-U1PTPLAN, Rev 1, dated 07/23/2008, including the following addenda:

        i. CISI-1462.20-0020-C1-PT-023 through CISI-1462.20-0020-C1-PT-053

II. Fourth Interval Inservice Inspection Plans

1. The following documents comprise the Catawba Nuclear Station 4th Interval Inservice Inspection Plan for Unit 1 (Class 1, 2, and 3 Components):

    a. Catawba Nuclear Station Unit 1 and Unit 2 – Fourth Interval Inservice Inspection Plan, Document #CISI-1462.10-0040-ISI PLAN, Rev 1, dated 08/12/2015.

    b. Catawba Nuclear Station Unit 1-Fourth Inspection Interval Inservice Inspection Outage Schedule Catawba Nuclear Station, Document #CISI-1462.10-0040-UNIT 1, Rev 0, dated 08/12/2015 including the following addenda:

        i. CISI-1462.10-0040-4CNS1-001 through CISI-1462.10-0040-4CNS1-002

2. The following documents comprise the Catawba Nuclear Station 4th Interval Inservice Inspection Pressure Test Plan for Unit 1:

    a. Fourth Inspection Interval Inservice Inspection Pressure Test Plan for Catawba Unit 1, Document #CISI-1462.20-0040 - PTPlan, Rev 0, dated 06/24/2015.

III. Containment Inservice Inspection Plan

1. The following document comprises the Catawba Nuclear Station 3rd Interval Containment Inservice Inspection Plan for Unit 1 (Class MC):

    a. Catawba Nuclear Station Units 1 and 2 - Third Interval Containment Inservice Inspection Plan, Document #CN-ISIC3-1042-0001, Rev. 2, dated 2/01/2016.

Catawba Nuclear Unit 1
Form OAR-1 Owner's Activity Report

Table 1
Items with Flaws or Relevant Conditions that Required Evaluation for Continued Service

Examination Category and Item Number	Item Description	Evaluation Description
F-A / F1.12	C1.F1.12.0002 / 1-R-NC-1635	VT-3 examination revealed the primary nut on the pipe clamp, snubber side, was loose. WR# 020014464 written to tighten. Engineering Evaluation found to be acceptable. Reference NCR 1977880.
F-A / F1.12	C1.F1.12.0003 / 1-R-NC-1636	VT-3 examination revealed the primary nut on the pipe clamp, snubber side, was loose. WO# 020038505 written to tighten. Engineering Evaluation found to be acceptable. Reference NCR 1977884.
F-A / F1.12	C1.F1.12.0019 / 1-R-NI-1219	VT-3 examination revealed the pipe clamp was in hard contact with abandoned steel on lower lateral support. Interfering steel to be removed per WO#20038649. Engineering Evaluation found to be acceptable. Reference NCR 1977884.
B-P / B15.10	Boric acid residue found on NC Pump 1D Seal Housing and Incore Instrumentation Tubing (Zone Number 1NC-001L-A)	Areas identified in NCRs 01984705 and 01984738 were evaluated by Engineering and found to be acceptable.
C-H / C7.10	Boric acid residue found on valves 1ND-28A and 1ND-159 (Class B Bolted Connection – IWA-5241(f))	Areas identified in NCR 01981281 were evaluated by Engineering and found to be acceptable.
C-H / C7.10	Boric acid residue found on valve 1FW-28 (Class B Bolted Connection – IWA-5241(f))	Area identified in NCR 01978836 was evaluated by Engineering and found to be acceptable.
C-H / C7.10	Boric acid residue found on valve 1FW-56 (Class B Bolted Connection – IWA-5241(f))	Area identified in NCR 01979121 was evaluated by Engineering and found to be acceptable.
C-H / C7.10	Boric acid residue found on valve 1FW-27A (Class B Bolted Connection – IWA-5241(f))	Area identified in NCR 01978757 was evaluated by Engineering and found to be acceptable.
C-H / C7.10	Boric acid residue found on valve 1FW-55B (Class B Bolted Connection – IWA-5241(f))	Area identified in NCR 01979100 was evaluated by Engineering and found to be acceptable.
C-H / C7.10	Boric acid residue found on valve 1NV-91B (Class B Bolted Connection – IWA-5241(f))	Area identified in NCR 01978481 was evaluated by Engineering and found to be acceptable.
C-H / C7.10	Boric acid residue found on valve 1ND-44 (Class B Bolted Connection – IWA-5241(f))	Area identified in NCR 01979124 was evaluated by Engineering and found to be acceptable.
C-H / C7.10	Boric acid residue found on 1B ND Heat Exchanger Flange (Class B Bolted Connection – IWA-5241(f))	Area identified in NCR 01979017 was evaluated by Engineering and found to be acceptable.

Catawba Nuclear Unit 1
Form OAR-1 Owner's Activity Report

Table 2
Abstract of Repair/Replacement Activities Required For Continued Service

Code Class	Item Description	Description of Work	Date Completed	Repair / Replacement Plan Number
1	Reactor Coolant System -- RCP 1D Upper Seal Housing Cap Screws	Replaced damaged (pitted threads) cap screws. Reference AR 01979572	12/01/2015	02111723-01
2	Main Steam System Braided Hose	Replace braided hose downstream of valve 1SMVI5712	11/26/2015	02166339-01
3	Nuclear Service Water System Piping	Repair weld above valve 1RNC97	10/25/2015	20014768-01