



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

February 4, 2021

Mr. J. Ed Burchfield
Site Vice President
Duke Energy Carolinas, LLC
7800 Rochester Highway
Seneca, SC 29672-0752

SUBJECT: OCONEE NUCLEAR STATION – INTEGRATED INSPECTION REPORT
05000269/2020004 AND 05000270/2020004 AND 05000287/2020004

Dear Mr. Burchfield:

On December 31, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Oconee Nuclear Station. On January 21, 2021, 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.

No NRC-identified or self-revealing findings were identified during this inspection.

A licensee-identified violation which was determined to be of very low safety significance is documented in this report. We are treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violation or the significance or severity of the violation documented in this inspection report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement; and the NRC Resident Inspector at Oconee 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/

Margaret C. Tobin, Acting Chief
Reactor Projects Branch 1
Division of Reactor Projects

Docket Nos. 05000269, 05000270, and 05000287
License Nos. DPR-38, DPR-47, and DPR-55

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV

SUBJECT: OCONEE NUCLEAR STATION – INTEGRATED INSPECTION REPORT
05000269/2020004 AND 05000270/2020004 AND 05000287/2020004 dated
February 4, 2021

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ADAMS ACCESSION NUMBER: **ML 21036A001**

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OFFICE	RII: DRP	RII: DRP	RII: DRP	RII: DRP	RII: DRP
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DATE	2/3/2021	2/3/2021	2/2/2021	2/3/2021	2/4/2021

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Numbers: 05000269, 05000270, and 05000287

License Numbers: DPR-38, DPR-47, and DPR-55

Report Numbers: 05000269/2020004, 05000270/2020004, and 05000287/2020004

Enterprise Identifier: I-2020-004-0050

Licensee: Duke Energy Carolinas, LLC

Facility: Oconee Nuclear Station

Location: Seneca, South Carolina

Inspection Dates: October 01, 2020 to December 31, 2020

Inspectors: J. Nadel, Senior Resident Inspector
J. Parent, Resident Inspector
A. Ruh, Resident Inspector
S. Bussey, Sr. Reactor Technology Instructor
B. Collins, Senior Reactor Inspector
P. Cooper, Senior Reactor Inspector
C. Dykes, Senior Health Physicist
M. Meeks, Senior Operations Engineer
J. Rivera, Health Physicist

Approved By: Margaret C. Tobin, Acting 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 Oconee 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. A licensee-identified non-cited violation is documented in report section: 71111.20.

List of Findings and Violations

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

Additional Tracking Items

None.

PLANT STATUS

Unit 1 began the inspection period at 100 percent rated thermal power (RTP). On October 17, 2020, the unit was shut down for a planned refueling outage. The unit was returned to 100 percent RTP on November 8, 2020 and remained at this power level for the remainder of the inspection period.

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

Unit 3 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 Disease 2019 (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; conducted plant status activities as described in IMC 2515, Appendix D, "Plant Status"; 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 portions 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

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 from tropical storm Zeta on October 29, 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) Emergency operating procedure Enclosure 5.42 and 5.43 portable pump train during turbine building heavy lifts on October 8, 2020
- (2) Turbine driven emergency feedwater trains on Units 1, 2, and 3 on December 8, 2020
- (3) 3B motor driven emergency feedwater (MDEFW) pump train due to planned testing of the 3A MDEFW pump via PT/3/A/0600/013 on December 17, 2020

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (5 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) Fire Zone 34: Unit 1 4160V TC, TD, TE switchgear on October 18, 2020
- (2) Fire Zone 29: Unit 3 4160V TC, TD, TE switchgear on October 29, 2020
- (3) Fire Zone 103: Unit 2 east penetration room on November 5, 2020
- (4) Fire Zone RB01: Unit 1 containment on November 13, 2020
- (5) Fire Zone CR12: Unit 1 and 2 control room on November 23, 2020

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 03.01) (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the:

- (1) Auxiliary building during 1A low pressure service water (LPSW) system breach for 1LPSW-1111 check valve replacement

71111.08P - Inservice Inspection Activities (PWR)

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

The inspectors evaluated pressurized water reactor nondestructive testing by reviewing the following examinations from October 19 - 26, 2020:

