



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE N.E., SUITE 1200
ATLANTA, GEORGIA 30303-1200

November 7, 2019

Mr. Thomas D. Ray
Site Vice President
Duke Energy Carolinas, LLC
McGuire Nuclear Station
12700 Hagers Ferry Road
Huntersville, NC 28078-8985

SUBJECT: MCGUIRE NUCLEAR STATION – INTEGRATED INSPECTION REPORT
05000369/2019003, 05000370/2019003, AND 07200038/2019001

Dear Mr. Ray:

On September 30, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at McGuire Nuclear Station. On October 3, 2019, the NRC inspectors discussed the results of this inspection with Steve Snider and members of your staff. The results of this inspection are documented in the enclosed report.

The NRC inspectors did not identify any finding or violation of more than minor significance.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Frank J. Ehrhardt, Chief
Reactor Projects Branch 1
Division of Reactor Projects

Docket Nos. 50-369, 50-370, 72-038
License Nos. NPF-9, NPF-17

Enclosure:
IR 05000369/2019003, 05000370/2019003,
and 07200038/2019001

cc w/ encl: Distribution via LISTSERV

SUBJECT: MCGUIRE NUCLEAR STATION – INTEGRATED INSPECTION REPORT
05000369/2019003, 05000370/2019003, AND 07200038/2019001

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OFFICE	RII/DRP	RII/DRP	RII/DRP	RII/DRP	RII/DRP
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DATE	11/4/2019	11/6/2019	11/5/2019	11/6/2019	11/7/2019
OFFICE	RII/DRP	RII/DRP	RII/DRS	RII/DRS	RII/DRP
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DATE	11/4/2019	11/4/2019	11/4/2019	11/4/2019	11/4/2019
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DATE	11/4/2019	11/4/2019	11/4/2019	11/4/2019	11/5/2019

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Numbers: 50-369, 50-370, 72-038

License Numbers: NPF-9, NPF-17

Report Numbers: 05000369/2019003, 05000370/2019003, 07200038/2019001

Enterprise Identifier: I-2019-003-0021, I-2019-001-0126

Licensee: Duke Energy Carolinas, LLC

Facility: McGuire Nuclear Station

Location: Huntersville, NC

Inspection Dates: July 01, 2019 to September 30, 2019

Inspectors: G. Hutto, Senior Resident Inspector
B. Griman, Acting Resident Inspector
J. Diaz-Velez, Senior Health Physicist
C. Dykes, Health Physicist
C. Fontana, Emergency Preparedness Inspector
J. Hickman, Resident Inspector (Hatch)
R. Kellner, Senior Health Physicist
W. Loo, Senior Health Physicist
J. Parent, Resident Inspector (Oconee)
S. Sanchez, Senior Emergency Preparedness Inspector
C. Scott, Resident Inspector (Catawba)
M. Toth, Project Engineer
J. Walker, Emergency Preparedness Inspector

Approved By: Frank J. Ehrhardt, Chief
Reactor Projects Branch 1
Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an integrated inspection at McGuire Nuclear Station in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information.

List of Findings and Violations

No findings or violations of more than minor significance were identified.

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000369/2019-001-00	LER 2019-001-00 for McGuire Nuclear Station, Unit 1, Valid Actuation of the Unit 1 Reactor Protection System and Auxiliary Feedwater System	71153	Closed

PLANT STATUS

Unit 1 operated at or near 100 percent rated thermal power (RTP) for the entire inspection period.

Unit 2 operated at or near 100 percent RTP for the entire inspection period.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors performed plant status activities described in IMC 2515 Appendix D, "Plant Status" and conducted routine reviews using IP 71152, "Problem Identification and Resolution." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

REACTOR SAFETY

71111.04Q - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (3 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) Unit 1 "B" train component cooling water system, on July 30, 2019
- (2) Unit 2 turbine driven auxiliary feedwater pump train, on August 21, 2019
- (3) Unit 2 "A" and "B" train motor driven auxiliary feedwater, on September 19, 2019

71111.05Q - Fire Protection

Quarterly Inspection (IP Section 03.01) (4 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas:

- (1) Unit 1 auxiliary feedwater (CA) pump room (fire area 2, 2A), on July 2, 2019
- (2) Unit 2 CA pump room (fire area 3, 3A), on July 2, 2019
- (3) Unit 1 exterior doghouse (fire area 30), on September 25, 2019
- (4) Unit 2 exterior doghouse (fire area 31), on September 25, 2019

71111.11Q - Licensed Operator Regualification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

- (1) The inspectors observed and evaluated licensed operator performance in the control room during 1B diesel generator testing and Unit 2 nuclear instrument calibrations on September 10, 2019.

