



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

August 3, 2020

Mr. Tom Simril
Site Vice President
Duke Energy Carolinas, LLC
4800 Concord Road
York, SC 29745-9635

SUBJECT: CATAWBA NUCLEAR STATION – INTEGRATED INSPECTION REPORT
05000413/2020002, 05000414/2020002 AND 07200045/2020001

Dear Mr. Simril:

On June 30, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Catawba Nuclear Station. On July 28, 2020, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

One finding of very low safety significance (Green) is documented in this report. This finding did not involve a violation of NRC requirements.

If you disagree with a cross-cutting aspect assignment or a finding not associated with a regulatory requirement in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region II; and the NRC Resident Inspector at Catawba Nuclear Station.

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 Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

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

T. Simril

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Docket Nos. 05000413, 05000414, AND 07200045
License Nos. NPF-35 and NPF-52

Enclosure:
As stated

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SUBJECT: CATAWBA NUCLEAR STATION – INTEGRATED INSPECTION REPORT
05000413/2020002, 05000414/2020002, AND 07200045/2020001 Dated August
3, 2020

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ADAMS ACCESSION NUMBER:ML20216A528

OFFICE	RIIDRP	RIIDRP	RIIDRP	RIIDRP
NAME	J. Austin	C. Scott	J. Worosilo	F. Ehrhardt
DATE	8/03/20	7/30/20	8/03/20	8/3/20

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**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Numbers: 05000413,05000414, 07200045

License Numbers: NPF-35 and NPF-52

Report Numbers: 05000413/2020002, 05000414/2020002, and 07200045/2020001

Enterprise Identifier: I-2020-002-0053, I-2020-001-0115

Licensee: Duke Energy Carolinas, LLC

Facility: Catawba Nuclear Station

Location: York, SC

Inspection Dates: April 01, 2020 to June 30, 2020

Inspectors: J. Austin, Senior Resident Inspector
B. Collins, Senior Reactor Inspector
J. Diaz-Velez, Senior Health Physicist
C. Dykes, Health Physicist
C. Fontana, Emergency Preparedness Inspector
S. Sanchez, Senior Emergency Preparedness Insp
C. Scott, Resident 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 Catawba 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

Inadequate Preventive Maintenance on Main Generator Exciter Brushes Results in Turbine Trip and Reactor Scram			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Initiating Events	Green FIN 05000413/2020002-01 Open/Closed	[H.1] - Resources	71152
A self-revealed finding of very low safety significance (Green) was identified for the licensee's failure to perform adequate preventive maintenance (PM) on the main generator exciter brushes, which led to brush failures, loss of generator field excitation, generator lockout, and a reactor trip. No violation of regulatory requirements was identified.			

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000413/2020-001-01	LER 2020-001-01 for Catawba Nuclear Station, Unit 1, Valid Actuation of the Unit 1 Reactor Protection System and Auxiliary Feedwater System	71153	Closed
LER	05000413/2020-001-00	LER 2020-001-00 for Catawba Nuclear Station, Unit 1, Valid Actuation of the Unit 1 Reactor Protection System and Auxiliary Feedwater System	71153	Closed

PLANT STATUS

Unit 1 began the inspection period at full power until a refueling outage which began on May 2, 2020. Unit 1 returned to 100 percent rated thermal power (RTP) on June 4, 2020 and remained at full power through the end of the 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 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.

Starting on March 20, 2020, in response to the National Emergency declared by the President of the United States on the public health risks of the coronavirus (COVID-19), resident inspectors were directed to begin telework and to remotely access licensee information using available technology. During this time the resident inspectors performed periodic site visits each week and during that time conducted plant status activities as described in IMC 2515, Appendix D; observed risk significant activities; and completed on site portions of IPs. In addition, resident and regional baseline inspections were evaluated to determine if all or portion of the objectives and requirements stated in the IP could be performed remotely. If the inspections could be performed remotely, they were conducted per the applicable IP. In some cases, portions of an IP were completed remotely and on site. The inspections documented below met the objectives and requirements for completion of the IP.