- (1) 03.01.a - Nondestructive Examination and Welding Activities.
 1. Ultrasonic Examination (UT)
 - a. 1-RC-261-266, Drain Safe End to Elbow, ASME Class1, Work Order (WO) 20337024
 - b. 1-RC-261-267, Drain Elbow to Pipe, ASME Class 1, WO 20337024
 - c. 1-RC-261-Elbow, Drain Elbow Base Metal, ASME Class 1, WO 20337024
 2. Liquid Penetrant Examination (PT)
 - a. 1-RC-0337-1, 2.5" Reactor Coolant System elbow weld, ASME Class 2, WO 20346701

03.01.b - Pressurized-Water Reactor Vessel Upper Head Penetration Examination Activities.

1. Visual Examination (VT-2)

- a. NDE-NE-ALL-7202, PWR Reactor Pressure Vessel Upper Head Penetrations, Rev. 4, ASME Class 1

03.01.c – Pressurized-Water Reactor Boric Acid Corrosion Control Activities.

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

03.01.d – Pressurized-Water Reactor Steam Generator Tube Examination Activities.

- 1. Eddy Current Testing (ECT)
 - a. SG A, tubes R11C22, R140C49, and R75C116, ASME Class 1 (observed via video)
 - b. SG B, tubes R78C18 and R70C124, ASME Class 1 (observed via video)

71111.11A - Licensed Operator Qualification Program and Licensed Operator Performance

Qualification Examination Results (IP Section 03.03) (1 Sample)

- (1) On March 27, 2020, the licensee completed the annual qualification operating examinations required to be administered to all licensed operators in accordance with Title 10 of the Code of Federal Regulations 55.59(a)(2), "Qualification Requirements," of the NRC's "Operator's Licenses." During the week of December 21, 2020, the inspectors performed an in-office review of the overall pass/fail results of the individual operating examinations and the crew simulator operating examinations in accordance with Inspection Procedure (IP) 71111.11, "Licensed Operator Qualification Program." These results were compared to the thresholds established in Section 3.02, "Qualification Examination Results," of IP 71111.11.

71111.11Q - Licensed Operator Qualification 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 Unit 1 shutdown on October 16, 2020.

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

- (1) The inspectors observed and evaluated Just in Time Training (JITT) for a planned Unit 1 shutdown on October 13, 2020.

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (3 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) Green risk during turbine building heavy lifts and compensatory measures on October 8, 2020

- (2) Yellow risk during Unit 1 refueling outage high risk plant operating state (HRPOS) on October 19, 2020
- (3) Green risk during planned safe shutdown facility fire penetration breaches and 3A low pressure injection pump testing on December 23, 2020

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (3 Samples)

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

- (1) Engineering evaluations for nuclear condition report (NCR) 2353911, blown fuse found in cubicle for breaker 1XSF-F3B for standby shutdown facility and auxiliary shutdown panel bank 'B' pressurizer heaters
- (2) Engineering evaluation for NCR 2351598, U3 RC-219 failed fuse during the performance of PT/3/A/0115/008
- (3) Operability determination for NCR 2357910, 1A motor driven emergency feedwater pump after operation at deadhead conditions for 40 minutes due to a failed minimum flow valve

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (4 Samples)

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

- (1) PT/1/A/0152/011, "High Pressure Injection System Valve Stroke Test," after preventive maintenance on 1HP-24 motor operated valve, WO 20376841
- (2) PT/1/A/0230/015, "High Pressure Injection Motor Cooler Performance Test," after repair of broken stem of 1LPSW-149, WO 20432659
- (3) PT/1/A/0251/024, "HPI Full Flow Test," after replacement of the 1A high pressure injection pump motor, WO 20319772
- (4) PT/1/A/0152/015, "Main Steam System Valve Stroke Test," after preventive maintenance on 1MS-93 air operated valve, WO 20225916

71111.20 - Refueling and Other Outage Activities

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

- (1) The inspectors evaluated refueling outage U1R31 activities from October 17, 2020 to November 12, 2020.

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

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

- (1) PT/1/A/0151/012 B, "Penetration 12B and 12C Leak Rate Test" on November 12, 2020

RADIATION SAFETY

71124.01 - Radiological Hazard Assessment and Exposure Controls

Radiological Hazard Assessment (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated how the licensee identifies the magnitude and extent of radiation levels and the concentrations and quantities of radioactive materials and how the licensee assesses radiological hazards.