Licensed Operator Regualification Training/Examinations (IP Section 03.02) (1 Sample)

- (1) The inspectors observed and evaluated simulator refresher training scenario SRT-115 (dual unit multiple equipment failures) on September 5, 2019.

71111.12 - Maintenance Effectiveness

Routine Maintenance Effectiveness Inspection (IP Section 02.01) (2 Samples)

The inspectors evaluated the effectiveness of routine maintenance activities associated with the following equipment and/or safety significant functions:

- (1) Nuclear Condition Report (NCR) 2287692, SATA transformer core ground test failed to meet acceptance criteria, on August 19, 2019
- (2) NCR 2290381, Evaluate failed emergency lights for maintenance rule, on September 5, 2019

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (4 Samples)

The inspectors evaluated the risk assessments for the following planned and emergent work activities:

- (1) Unit 2 spent fuel pool protection plan for magnastor cast 60 loading campaign, on July 16, 2019
- (2) Unit 1 equipment protection plan for 1A diesel generator (DG) maintenance activities, on July 30, 2019
- (3) Unit 1 equipment protection plan for 1A charging pump maintenance activities, on August 26, 2019
- (4) Unit 1 and 2 equipment protection plan for standby shutdown facility DG maintenance, on September 18, 2019

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 02.02) (5 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) NCR 2280576, 1B containment spray heat exchanger end bell flange leakage, on July 10, 2019
- (2) NCR 2275082, Missed ASME Section XI / ISI scope expansion during M1R22, on July 29, 2019
- (3) NCR 2286821, Turbocharger surging during overload testing, on August 15, 2019
- (4) NCR 2290442, 1NVGX0016: 1B charging pump gear box vibration indication, on September 10, 2019

- (5) NCR 2292779, Auxiliary feedwater instruments do not meet physical separation requirements, on September 23, 2019

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (1 Sample)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Engineering Change (EC) 413679, "2CF-9; remove actuator and yoke and install gag to hold valve open," on September 16, 2019

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (5 Samples)

The inspectors evaluated the following post maintenance tests:

- (1) PT/1/A/4350/002 A, "Diesel Generator 1A Operability Test," following lube oil strainer maintenance, on July 30, 2019
- (2) PT/1/A/4350/002 B, "Diesel Generator 1B Operability Test," following diesel down day maintenance, on August 13, 2019
- (3) PT/1/A/4450/003 I, "Train B VE System Performance Test," following pressure transmitter repair, on August 19, 2019
- (4) OP/0/A/6450/011, "Control Area Ventilation/Chilled Water System," following "A" chiller oil pump replacement, on September 17, 2019
- (5) PT/2/A/4208/001 A, "2A NS Pump Performance Test," following calibration of containment spray flow meter 2NSPG5120, on September 24, 2019

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (3 Samples)

- (1) PT/1/A/4600/003 B, "Daily Surveillance Items," on July 18, 2019
- (2) PT/1/A/4600/001, "RCCS Movement Test," on July 25, 2019
- (3) PT/0/A/4200/002, "Standby Shutdown Facility Operability Test," on August 29, 2019

Inservice Testing (IP Section 03.01) (1 Sample)

- (1) PT/2/A/4252/001 A, "2A CA Pump Performance Test," on August 2, 2019

FLEX Testing (IP Section 03.02) (1 Sample)

- (1) McGuire Flex Semiannual Checklist for operational testing of the Flex Low Pressure Pump #3 and Flex Diesel Generator #3, on August 12, 2019

71114.01 - Exercise Evaluation

Inspection Review (IP Section 02.01-02.11) (1 Sample)

- (1) The inspectors evaluated the biennial emergency plan exercise during the week of August 12, 2019. The exercise scenario simulated a damaged fuel assembly while moving spent fuel assemblies which resulted in a release of radioactivity as detected by a radiation monitor. This led to the declaration of an Alert. Then both main feedwater pumps tripped on low suction pressure leading to a failure of the reactor to trip automatically or manually. The turbine driven feedwater pump failed to start due to mechanical failure, which resulted in a Red Path on Heat Sink, thus meeting the simulated conditions for a Site Area Emergency declaration. Subsequently, the equipment hatch failed causing a rapid containment pressure drop, resulting in a loss of containment which met the simulated conditions for a General Emergency. This allowed the offsite response organizations to demonstrate their ability to implement emergency actions.

