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U.S. Nuclear Regulatory Commission
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SUBJECT: Duke Energy Carolinas, LLC
McGuire Nuclear Station
Docket No. 50-370
Steam Generator Inservice Inspection Report

Pursuant to ASME Section XI, please find attached the McGuire Unit 2, Fourth Interval Steam Generator Inservice Inspection Plan, Revision 0.

Questions regarding the attached report should be directed to Kay Crane, McGuire Regulatory Affairs at (980) 875-4306.

Steven Capps

Attachment

A047
NRR

xc:

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McGuire Nuclear Station

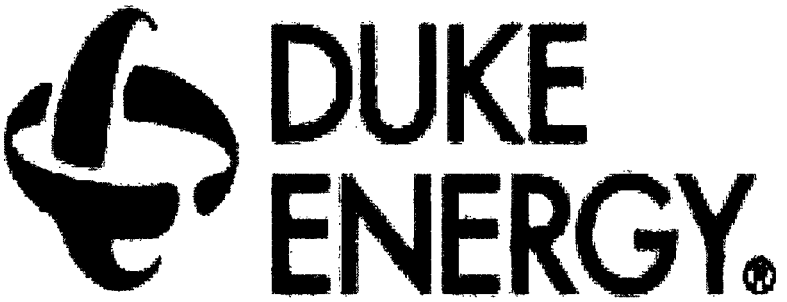
FOURTH INTERVAL STEAM GENERATOR INSERVICE INSPECTION PLAN

MCGUIRE NUCLEAR STATION

UNIT 2

REVISION 0

Document Number MISISG-0269.030.0040



Prepared By:	Mitch Helle	Date 8-18-14
Reviewed By:	Chuck Cauthon	Date 8-20-14
EC Level III Review By:	Tim Thullen	Date 8-26-14
Approved By:	Jim Batton James H Batton	Date 8-27-2014

QA Condition 1

MCGUIRE NUCLEAR STATION

GENERAL INFORMATION

Location: 12700 Hagers Ferry Road, Huntersville, North Carolina 28078-9340

Commercial Service Date: March 1, 1984

Fourth Interval Start Date: July 15, 2014

Owner: Duke Energy Carolinas, LLC
526 South Church St.
Mail Code EC07J
Charlotte, N. C. 28201-1006

REVISION SUMMARY

Revision History

Section	Title	Revision Summary
		Initial Issue

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1.0 Applicable Codes and Standards for Inservice Inspection

In accordance with the requirements of Paragraph 50.55a(g) of 10CFR Part 50, the inservice inspection of Unit 2's Steam Generators of the McGuire Nuclear Station will be performed in accordance with the ASME Section XI 2007 Edition with the 2008 Addenda, hereafter referred to as Section XI. All examinations will be performed to the extent practicable within the limitations of design, geometry and materials of construction of the component.

Note: The steam generators are not included in the McGuire Nuclear Station's 4th interval Inservice Inspection (ISI) plan. As a result, this stand-alone SG ISI plan has been developed for the Fourth Interval which covers 7/15/2014 thru 12/14/2024.

1.1 Additional Codes and Standards Used

Steam Generator tubing will be inspected as required by ASME Section XI and the Technical Specifications for McGuire Nuclear Station. The Steam Generator Maintenance and Engineering (SGME) group of the Corporate Programs and Components Engineering division has overall responsibility for this inspection.

1.2 Code Case Applicable to ASME Boiler & Pressure Vessel Code Section XI

The following code cases will be used for the Fourth Interval Inservice Inspection Program at McGuire Unit 1 for the Steam Generator Tubing inspections:

None

1.3 Applicable Duke Power Administrative Procedures

The following Duke Energy Company procedures will be used to control steam generator tubing inservice inspection activities and inservice inspection plans and reports:

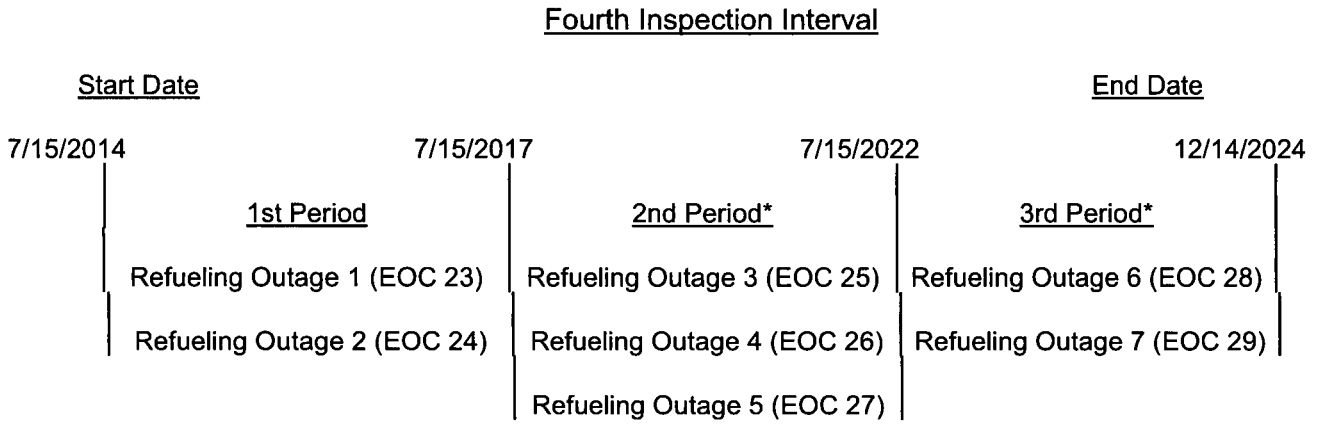
PROCEDURE NUMBER	TITLE
NSD-300	ASME Section XI Program
NSD-701	Records Management
NSD-702	Document Control
NSD-703	Administrative Instructions for Technical Procedures
AD-HU-ALL-004	Procedure and Work Instruction Use and Adherence