REACTOR SAFETY

71111.01 - Adverse Weather Protection

Seasonal Extreme Weather Sample (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of seasonal hot temperatures for the following systems:
 1. Unit 1 and Unit 2 service water pumphouse
 2. Unit 1 diesel generators

Impending Severe Weather Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated the adequacy of the overall preparations to protect risk-significant systems from impending severe weather (severe thunderstorm and high winds), on April 9, 2020

71111.04 - 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) Safe shutdown facility (SSF) on April 2, 2020
- (2) Station blackout (SBO) switchgear on April 2, 2020
- (3) Unit 2 main steam line components in U-2 outside doghouse

Complete Walkdown Sample (IP Section 03.02) (1 Sample)

- (1) 1B emergency diesel generator (EDG) on June 6, 2020.

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (3 Samples)

The inspectors evaluated the implementation of the fire protection program by conducting a walkdown and performing a review to verify program compliance, equipment functionality, material condition, and operational readiness of the following fire areas:

- (1) Unit 1A EDG, fire area 25 on April 29, 2020
- (2) Unit 1 exterior doghouse, fire area 51, on May 6, 2020
- (3) Unit 1 turbine building, elevation 594, fire area TB1, on May 13, 2020

71111.08P - Inservice Inspection Activities (PWR)

PWR Inservice Inspection Activities Sample (IP Section 03.01) (1 Sample)

The inspectors evaluated pressurized water reactor non-destructive testing by reviewing the following examinations from May 5 - 8, 2020:

- (1) 03.01.a - Nondestructive Examination and Welding Activities.
 1. Ultrasonic Examination (UT)
 - a. 2" reactor coolant system elbow-to-pipe weld (1NC88-5), ASME Class 1 (reviewed)
 - b. 1.5" reactor coolant system pipe-to-pipe weld (1NC43-11), ASME Class 1 (reviewed)
 - c. 10" reactor coolant system pipe-to-pipe weld (1NI-149-6), ASME Class 1 (reviewed)
 2. Liquid Penetrant Examination (PT)
 - a. 2" auxiliary feedwater system valve bonnet seal (1CA-192), ASME Class 2 (reviewed, including weld documentation)
 - b. 6" chemical volume control system valve bonnet seal (1NV-38), ASME Class 2 (reviewed, including weld documentation)

The inspectors reviewed the licensee's boric acid corrosion control program performance.

The inspectors reviewed the licensee's justification for skip-cycle approach on steam generator ISI activities.

71111.11Q - Licensed Operator Requalification 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 surveillance testing and plant maintenance on June 22, 2020.

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

- (1) The inspectors observed and evaluated a simulator examination with a loss of component cooling, main turbine runback, tornado touchdown in the switchyard and emergency action level classification on June 30, 2020.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (1 Sample)

The inspectors evaluated the effectiveness of maintenance to ensure the following structures, systems, and components (SSCs) remain capable of performing their intended function:

- (1) Condition Report (CR) 2324532 Feedwater heater level control valve failed closed on April 9, 2020

71111.13 - Maintenance Risk Assessments and Emergent Work Control

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

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed:

- (1) Protected equipment plan with 2A EDG out of service (OOS) for maintenance on April 7, 2020
- (2) CR 2017968 Turbine supervisory instrument high temperature on April 10, 2020
- (3) Protected Equipment Plan with 1A EDG OOS (emergency supplemental power supply and 1A and 1B service water (RN) pump) on April 14, 2020
- (4) Unit 1 refueling outage number 25 risk assessment on April 21, 2020

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (4 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

- (1) CR 2321493 A and B pressurizer heater bank capacity on April 1, 2020

- (2) CR 02324177 1B containment spray (NS) pump suction pressure on gauge 1NSPG5110 on April 7, 2020
- (3) CR 2324423 Evaluation of incore low resistance on April 9, 2020
- (4) CR 2333322 1A EDG time to reach and remain at rated frequency/voltage on June 3, 2020

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) EC 415595, 1ND2A and 1ND37A, Valve pressure equalization lines on June 2, 2020

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (3 Samples)

The inspectors evaluated the following post maintenance test activities to verify system operability and functionality:

- (1) Functional testing of the 1A EDG following preventive maintenance on the voltage regulator on April 14, 2020
- (2) Functional test on the 2B1 component cooling water pump following corrective maintenance on April 20, 2020
- (3) Replace 1B EDG lube oil pressure transmitter (1LDPT-5174) on June 13, 2020

71111.20 - Refueling and Other Outage Activities

Refueling/Other Outage Sample (IP Section 03.01) (1 Partial)

- (1) The inspectors evaluated refueling outage 1R25 activities from May 2, 2020 to June 4, 2020.

