



Steven D. Capps
Vice President
McGuire Nuclear Station

Duke Energy
MG01VP | 12700 Hagers Ferry Road
Huntersville, NC 28078

o: 980.875.4805
f: 980.875.4809
Steven.Capps@duke-energy.com

Serial No: MNS-16-058

July 14, 2016

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: Duke Energy Carolinas, LLC (Duke Energy)
McGuire Nuclear Station, Unit 1
Docket No. 50-369
End of Cycle 24 Inservice Inspection Report

Pursuant to the reporting requirements of American Society of Mechanical Engineers (ASME) Section XI, as amended by ASME Code Case N-532-5, attached is the subject report.

Should you have any questions or require additional information, please contact P.T. Vu of Regulatory Affairs at (980) 875-4302.

Sincerely,

A handwritten signature in black ink that reads 'S.D. Capps'.

Steven D. Capps

Attachment

A047
NRR

U.S. Nuclear Regulatory Commission
July 14, 2016
Page 2

xc:

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

G.E. Miller, Project Manager
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Mail Stop O-8G9A
Rockville, MD 20852-2738

V. Sreenivas, Project Manager
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Mail Stop O-8G9A
Rockville, MD 20852-2738

J. Zeiler
NRC Senior Resident Inspector
McGuire Nuclear Station

A. Hutto
NRC Senior Resident Inspector
McGuire Nuclear Station

FORM OAR-1 OWNER'S ACTIVITY REPORT

Report Number _____ Owner's Activity Report for Refueling Outage 1EOC24

Plant _____ McGuire Nuclear Station, 12700 Hagers Ferry Rd, Huntersville, NC 28078-9340

Unit No. 1 Commercial service date 12/01/1981 Refueling outage no. 1EOC24
(if applicable)

Current inspection interval ISI-4th, Containment-3rd
(1st, 2nd, 3rd, 4th, other)

Current inspection period ISI-2nd, Containment-1st
(1st, 2nd, 3rd)

Edition and Addenda of Section XI applicable to the inspection plans 2007 with 2008 addenda

Date and revision of inspection plans See attachment

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-526, N-532-5, N-566-2, N-586-1, N-613-1, N-639, N-643-2, N-648-1, N-663, N-706-1, N-716, N-722-1, N-729-1, N-731, 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 1EOC24 conform to the requirements of Section XI.
(refueling outage number)

Signed Robert W. Weather Date 7/6/2016

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 North 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.

Jerome F. Swan Commissions NB11473, NC1524
Inspector's Signature National Board, State, Province, and Endorsements
N, I, NS

Date 7-7-16

Attachment

McGuire Unit 1 End of Cycle 24 Inservice Inspection Report

The McGuire 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 McGuire Nuclear Station during cycle 24 and Refueling Outage 24 (1EOC24). 1EOC24 is the first outage of the second ISI period in the fourth inspection interval. 1EOC24 is the second outage of the first Containment period in the third inspection interval. This report includes all Repair/Replacement activities from November 17, 2014 through April 16, 2016, cycle 24. Pressure testing performed on-line prior to 9/1/2015 are in the 1st period.

Date and Revision of Inservice Inspection Plans:

Fourth Interval Inservice Inspection Plans

The following document comprises the McGuire Nuclear Station 4th Interval Inservice Inspection Plan for Unit 1 (Class 1, 2, and 3 Components):

"Fourth Interval Inservice Inspection Plan, McGuire Nuclear Station Unit 1 and Unit 2, General Requirements" – Document "MISI-1462.10-0040-GEN REQ UNIT 1 SECOND AND THIRD PERIODS AND UNIT 2", Rev 1, dated 05/28/2015.

The following document comprises the McGuire Nuclear Station 4th Interval Inservice Inspection Pressure Test Plan for Unit 1:

"McGuire Nuclear Station - Fourth Interval Inservice Inspection Plan - Pressure Test Plan", Document MISI-1462.20-0040-PTPLAN, Rev 1, dated 06/18/2015.