Instructions to Workers (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated radiological protection-related instructions to plant workers.

Contamination and Radioactive Material Control (IP Section 03.03) (2 Samples)

The inspectors evaluated licensee processes for monitoring and controlling contamination and radioactive material.

- (1) Observed licensee perform surveys of potentially contaminated material leaving Unit 1 Containment and the Radiological Control Area (RCA).
- (2) Observed workers exiting Unit 1 Containment and the RCA during Unit 1 refueling outage.

Radiological Hazards Control and Work Coverage (IP Section 03.04) (4 Samples)

The inspectors evaluated in-plant radiological conditions during facility walkdowns and observation of radiological work activities.

- (1) Unit 1 reactor head move, under RWP no. 1158, Rev. 18.
- (2) Unit 1 valve work on Low Pressure Injection (LPI) System, under RWP no. 1069, Rev. 04.
- (3) Unit 1 preventive maintenance on valves in reactor sump, under RWP no. 1100, Rev. 31.
- (4) Unit 1 incore detectors work, under RWP no. 1176, Rev. 19.

High Radiation Area and Very High Radiation Area Controls (IP Section 03.05) (5 Samples)

The inspectors evaluated licensee controls of the following High Radiation Areas and Very High Radiation Areas:

- (1) Unit 1 Containment
- (2) Filter Storage Location in Aux Building
- (3) Resin Batch Tank Room in Radwaste Facility
- (4) Unit 1 Reactor Coolant Blend Hold Up Tank Room in Aux Building
- (5) Back Flush Storage Tank Room in Radwaste Facility

Radiation Worker Performance and Radiation Protection Technician Proficiency (IP Section 03.06) (1 Sample)

- (1) The inspectors evaluated radiation worker and radiation protection technician performance as it pertains to radiation protection requirements.

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

Radioactive Material Storage (IP Section 03.01) (1 Sample)

- (1) Inspectors evaluated the licensee's performance in controlling, labelling, and securing radioactive materials.

Radioactive Waste System Walkdown (IP Section 03.02) (1 Sample)

- (1) Inspectors walked down accessible portions of the solid radioactive waste systems and evaluated system configuration and functionality.

Waste Characterization and Classification (IP Section 03.03) (2 Samples)

The inspectors evaluated the licensee's characterization and classification of radioactive waste.

- (1) RBT and LW DEMIN Resin Sample Comp
- (2) Spent Fuel Pool Filters 2019

Shipment Preparation (IP Section 03.04) (1 Sample)

- (1) The inspectors observed the preparation for shipment of radioactive material, shipment no. 20-2020, LSA-1 DAW, for review against requirements.

Shipping Records (IP Section 03.05) (5 Samples)

The inspectors evaluated the following non-excepted radioactive material shipments through a record review:

- (1) RSR 18-2015, UN2908 Radioactive material, excepted package-empty packaging, 7, Dewatered Mechanical Filters, 06/08/2018
- (2) RSR 18-2019 UN332I, Radioactive material, low specific activity (LSA.11), 7, Fissile Excepted. RD. Radionuclides, Resin, 08/26/2018
- (3) RSR 20-2013, UN3321, Radioactive material, low specific activity (LSA-II), 7, Fissile Excepted, RQ Radionuclides, Dewatered Resin, 05/20/2020
- (4) RSR 19-2008, UN3321, Radioactive material, low specific activity (LSA-II), 7, Dry Active Waste, 05/09/2019
- (5) RSR 19-2003, UN3321, Radioactive material, low specific activity (LSA-II), 7, Fissile Excepted, RQ Radionuclides, Ion Exchanged Resin, 02/20/2019

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

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

- (1) 11/01/2019- 09/30/2020

71152 - Problem Identification and Resolution

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

- (1) NCR 2341117, Human performance events trend from January through April, 2020

71153 - Followup of Events and Notices of Enforcement Discretion

Reporting (IP Section 03.05) (1 Sample)

- (1) The inspectors reviewed the circumstances surrounding a potential report issue involving external leakage from LPI relief valve 2LP-196 following a system pump start