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (2 Samples)

- (1) PT 1/A/4600/002A, Mode 1 periodic surveillance requirements on April 6 and 7, 2020
- (2) PT 2/A/4200/04B 2A, Containment spray pump performance test on April 17, 2020

Inservice Testing (IP Section 03.01) (1 Sample)

- (1) PT 2/A/4200/026, Containment spray valve in-service test (2NS-32A and 29A) on April 17, 2020

RCS Leakage Detection Testing (IP Section 03.01) (1 Sample)

- (1) PT/1/A/4150/001 D, Reactor coolant system (NC) System Leakage Calculation on June 24, 2020

Containment Isolation Valve Testing (IP Section 03.01) (1 Sample)

- (1) PT/1/A/4200/001 C, As Left Containment Isolation Valve Leak Rate Test on May 23, 2020

Ice Condenser Testing (IP Section 03.01) (1 Sample)

- (1) PT/1/A/4200/014 B, Ice Condenser Top Deck Door Inspection on May 28, 2020

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 April 6, 2020. This evaluation does not constitute NRC approval.

71114.06 - Drill Evaluation

Select Emergency Preparedness Drills and/or Training for Observation (IP Section 03.01) (1 Sample)

- (1) On June 24, 2020, the inspector observed a table top emergency drill which involved a control room evacuation because of fire, followed by the loss of the turbine driven auxiliary feedwater pump and subsequent loss of decay heat removal.

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 original date of the exercise.

RADIATION SAFETY

71124.05 - Radiation Monitoring Instrumentation

Calibration and Testing Program (IP Section 03.02) (10 Samples)

- (1) 1EMF-53A: Containment High Range Monitor; Hang source to verify detector operation (General Atomic Model RD-23 detector), 12/01/2018 WO 20189302 02; 05/09/2017 WO 20093197 02
- (2) Whole body counter Fastscan1 07/02/19, 08/27/2018, AD-RP-ALLI-7007, APEX INVIVO WHOLE BODY COUNTER CALIBRATION

- (3) CANBERRA Cronos-4 RW Processing Facility 04/14/2020 1411-252-CR0400G Enrad ID 12760
- (4) CANBERRA Cronos-4; SPA Elv 574; XPv4r13; v8.05 Serial # 1312-319 Calibration, 12/18/19
- (5) CANBERRA Gem-5 Security Exit Serial # 1908-184-GE0500G Calibration, EnRad ID 13267, 11/9/19
- (6) CANBERRA ARGOS-5ABZ; RW Processing Facility 04/14/20 1611-271-AR050AB, EnRad 12801
- (7) CANBERRA ARGOS-5AB; SPA Elev 574, Serial # 1510-184-AR050AB, EnRad ID 12885, 12/17/19
- (8) Calibration of CANBERRA Apex Gamma Spectroscopy System: RA 01300003, DET01, 11/19/19; 3500MLL, CHAR3, PART3, 4600CCG0, 1LLM0; 11/2/12; 1LLM0, 3500MLL0, PART3, CHAR3, 4600CCG0
- (9) Calibration of PerkinElmer TriCarb 2900 TR Series Liquid Scintillation Counter RA/0/1300/011, ID #LS-1301, 08/08/19
- (10) 2EMF-53A: Containment High Range Monitor; Hang source to verify detector operation (General Atomic Model RD-23 detector), 04/19/2018 WO 20178491 04; 09/29/19 WO 20291412 04

Effluent Monitoring Calibration and Testing Program Sample (IP Sample 03.03) (2 Samples)

The inspectors evaluated the calibration and maintenance of the following radioactive effluent monitoring and measurement instrumentation:

- (1) EMF41 Auxiliary Building Vent Gas Monitor Channel Calibration, 07/09/17 WO20102009-01; 03/04/19 WO20238189-01
- (2) 0EMF57 Monitor Tank Building, Liquid Radiation Monitor Channel Calibration, 05/29/2018 WO20185587-07 ; 07/26/2016 WO 20022365-01

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

MS06: Emergency AC Power Systems (IP Section 02.05) (2 Samples)

- (1) Unit 1 submittals listed for the period from April 1, 2019, through March 31, 2020.
- (2) Unit 2 submittals listed for the period from April 1, 2019, through March 31, 2020.