71114.04 - Emergency Action Level and Emergency Plan Changes

Inspection Review (IP Section 02.01-02.03) (1 Sample)

- (1) The inspectors evaluated submitted Emergency Action Level, Emergency Plan, and Emergency Plan Implementing Procedure changes during the week of August 12, 2019. This evaluation does not constitute NRC approval.

71114.08 - Exercise Evaluation Scenario Review

Inspection Review (IP Section 02.01 - 02.04) (1 Sample)

- (1) The inspectors reviewed and evaluated in-office, the proposed scenario for the biennial emergency plan exercise at least 30 days prior to the day of the exercise.

RADIATION SAFETY

71124.06 - Radioactive Gaseous and Liquid Effluent Treatment

Walk Downs and Observations (IP Section 02.01) (1 Sample)

The inspectors walked down the following gaseous and liquid radioactive effluent monitoring and filtered ventilation systems to assess the material condition and verify proper alignment according to plant design:

- Fuel Pool Ventilation System
- Auxiliary Building Ventilation
- Reactor Building Purge
- Liquid Radioactive Effluent Monitoring System
- Gaseous Radioactive Effluent Monitoring System

Calibration and Testing Program (Process & Effluent Monitors) (IP Section 02.02) (1 Sample)

The inspectors reviewed gaseous and liquid effluent monitor instrument calibrations or tests by reviewing information not limited to but including alarm set points, periodicity, and/or National Institute of Standards and Traceability for sources used for the following sample set of monitors:

- 2EMF44L Channel & Transfer Calibration: Containment Ventilation Unit Drain Tank Radiation Monitor, WO 02168264 01, June 25, 2015
- 2EMF44L Channel & Transfer Calibration: Containment Ventilation Unit Drain Tank Radiation Monitor, WO 20134013 01, December 27, 2017

Sampling and Analysis (IP Section 02.03) (1 Sample)

The inspectors reviewed the following radioactive effluent sampling and analysis activities:

Radioactive Effluent Sampling and Analysis Activities

- Turbine Building Sump weekly sample
- Containment Ventilation Unit Condensate Drain Tank weekly sample

Effluent Discharges with inoperable monitors

None were available for review during this inspection

Instrumentation and Equipment (IP Section 02.04) (1 Sample)

The inspectors reviewed the following radioactive effluent discharge system surveillance test results and high-range effluent monitor maintenance records:

a) Surveillance Test Results

- VE Train A HEPA and Carbon Adsorber Filters In-Place Leak Test, PT/1/A/4450/001 C, June 29, 2017
- Fuel Pool Area Filtered Exhaust Filter Train Performance Test, PT/1/A/4450/001 E, May 31, 2016, September 14, 2018

b) High-Range Records

- PT 2EMF36HH Unit Vent HiHi Range Rad Monitor, IP/2/A/3005/010 RMS High Range Channel Calibration, April 15, 2011

No electronic and radiation calibrations of the High-Range Effluent Monitoring Instrumentation were available for observation during this inspection period on site.

Dose Calculations (IP Section 02.05) (1 Sample)

The inspectors reviewed the following to assess public dose:

Liquid and Gaseous Discharge Permits

- L2019291, May 31, 2019
- L2019277, May 6, 2019
- G2019122, May 1, 2019

Annual Radiological Effluent Release Reports

- 2017 McGuire Nuclear Station Units 1 and 2 Annual Radioactive Effluent Release Report
- 2018 McGuire Nuclear Station Units 1 and 2 Annual Radioactive Effluent Release Report

Abnormal Gaseous or Liquid Tank Discharges

- Gaseous Waste Release report # 2016024

71124.07 - Radiological Environmental Monitoring Program (REMP)

Inspectors evaluated licensee performance in ensuring REMP is implemented in accordance with licensing documentation and REMP is validating doses are within the legal dose limits. Inspectors also reviewed the licensee's effort to continue to implement the NEI/Industry Groundwater Protection Initiative.