Containment Inservice Inspection Plan

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

"McGuire Nuclear Station - Third Interval Containment Inservice Inspection Plan - Containment - Units 1 & 2", Document #MC-ISIC3-1042-0001, Rev. 3, dated 10/21/2015.

McGuire 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
B-B / B2.11	Flaws in excess of the ASME XI code allowable were discovered in the Pressurizer lower head to shell weld during 1EOC17 and 1EOC24.	Westinghouse performed an analytical evaluation of the flaws and documented the justification for continued operation under Report LTR-PAFM-05-76 (Reference NCR 01596672). During 1EOC24 the Pressurizer lower head to shell weld was inspected again. There was no change in the size/number of flaws so the current Westinghouse analysis justification for continued operations, for the life of the plant, remains valid. Reference NCR 02015606.
C-H / C7.10	Boric acid residue found on bolted connection for valve 1ND-18, during 1EOC24	Item was evaluated by Engineering in NCR 02012421 and found to be acceptable. This is NOT considered an analytical evaluation.
C-H / C7.10	Dry Boric acid was found on bolted connection for valves 1ND35 and 1FW-27A (on-line, 1st period inspection)	Item was evaluated by Engineering in NCR 01699924 and found to be acceptable. This is NOT considered an analytical evaluation.
C-H / C7.10	Inactive boron leak found on bolted connection for valve 1NV-290 (on-line, 1st period inspection)	Item was evaluated by Engineering in NCR 01906973 and found to be acceptable. This is NOT considered an analytical evaluation.
D-B / D2.10	Inactive boron leak found on bolted connection for valve 1KF-24 (on-line, 1st period inspection)	Item was evaluated by Engineering in NCR 01906844 and found to be acceptable. This is NOT considered an analytical evaluation.
R-A / R.17	Thickness readings below 87.5% of nominal wall were observed during inspection of wall thickness grid at weld 1RN233-6 and 1RN245-8 during 1EOC24	Item was evaluated by Service Water Corrosion program manager in NCR 02015846 and found to be acceptable. This is NOT considered an analytical evaluation.
R-A / R.17	Thickness readings below 87.5% of nominal wall were observed during inspection of wall thickness grid at weld 1RN264-1, during 1EOC24	Item was evaluated by Service Water Corrosion program manager in NCR 02014622 and found to be acceptable. This is NOT considered an analytical evaluation.
R-A / R.17	Thickness readings below 87.5% of nominal wall were observed during inspection of wall thickness grid at weld 1RN1F300, during 1EOC24	Item was evaluated by Service Water Corrosion program manager in NCR 02014621 and found to be acceptable. This is NOT considered an analytical evaluation.
R-A / R.17	Thickness readings below 87.5% of nominal wall were observed during inspection of wall thickness grid at weld 1RN1F279, during 1EOC24	Item was evaluated by Service Water Corrosion program manager in NCR 02014605 and found to be acceptable. This is NOT considered an analytical evaluation.

McGuire 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	PZR Manway, Bolting	Replaced bolting for the pressurizer manway (original bolt damaged due to leaking diaphragm, on-line discovery)	02/12/2015	2190092-05,14
1	Weld 1NC1F-1374	Repaired indication on weld 1NC1F-1374 and its associated welds (original weld rejected; AUG program, summary M1.G14.1.0004 inspected during 1EOC24)	4/16/2016	2184066-29
1	Valve 1NI-126, Bolting	Replaced Valve 1NI-126 (Bolting rejected on old valve; Category B-G-2, Item B7.70 inspected during 1EOC24)	4/16/2016	2178270-04
3	B VC/YC chiller condenser, vendor supplied inlet piping	Replaced the section of vendor supplied piping on the inlet side of the B VC/YC chiller condenser (original piping had leak, on-line discovery)	01/14/2015	2097603-12
3	NS Pump AHU Coil	Replaced 1VA-AH-0022 / 1A NS Pump AHU Cooling Coil (original coil had leak, on-line discovery)	4/9/2016	20049140-65