MS07: High Pressure Injection Systems (IP Section 02.06) (2 Samples)

- (1) Unit 1 submittals listed for the period from April 1, 2019, through March 31, 2020.
- (2) Unit 2 submittals listed for the period from April 1, 2019, through March 31, 2020.

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

- (1) Unit 1 submittals listed for the period from April 1, 2019, through March 31, 2020.
- (2) Unit 2 submittals listed for the period from April 1, 2019, through March 31, 2020.

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

- (1) September 2019 - January 2020

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) September 2019 - January 2020

71152 - Problem Identification and Resolution

Semiannual Trend Review (IP Section 02.02) (1 Sample)

- (1) The inspectors reviewed the licensee's corrective action program for potential adverse trends in the area of equipment reliability that might be indicative of a more significant safety issue.

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) CR 2315936 Unit 1 Reactor Trip – Zone G Lockout

71153 - Followup of Events and Notices of Enforcement Discretion

Event Report (IP Section 03.02) (2 Samples)

The inspectors evaluated the following licensee event reports (LERs) which can be accessed at <https://lersearch.inl.gov/LERSearchCriteria.aspx>:

- (1) LER 413/2020-001-00 for Catawba Nuclear Station, Unit 1, Valid Actuation of the Unit 1 Reactor Protection System and Auxiliary Feedwater System. The circumstances surrounding this LER are documented as FIN 05000413/2020002-01 in the table below.
- (2) LER 413/2020-001-01 for Catawba Nuclear Station, Unit 1, Valid Actuation of the Unit 1 Reactor Protection System and Auxiliary Feedwater System. The circumstances surrounding this LER are documented as FIN 05000413/2020002-01 in the table below.

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 (1 Sample)

- (1) The inspectors evaluated the licensee's activities related to long-term operation and monitoring of their independent spent fuel storage installation on June 30, 2020.

INSPECTION RESULTS

Inadequate Preventive Maintenance on Main Generator Exciter Brushes Results in Turbine Trip and Reactor Scram			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Initiating Events	Green FIN 05000413/2020002-01 Open/Closed	[H.1] - Resources	71152
<p>A self-revealed finding of very low safety significance (Green) was identified for the licensee's failure to perform adequate preventive maintenance (PM) on the main generator exciter brushes, which led to brush failures, loss of generator field excitation, generator lockout, and a reactor trip. No violation of regulatory requirements was identified.</p> <p><u>Description:</u> On February 12, 2020, with the unit at 100 percent power, Catawba Unit 1 received a generator lockout signal due to the loss of excitation to the main generator. This resulted in a turbine trip that caused an automatic reactor trip. The reactor tripped without complications and the operating crew performed as expected. The generator lockout signal was a result of degraded Alterex brushes that were no longer able to supply excitation to the main generator field. Sustained electrical arcing between the degraded exciter brushes and the collector plate resulted in a flashover event. This caused damage to the brushes, brush holders, housing, and collector ring. After the event, the licensee repaired the Unit 1 exciter, and returned the unit to 100 percent power on February 17, 2020.</p> <p>The licensee's cause analysis determined that the degraded exciter brushes were the result of an ineffective single point vulnerability preventive maintenance strategy for the exciter brushes. Preventive maintenance on the exciter brushes failed to detect and replace the main generator's exciter brushes prior to having the brushes degrade below an acceptable length. One deficiency in the overall PM strategy was the use of a work order instead of a technical procedure to perform PMs on the exciter brushes. The last two inspections prior to the event were performed on February 3, 2020 and January 20, 2020, and the results of both inspections were satisfactory. The licensee determined that the work order instructions did not have acceptance criteria with appropriate qualitative and quantitative criteria to ensure the biweekly brush inspection would identify and correct deficiencies. Procedure AD-DC-ALL-0201 "Development and Maintenance of Controlled Procedure Manual Procedures", requires a technical procedure, if the activity has the potential to cause a unit transient or impact generation, and the maintenance activity is performed while the component is in service. Exciter brush replacement activities meet this definition and would have required a technical procedure which would have increased the rigor of the inspection and replacement activity.</p> <p>Corrective Actions: The licensee created corrective actions to establish an overall PM strategy per a procedure for the Catawba exciter brush inspection and replacements.</p> <p>Corrective Action References: 2315936</p> <p><u>Performance Assessment:</u></p> <p>Performance Deficiency: The inspectors determined that the failure to perform effective preventative maintenance on the main generator exciter brushes, which resulted in a reactor trip, was a performance deficiency. Specifically, the licensee performed PMs for the exciter</p>			