Site Inspection (IP Section 02.01) (1 Sample)

The inspectors performed walkdowns of sampling stations, thermoluminescent locations and meteorological instrumentation. Inspectors also performed observations of preparation and collections of different environmental sample types. Inspectors reviewed sampling results and maintenance, calibration, quality control and ground water records. Records reviewed, and samples observed included but were not limited to the following:

- (1) Walkdowns and calibration and maintenance record review:

Air Sampling Stations

- Location 103-Cottonwood Substation, LV-1D Air Sampler Certificate of Calibration; Air Sampler ID:09386, cal. date: October 31, 2018
- Location 133-Cornelius Substation, LV-1D Air Sampler Certificate of Calibration; Air Sampler ID:03425, cal. date: August 9, 2017 and August 24, 2018
- Location 125-Settling Ponds, LV-1D Air Sampler Certificate of Calibration; Air Sampler ID:03395, cal. date: January 5, 2016 and July 25, 2018
- Location 121-Guardhouse, LV-1D Air Sampler Certificate of Calibration; Air Sampler ID:09066, cal. date: August 8, 2017 and August 24, 2018
- Location 195-Fishing Access Road, Air Sampler ID:03459, cal. date: April 18, 2018 and May 13, 2019
- Location 120-HP Boat House, LV-1D Air Sampler Certificate of Calibration; Air Sampler ID:03422, cal. date: November 21, 2017 and June 14, 2019
- Location 102-Amity Church Road, LV-1D Air Sampler Certificate of Calibration; Air Sampler ID:03095, cal. date: July 24, 2017 and July 25, 2018

Thermoluminescent Dosimeter (TLD) Monitoring Stations

- Location 133-Cornelius Substation (TLDs E-182A, E-182B)
- Location 128-Discharge Canal Bridge (TLDs E-146A, E-146B)
- Location 121-Guardhouse (TLDs E-145A, E-145B)
- Location 195-Fishing Access Road (TLDs E-187A, E-187B)
- Location 120-HP Boat House (TLDs E-144A, E-144B)

Composite Water Sampling Stations:

- Location 128-Discharge Canal Bridge, Water Sampler ID:09136, cal. date: May 21, 2018 and April 22, 2019

The inspectors observed the following environmental sample collections and preparation:

- Location 142-Lowman Farm (Dairy), REMP milk sample and State split sample
- Locations 103, 133, 125, 121, 195, 120, and 102 Air Samples

Missed sample, inoperable sampler, lost TLD or anomalous measurement

- 2017 REMP Appendix C Unavailable Analyses
- 2018 REMP Appendix C Unavailable Analyses

Structures, Systems and Components monitored for the potential of licensed material entering groundwater

- FWST/RMWST (Piping and Trench) U1/U2
- RW Facility Trench and Piping
- Condenser Circulating Water U1/U2
- SNSWP Intake and Discharge (Piping and Trench)
- Turbine Building Sump Discharge Piping to IHUP
- WZ Sump C Discharge Piping

Groundwater Protection Initiative (GPI) Implementation (IP Section 02.02) (1 Sample)

- (1) The inspectors reviewed the licensees continuing implementation of the voluntary NEI/Ground Water Protection Initiative.

71124.08 - Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation

Inspectors evaluated licensee's program compliance to ensure protection for members of the public from the processing, handling, storage, and transportation of radioactive material.

Radioactive Material Storage (IP Section 02.01) (1 Sample)

The inspectors evaluated radioactive material storage areas for compliance with postings, labels, radiological controls and physical controls during plant walk downs. Inspectors also evaluated the material condition of several containers of radioactive materials for signs of degradation.

- (1) Inspectors toured the following radioactive material storage areas:
 - Solidification Building
 - U-2 Staging Building
 - Rooms: 818, 818C, 1202, and 1011
 - B-25 Storage Building (Stalog)
 - Sealand Storage Area [Temporary area inside the Protected Area yard]

Radioactive Waste System Walkdown (IP Section 02.02) (1 Sample)

The inspectors evaluated liquid and solid radioactive waste processing systems and processes during plant walkdowns for alignment with licensing descriptions, material condition, administrative and physical controls. Inspectors also evaluated changes to the systems, waste stream mixing methodologies and process control program descriptions.