NSD-800	Software and Data Quality Assurance (SDQA) Program
MP/0/A/7650/262	Steam Generator Controlling Procedure for Interfacing Vendor Documents
PD-EG-PWR-1801	Steam Generator Management Program
WG-01	Workplace Guide: Preparation and Implementation of ASME Section XI Inservice Inspection Plans

2.0 System Boundary Subject to Inspection

The steam generator tubing is part of the pressure boundary for the Class 1 Reactor Coolant System (NC).

2.1 Inspection Interval and Inspection Periods



The Fourth Interval Inspection of McGuire Unit 2 Steam Generators will be performed in accordance with ASME Section XI and the McGuire Technical Specifications section 5.5.9.

*The Second Period, Third Period and Interval dates are extended per IWA-2430, which allows the interval and period dates to be reduced or extended by 1 year. Original Interval end date was March 1, 2024.

3.0 Inspection Methods and Procedures to Be Used for Inservice Inspection

Inservice inspection of McGuire Unit 2 will be performed using procedures which comply with the requirements of the applicable codes referenced in Section 1 of this plan. The volumetric method of inspection will be used to inspect the steam generator tubing as required. Each inspection will be performed under the QA Program of the organization performing the inspection.

Vendor procedures will be used to perform the steam generator tubing inservice inspection as reviewed and approved by Duke Energy per administrative procedure specified in section 1.3.

3.1 Volumetric Inspection

Steam generator tubing will be examined using a volumetric inspection method to meet the requirements of Section XI and the McGuire Technical Specifications. The Steam Generator Maintenance and Engineering group of the Corporate Programs and Component Engineering division has overall responsibility for implementing and reporting inspections pertaining to steam generator tubing.

4.0 Description of Inservice Inspection Plan for Steam Generator Tubing

The inservice inspection of the steam generator tubing shall be performed in accordance with the requirements of Article IWB-2000 of Section XI.

4.1 Examination Categories and Requirements

The examination category for steam generators is listed in Table IWB-2500-1 of Section XI. The specific examination will be identified by an item number similar to those listed in Table IWB-2500-1 of Section XI, plus an additional number to uniquely identify the steam generator being inspected.

Category B-Q Steam Generator Tubing

IWB-2500-1 Item	Component To Be Examined	Comments
B16.10	Steam Generator Tubing in Straight Design	N/A for McGuire Unit 1
B16.20	Steam Generator Tubing in U-Tube Design	S/G Tubing is examined and documented by the Steam Generator Maintenance and Engineering group of the Corporate Programs and Components Engineering division as required by the MNS Technical Specifications Sect. 5.5.9.

4.2 Specific Steam Generator Item Number with Corresponding ID Number, General Arrangement and As-Built Drawings

Steam Generator	Item Number	ID Number	Drawing Number
A	B16.020.001	2NC SG0005	MCM 2201.01-0241
B	B16.020.002	2NC SG0006	MCM 2201.01-0243
C	B16.020.003	2NC SG0007	MCM 2201.01-0240
D	B16.020.004	2NC SG0008	MCM 2201.01-0242

Right Hand Vessel General Arrangement (A&C) – MCM 2201.01-0126
Left Hand Vessel General Arrangement (B&D) – MCM 2201.01-0127

4.3 Steam Generator Tubing Material and Dimensions

Tubing Part Number 5158154
- Material SB-163 UNS N06690
- 0.6875" Outside Diameter
- 0.040" Wall Thickness

5.0 Fourth Interval Examination Information

The Fourth Interval Inspection of McGuire Unit 2 Steam Generators will be performed in accordance with ASME Section XI and the McGuire Technical Specifications section 5.5.9.

6.0 Calibration Standards

6.1 Eddy Current Calibration Standards

Calibration standards that will be used include but are not limited to bobbin, array, MRPC, and plug type standards. Eddy current examinations are scheduled and performed in accordance with ASME Section XI and the McGuire Technical Specifications Section 5.5.9.

6.2 Calibration Standard Description

Calibration Standards are precision machined materials of the same type/size as the tubing in the Steam Generators with precision machined flaws used to calibrate Eddy Current.