brushes per work order instructions instead of a technical procedure as required by AD-DC-ALL-0201 "Development and Maintenance of Controlled Procedure Manual Procedures."

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Equipment Performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, because the instructions didn't have acceptance criteria with appropriate qualitative and quantitative criteria for exciter brush replacement, the PMs on the exciter brushes failed to detect and replace the main generator's exciter brushes prior to having the brushes degrade below an acceptable length, resulting in exciter arching, loss of the generator and reactor trip.

Significance: The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors determined that this finding was a licensee performance deficiency of very low safety significance (Green) because although the finding did cause a reactor trip (scram), it did not cause the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition.

Cross-Cutting Aspect: H.1 - Resources: Leaders ensure that personnel, equipment, procedures, and other resources are available and adequate to support nuclear safety. The inspectors determined this performance deficiency had a cross-cutting aspect in the resources component of the human performance area, because the licensee failed to ensure that the preventive maintenance work instructions had the appropriate qualitative and quantitative acceptance criteria to ensure the biweekly brush inspections would identify and correct deficiencies.

Enforcement: Inspectors did not identify a violation of regulatory requirements associated with this finding.

EXIT MEETINGS AND DEBRIEFS

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

- On July 28, 2020, the inspectors presented the integrated inspection results to Tom Simril and other members of the licensee staff.
- On May 7, 2020, the inspectors presented the Unit 1 ISI Inspection Exit Meeting inspection results to Mr. Tom Simril, Site Vice President and other members of the licensee staff.
- On May 20, 2020, the inspectors presented the Emergency Preparedness Exercise Inspection inspection results to Mr. T. Simril and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
60855.1	Procedures	PT/0/A/4600/031	ISFSI Cask Surveillance	
71111.01	Procedures	PT/0/B/4700/039	Hot Weather Protection	
71111.04	Procedures	OP/0/B/6350/011	OP/0/B/6350/011, Standby Shutdown Facility Diesel Operations	
		OP/1/A/6350/002	OP/1/A/6350/002, Diesel Generator Operation	
		RP/0/B/5000/030	Severe Weather Preparations	
71111.05	Fire Plans	CSD-CNS-PFP-DG1-0556-001	Diesel Generator Building Elevation 556 Pre-Fire Plan	
		CSD-CNS-PFP-EDH1-0000-001	CSD-CNS-PFP-EDH1-0000-001, Unit 1 Exterior Doghouse Elevation 577, 594, 619 & 634 & Unit 1 Upper Head Injection Tank Building Elevation 550, 577 & 594 Pre-Fire Plan	
		CSD-CNS-PFP-TB2-0594-001	Unit 2 Turbine Building Elevation 594 pre-fire plan	
71111.08P	Corrective Action Documents	AR02295850	Boric Acid Evaluation for 2KF-149	12/03/2019
		AR02300809	Boric Acid Evaluation for Threaded Connection on 1-KF-PU-SKM	11/06/2019
		AR02308064	Boric Acid Evaluation for Fitting Downstream of 2NVLT8790	12/18/2019
		AR02330052	Reactor Vessel Head Penetration #18 PT Indication	05/12/2020