- (1) Inspectors reviewed or walked down radioactive waste processes and/or processing systems including:

Liquid or Solid Radioactive Waste Processing Systems

- Liquid Waste Processing System
- Solid Waste Processing System

Radioactive Waste Resin and/or Sludge Discharges Processes

- Liquid Waste System - Filtration and ion exchange processing equipment, liquid waste processing of the Auxiliary Floor Drain Tank Auxiliary Waste Evaporator Feed Tank in the Interim Radwaste Facility
- Solid Waste System - Spent resin and waste evaporator concentrates transfer and storage

Waste Characterization and Classification (IP Section 02.03) (1 Sample)

The inspectors evaluated radioactive waste stream characterization and classification.

- (1) Waste streams included the following:
 - Dry Active Waste (DAW), Revision Date November 20, 2018
 - Filters (Filter Crud Composite), Revision Date January 7, 2019
 - Primary Bead Resin, Revision Date April 29, 2019
 - U-2 Fuel Cleaning Filters, Revision Date September 28, 2018
 - U-1 Fuel Cleaning Filters, Revision Date April 2, 2019
 - Powdex Resin, Revision Date November 7, 2018

Shipment Preparation (IP Section 02.04) (1 Sample)

No radioactive material shipments were available for observation during the inspection week.

- (1) The inspectors reviewed licensee procedures, walked through the shipment preparation processes with licensee staff, and reviewed training records in-lieu of direct observation of outgoing shipments.

Shipping Records (IP Section 02.05) (1 Sample)

The inspectors evaluated the following non-excepted package shipment records:

- (1) Shipping Records:
 - Radioactive Waste Shipment Number MNS 17-0015
 - Radioactive Waste Shipment Number MNS 17-0016
 - Radioactive Waste Shipment Number MNS 18-0014

- Radioactive Waste Shipment Number MNS 19-0003
- Radioactive Waste Shipment Number MNS 19-0013

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

EP01: Drill/Exercise Performance (IP Section 02.12) (1 Sample)

- (1) Drill & Exercise Performance for the period July 1, 2018, through June 30, 2019.

EP02: ERO Drill Participation (IP Section 02.13) (1 Sample)

- (1) Emergency Response Organization Drill Participation for the period July 1, 2018, through June 30, 2019.

EP03: Alert & Notification System Reliability (IP Section 02.14) (1 Sample)

- (1) Alert & Notification System Reliability for the period July 1, 2018, through June 30, 2019.

MS08: Heat Removal Systems (IP Section 02.07) (2 Samples)

- (1) Unit 1 (July 1, 2018–June 30, 2019)
- (2) Unit 2 (July 1, 2018–June 30, 2019)

MS09: Residual Heat Removal Systems (IP Section 02.08) (2 Samples)

- (1) Unit 1 (July 1, 2018–June 30, 2019)
- (2) Unit 2 (July 1, 2018–June 30, 2019)

MS10: Cooling Water Support Systems (IP Section 02.09) (2 Samples)

- (1) Unit 1 (July 1, 2018–June 30, 2019)
- (2) Unit 2 (July 1, 2018–June 30, 2019)

OR01: Occupational Exposure Control Effectiveness Sample (IP Section 02.15) (1 Sample)

- (1) October 2018 - June 2019

PR01: Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual Radiological Effluent Occurrences (RETS/ODCM) Radiological Effluent Occurrences Sample. (IP Section 02.16) (1 Sample)

- (1) October 2018 - June 2019

71152 - Problem Identification and Resolution

Annual Follow-up of Selected Issues (IP Section 02.03) (1 Sample)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issues:

- (1) NCR 2283998, Jumper placed on wrong terminals during valve stroke timing of 2RN-21A

71153 - Followup of Events and Notices of Enforcement Discretion

Event Report (IP Section 03.02) (1 Sample)

The inspectors evaluated the following licensee event reports (LERs):

- (1) LER 05000369/2019-001-00, Valid Actuation of the Unit 1 Reactor Protection System and Auxiliary Feedwater System (ADAMS accession: ML19183A173). The circumstances surrounding and the enforcement aspects of this LER are documented in Inspection Report 05000369/370/2019-002 Section 71153.

