



Tom Simril
Vice President
Catawba Nuclear Station

Duke Energy
CN01VP | 4800 Concord Road
York, SC 29745
o: 803.701.3340
f: 803.701.3221
tom.simril@duke-energy.com

CNS-17-044

August 21, 2017

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Subject: Duke Energy Carolinas, LLC (Duke Energy)
Catawba Nuclear Station, Unit 1
Docket Number 50-413
Inservice Inspection Report for Unit 1 End of Cycle 23 Refueling Outage

In accordance with Section XI of the ASME Code, please find attached the subject 90-day Owner's Activity Report, Form OAR-1, which provides the results of the inservice inspection associated with the subject outage.

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

If you have any questions concerning this material, please call Dustin Yang at (803) 701-3084.

Sincerely,

A handwritten signature in black ink that reads "Tom Simril". The signature is fluid and cursive, with a large loop at the end.

Tom Simril
Vice President, Catawba Nuclear Station

Attachment
Owner's Activity Report for Refueling Outage 1EOC23

Document Control Desk
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xc (with enclosure):

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

J. D. Austin
Senior Resident Inspector
U.S. Nuclear Regulatory Commission
Catawba Nuclear Station

M. Mahoney (addressee only)
Project Manager
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Mailstop O-8H4A
Rockville, MD 20852

Attachment
Owner's Activity Report for Refueling Outage 1EOC23

FORM OAR-1 OWNER'S ACTIVITY REPORT

Report Number Owner's Activity Report for Refueling Outage 1EOC23

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

Unit No. 1 Commercial service date June 29, 1985 Refueling outage no. 1EOC23
(if applicable)

Current inspection interval Fourth Inspection Interval (ISI), Third Inspection Interval (Containment ISI)
(1st, 2nd, 3rd, 4th, other)

Current inspection period First Inspection Period (ISI and Containment ISI)
(1st, 2nd, 3rd)

Edition and Addenda of Section XI applicable to the inspection plans ASME Section XI 2007 Edition through 2008 Addenda

Date and revision of inspection plans See Attachment - Page 2

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

Code Cases used for inspection and evaluation: The following Code Cases are permitted by the ISI Plan and Addenda:
4th Interval: 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-747, 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 1EOC23 conform to the requirements of Section XI.
(refueling outage number)

Signed  Austin C. Keller, ISI Program Owner Date 7/17/2017

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 Hartford Steam Boiler Inspection and Insurance Company of Connecticut 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.

 D. MALLET Commissions 15196; I, N, AI
Inspector's Signature National Board, State, Province, and Endorsements

Date 08/03/2017

Attachment

Catawba Unit 1 End of Cycle 23 Inservice Inspection Report

Date and Revision of Inservice Inspection Plans:

I. 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 including the following addenda:
 - i. CISI-1462.10-0040-ISI-4CNS-001
 - b. Fourth Interval Inservice Inspection Outage Schedule Catawba Nuclear Station Unit 1, 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-1462.10-0040-4CNS1-006
2. The following document comprises the Catawba Nuclear Station 4th Interval Inservice Inspection Pressure Test Plan for Unit 1:
 - a. Catawba Nuclear Station Units 1 and 2 Fourth Inspection Interval Inservice Inspection Pressure Test Plan, Document #CISI-1462.20-0040-PTPlan, Rev. 1, dated 07/13/2017.

II. 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. 5, dated 06/22/2017.

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 / F1.11	C1.F1.11.0001 / 1-R-NC-1066	VT-3 examination revealed the SA and PA are binding. WR# 200171251 written to re-inspect next outage. Engineering Evaluation found support to be acceptable. Reference NCR# 02121677.
F-A / F1.12	C1.F1.12.0009 / 1-R-NC-1298	VT-3 examination revealed the hanger rod is in hard contact with hand wheel on valve 1NC-14. WR# 20070549 written to address contact issue. Engineering Evaluation found support to be acceptable. Reference NCR# 2120451.
F-A / F1.12	C1.F1.12.0010 / 1-R-NC-1093	VT-3 examination revealed the middle bolt on pipe clamp to be loose. WR # 20071202 written to tighten loose bolt. Engineering Evaluation found support to be acceptable. Reference NCR# 2121656.
F-A / F1.20	C1.F1.20.0130 / 1-R-SV-1608	VT-3 examination revealed both snap rings at the PA end are damaged. WO# 20163341 written to replace snap rings. Engineering Evaluation found support to be acceptable. Reference NCR# 2120318.
F-A / F1.22	C1.F1.22.0001 / 1-R-CA-1066	VT-3 examination revealed a loose lock nut. WR# 20070921 written to tighten loose lock nut. Engineering Evaluation found support to be acceptable. Reference NCR# 2121102.
F-A / F1.22	C1.F1.20.0003 / 1-R-CA-1079	VT-3 examination revealed the middle bolt on the pipe clamp to be loose. WR# 20070923 written to tighten loose bolt. Engineering Evaluation found support to be acceptable. Reference NCR# 2121104.
F-A / F1.30	C1.F1.30.0083 / 1-R-RN-0285	VT-3 examination revealed two east anchors slightly pulled from the ceiling on the top baseplate. WR# 20070532 written to tighten anchors. Engineering Evaluation found support to be acceptable. Reference NCR# 2120385.
B-P / B15.10	Boric acid residue found on NC Pump 1A Seal Housing	Area identified in NCR# 02126049 was evaluated by Engineering and found to be acceptable.
B-P / B15.10	Boric acid residue found on valves 1NV-40 and 1NV-37A (Class A Bolted Connection - IWA-5241(f))	Area identified in NCR# 02120403 was evaluated by Engineering and found to be acceptable.
C-H / C7.10	Boric acid residue found during ISI Pressure Test Zone, 1NS-001L-B	Areas identified in NCR# 02099087 were evaluated by Engineering and found to be acceptable.
C-H / C7.10	Boric acid residue found during ISI Pressure Test Zone, 1NS-002L-B	Areas identified in NCR# 02075826 were evaluated by Engineering and found to be acceptable.
C-H / C7.10	Boric acid residue found during ISI Pressure Test Zone, 1NV-002L-B	Areas identified in NCR# 02119893 were evaluated by Engineering and found to be acceptable.
D-B / D2.10	Boric acid residue found during ISI Pressure Test Zone, 1KF-001L-C	Areas identified in NCR# 02110985 were evaluated by Engineering and found to be acceptable.
D-B / D2.10	Boric acid residue found during ISI Pressure Test Zone, 1KF-001L-C	Areas identified in NCR# 02096700 were evaluated by Engineering and found to be acceptable.

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

Code Class	Item Description	Description of Work	Date Completed	Repair / Replacement Plan Number
2	Makeup Demineralized Water System valve 1YM121	Replace disc of valve 1YM121 due to failed leak rate test.	5/8/2017	20164924-01
2	Safety Injection System check valve 1NI471	Replace valve 1NI471 with item 09J-2049	5/10/2017	20164245-01
3	Nuclear Service Water System piping	Repair leak at 4" weld CN-1492-RN-398-14 downstream of 1RN78	7/25/2016	20028985-01
3	Component Cooling System flange MJ3	Replace pipe and flange of MJ3 connection	9/6/2016	20107895-01
3	Controlled Area Chilled Water system chiller	Perform weld repair on 0YC CH 0002 evaporator shell	10/26/2016	02178042-11