	Miscellaneous		Duke Energy Certificate of Method Qualification: PT II-N (McNeal)	1/30/19
			Duke Energy Visual Acuity Record (McNeal)	2-26-18
			Magnaflux Certificate of Certification: Spotcheck Developer SKD-S2 (14C06K)	3/21/14
			Magnaflux Certificate of Certification: Spotcheck Penetrant SKL-SP2 (11H06K)	8/24/11
			Duke Energy Corporation Weld Record (1CA-192 bonnet seal)	11-25-18
			Record of Welder Performance Qualification Test (Irizarry)	03/03/2014
	Duke Energy Corporation Weld Record (1NV-38 bonnet seal)	11-25-18		
	Laboratory Testing Inc. Certification: Ultragel II-12125 Couplant	1/25/2012		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Sonic Systems International, Inc. Vision Acuity Record (Schmalz)	09/06/2019
			Sonic Systems International, Inc. Certificate of Qualification: UT II-PDI (Tauchen)	2019/12/19
			Sonic Systems International, Inc. Vision Acuity Record (Tauchen)	09/12/2019
			Duke Energy Certificate of Method Qualification: UT II-N (Manley)	1/24/2018
			Duke Energy Visual Acuity Record (Manley)	10-29-19
			Record of Welder Performance Qualification Test (Stevenson)	11/14/2014
			Flawtech Certificate of Conformance: Calibration Standard (50202-2)	06/02/2017
			Sonic Systems International, Inc. Certificate of Qualification: UT II-PDI (Schmalz)	2019.12.19
		689041	Standards Laboratory Instrument Certification: IR Thermometer (G504847)	7/1/2019
		GTOO0808-04	Welding Procedure Specification	11/18/2009
		GTSM0101-01	Duke Energy Welding Procedure Specification	Rev. 10
		L-102E	Procedure Qualification Record	9/18/98
		L-104	Procedure Qualification Record	9/25/75
		L-110D	Procedure Qualification Record	January 3, 1991
		L-133	Procedure Qualification Record	7/9/75
		L-138	Procedure Qualification Record	10/29/74
		L-146D	Procedure Qualification Record	6/11/97
		L-148C	Procedure Qualification Record	4/13/88
		L-193A-DEP	Procedure Qualification Record	11/10/93
		NDE Reports		Liquid Penetrant Examination Report: WO02194289-12 (1CA-192 bonnet seal)
		180-9313224-000	Framatome NDE Services Final Report: Catawba C1R25 Refueling Outage Remote Visual Examination of Reactor Vessel Closure Head Auxiliary Head Adapter Penetrations including Thermal Sleeve Inspections	Rev. 000 (draft)

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		UT-20-004	UT Calibration/Examination Record (1NC43-11)	5/6/2020
		UT-20-006	UT Calibration/Examination Record (1NC88-5)	5/5/2020
	Procedures	NDE-NE-ALL-6101	Ultrasonic Examination of Small Bore Piping Welds and Base Materials for Thermal Fatigue Damage	Rev. 002
	NDE-NE-ALL-6102	Utilization of PDI-UT-2 Generic Procedure for the Ultrasonic Examination of Austenitic Pipe Welds	Rev. 002	
	NDE-NE-ALL-6403	Straight Beam Ultrasonic Examination	Rev. 000	
71111.20	Procedures	PT/0/A/4200/002	Containment Cleanliness Inspection	
		PT/0/A/4200/002	Containment Cleanliness Inspection	
		PT/0/A/4200/086	Ice Bed Analysis Periodic Test	
		PT/1/A/4200/009	Engineering Safety Features Actuation Test	
71124.05	Miscellaneous		Radiochemistry Cross Check, 4th Quarter Catawba 2019	06 Mar 2019, 23 Apr 2020
			Radiochemistry Cross Check, 4th Quarter Catawba 2018	
71151	Miscellaneous	AD-RP-ALL-1101	PERFORMANCE INDICATORS (PI) FOR THE OCCUPATIONAL AND PUBLIC RADIATION SAFETY CORNERSTONES	10/20/2019-02/03/2020