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

60855.1 - Operation of an Independent Spent Fuel Storage Installation at Operating Plants

Operation of an Independent Spent Fuel Storage Installation at Operating Plants (2 Samples)

- (1) The inspectors evaluated the licensee's independent spent fuel storage installation cask loadings for Magnastor cask 60. Specifically, the inspectors observed the following activities;
 - Fuel selection and fuel loading
 - Drying and backfill evolutions
 - Closure welding and non-destructive weld evaluations
 - Transfer and transport evolutions
 - Radiological field surveys
- (2) The inspectors evaluated the licensee's independent spent fuel storage installation cask loadings for Magnastor cask 50. Specifically, the inspectors observed the following activities;
 - Fuel selection and fuel loading
 - Heavy load movement of Transfer cask 50 and VCC 101
 - Drying and backfill evolutions
 - Closure welding and non-destructive weld evaluations
 - Transfer and transport evolutions
 - Radiological field surveys

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On October 3, 2019, the inspectors presented the integrated inspection results to Steve Snider and members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
60855.1	Procedures	MP/0/A/7650/227	(ISFSI)Loading Spent Fuel Assemblies Into MAGNASTOR Cask	
		MP/0/A/7700/131	MAGNASTOR Transportable Storage Canister Welding	
71111.04Q	Drawings	MCFD-1573-01.00	Unit 1 Flow Diagram of Component Cooling System	
		MCFD-1573-01.01	Unit 1 Flow Diagram of Component Cooling System	
		MCFD-2592-01.01	Unit 2 Flow Diagram of Auxiliary Feedwater System"	
71111.05Q	Drawings	MFSD-002/2A	Unit 1 Auxiliary Feedwater Pump Room	
		MFSD-003/3A	Unit 2 Auxiliary Feedwater Pump Room	
		MFSD-030	Unit 1 Exterior Doghouse	
		MFSD-031	Unit 2 Exterior Doghouse	
	Fire Plans	CSD-MNS-PFP-AB-0716-001	Auxiliary Building Elevation 716 Pre-Fire Plan	
	Miscellaneous	MCC-1435.00-00-0059	NFPA 805 – Appendix R Safe Shutdown Deterministic Analysis	
		MCS-1465.00-00-0008	Design Basis Specification for Fire Protection	
		MCS-1465.00-00-0022	Appendix R Safe Shutdown Analysis	
	Procedures	AD-EG-ALL-1520	Transient Combustible Control	
		AD-EG-ALL-1520	Transient Combustible Control	
71111.11Q	Procedures	AD-OP-ALL-1000	Conduct of Operations	
		NSD 509	Site Standards in Support of Operational Focus	
		OMP 4.3	Use of Emergency and Abnormal Procedures and FLEX Support Guidelines	
		PT/1/A/4350/002 B	Diesel Generator 1B Operability Test	
		SOMP 01-07	Control Room Oversight	
		SRT-115	Multiple Malfunction Event Prioritization	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.12	Miscellaneous Procedures	AD-EG-ALL-1204	Duke Equipment Reliability Maintenance Rule Database Single Point Vulnerability Identification, Elimination and Mitigation	
		AD-EG-ALL-1206	Equipment Reliability Classification	
		AD-EG-ALL-1209	System, Component, and Program Health Reports and Notebooks	
		AD-EG-ALL-1210	Maintenance Rule Program	
		AD-EG-ALL-1211	System Performance Monitoring and Trending	
71111.13	Procedures	AD-OP-ALL-0201	Protected Equipment	
		NSD-213	Risk Management Process	
		NSD-415	Operational Risk Management (Modes 1–3) per 10 CFR 50.65(a)(4)	
		OMP 13-7	Operational Control of Protected Equipment	
		SOMP 02-02	Operations Roles in the Risk Management Process	
71111.15	Calculations	MCC-1210.04-00-0001	D/G Fuel Oil Day Tank Level Setpoint/Uncertainty Calculation for Instrument Loops 1/2FDLP5040 and 1/2FDLP5050	
	Procedures	AD-OP-ALL-0102	Operability Decision Making	
		AD-OP-ALL-0105	Operability Determinations and Functionality Assessment	
71111.18	Engineering Changes	EC 413679	Temporary Modification Remove Actuator and Yoke from 2CF-9 and Install Gag to Hold Valve Open	
	Miscellaneous		10 CFR 50.59 Screen for EC 413679 (NCR 2233946)	
71111.19	Procedures	AD-EG-ALL-1155	Post Modification Testing	
		NSD-408	Testing	
		OP/0/A/6450/011	Control Area Ventilation/Chilled Water System	
		PT/1/A/4350/002 A	Diesel Generator 1A Operability Test	
		PT/1/A/4350/002 B	Diesel Generator 1B Operability Test	
		PT/1/A/4450/003 I	Train B VE System Performance Test	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		PT/2/A/4208/001 A	2A NS Performance Test	
71111.22	Corrective Action Documents		NCR 02289575	
	Procedures	AD-EG-ALL-1202	Preventive Maintenance and Surveillance Testing Administration	
		AD-EG-ALL-1720	In-service Testing (IST) Program Implementation	
		AD-WC-ALL-0250	Work Implementation and Completion	
		PT/0/A/4200/002	Standby Shutdown Facility Operability Test	Rev. 067
71124.06	Corrective Action Documents	02131230, 02143314, 02111243, 02174494		
71124.07	Corrective Action Documents	AR 02150492, AR 02180533, AR 02188534, AR 0234015, AR 02170136, AR 02153679, AR 02153681, AR 02171905, AR 02174500, AR 0218997, AR 02276956, AR 02208670, AR 02214586, AR 02248598, and AR 02283264		
71124.08	Corrective Action Documents	AR 02190160, AR 02272944, AR 02139923, AR 02254983, and AR 02198767		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Corrective Action Documents Resulting from Inspection	NCR 02283766	Evaluation should be performed to determine if the Auxiliary Floor Drain Tank and Auxiliary Waste Evaporator Feed Tank located in the Interim Radwaste Facility should be included in some inspection program.	07/26/2019
	Miscellaneous		McGuire Nuclear Station Units 1 and 2 Annual Radioactive Effluent Release Report, January 1, 2018 through December 31, 2018	
			McGuire Nuclear Station Units 1 and 2 Annual Radioactive Effluent Release Report, January 1, 2017 through December 31, 2017	04/25/2018
			Radioactive Waste Process Control Program, Duke Energy Carolinas (DEC) Corporate PCP	Revision 16
			UFSAR Change Summary Number 18-17, Revise the level of detail included in UFSAR for WL/WM system filters	11/01/2018
			10 CFR 61 Station Report for McGuire Nuclear Plant	02/14/2019
		Certificate Number 9168	Certificate of Compliance (CoC) for Radioactive Material Packages, package Model No. 8-1208, Revision 24.	12/01/2017
	Radiation Surveys	Radiation Survey # MNS-M-20170512-9	Radioactive Shipping Record # MNS 17-0015, 8-120B Shipping Cask	05/12/2017
		Radiation Survey # MNS-M-20170519-9	RP Shipment Record # MNS 17-0016, 8-120B Shipping Cask	05/19/2017
		Radiation Survey # MNS-M-20190606-6	RP Shipment Record # MNS 19-0013, 8-120B Shipping Cask	06/06/2019
71151	Procedures	AD-LS-ALL-0004	NRC Performance Indicators and Monthly Operating Report	
		AD-PI-ALL-0100	Corrective Action Program	
71152	Procedures	AD-LS-ALL-0006	Notification/Reportability Evaluation	
		AD-PI-ALL-0100	Corrective Action Program	
		AD-PI-ALL-0104	Prompt Investigation Response Team	
		AD-PI-ALL-0105	Effectiveness Reviews	
		AD-PI-ALL-0106	Cause Evaluation Checklists for NCR 2283998	
71153	Miscellaneous	LER	Valid Actuation of the Unit 1 Reactor Protection System and	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		05000369/2019-01-00	the Auxiliary Feedwater System	
	Procedures	AD-PI-ALL-0106	Cause Evaluation Checklists for NCR 2271181	
		AD-PI-ALL-0106	Cause Evaluation Checklists for NCR 2271819	