INSPECTION RESULTS

Licensee-Identified Non-Cited Violation	71111.20
This violation of very low safety significance was identified by the licensee and has been entered into the licensee corrective action program and is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.	
Violation: Oconee Unit 2 Technical Specification 5.4.1, "Procedures," states, in part, that written procedures shall be implemented covering the applicable procedures recommended in Appendix 'A' of Regulatory Guide (RG) 1.33, February 1978. RG 1.33, "Quality Assurance Program Requirements (Operation)," Appendix A, Paragraph 9.a, "Procedures for Performing Maintenance" requires that "maintenance that can affect the performance of safety-related equipment should be properly pre-planned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances." Contrary to the above, on October 28, 2020, a heavy load was lifted over safety-related equipment that exceeded the capacity of the turbine isle auxiliary crane and was executed without use of a properly pre-planned lift plan. This failure resulted in a 29-ton load being suspended from a 20 ton crane hook over both 4kV main feeder buses of Unit 2 while it was operating at 100 percent power.	
Significance/Severity: Green. The issue was of very low safety significance (Green) because post-event inspections of the crane revealed no signs of damage, which implied that the degraded condition did not increase the likelihood of a complete loss of 4kV power and plant trip.	
Corrective Action References: 2355166	

EXIT MEETINGS AND DEBRIEFS

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

- On November 3, 2020, the inspectors presented the RP inspection exit meeting inspection results to Ed Burchfield, Site Vice President and other members of the licensee staff.
- On January 21, 2021, the inspectors presented the integrated inspection results to J. Ed Burchfield and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Procedures	OP/0/B/1104/050	Weather Related Activities	005
71111.04	Corrective Action Documents		2352508	
	Drawings	OFD-121D-3.1	Flow Diagram of Emergency Feedwater System	46
	Miscellaneous		Clearance: OPS-3-20-FDW-3A MDEFWP MT-1498	
	Procedures	EP/1/A/1800/001 0Q	Unit 1 EOP Enclosures 5.41-5.46	6
		PT/3/A/0600/013	Motor Driven Emergency Feedwater Pump Test	070
		TT/0/A/0251/090	EFM Hard Pipe Test	November 20, 2015
	Work Orders		20429375, 02145807, 20314232, 20421031	
71111.05	Drawings	O -0310-FZ-013	Auxiliary Building - Units 2 Fire Protection Plan Fire Area & Fire Zone Boundaries Plan At EL 809+3	3
		O -0310-K-011	Fire Protect AUX Bldg Unit 2 EL 809+3	016
		O-0310-FZ-028	Fire Protection Plan Fire Area & Fire Zone Boundaries Plan at Mezzanine EL. 796+6	1
		O-0310-L-004	Turbine Building – Unit 1 Fire Protection Plan & Fire Barrier, Flood, & Pressure Boundaries Plan at Mezzanine EL. 796+6	13
	Fire Plans	CSD-ONS-FS-020	Standard Operating Guideline 20 Key Equipment List by Fire Zone	0
		CSD-ONS-PFP-1AB-0822	Pre-Fire Plan for U1 Auxiliary Building Elevation 822	000
		CSD-ONS-PFP-1RB	Pre-Fire Plan for U1 Reactor Building	0
		CSD-ONS-PFP-1TB-0796	Pre-Fire Plan for U3 Turbine Building Elevation 796	0
		CSD-ONS-PFP-2AB-0809	Pre-Fire Plan for U2 Auxiliary Building Elevation 809	0
	Procedures	AD-EG-ALL-1520	Transient Combustible Control	13
71111.06	Corrective Action		01893113	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Documents			
	Drawings	OFD-124A-1.1	Flow Diagram of Low-Pressure Service Water System Turbine Bldg (Low Pressure Service Water Pumps)	54
		OFD-124B-1.1	Flow Diagram of Low-Pressure Service Water System (Auxiliary Building Services)	69
	Miscellaneous		Clearance: OPS-1-20-LPS-1LPSW-1111-1381	
		S.D.3.2.16	Control of Passive Design Features	9
		Selected Licensee Commitment (SLC), 15.9.11a	Auxiliary Building Flood Protection Measures	001
	Procedures	AP/1-2/A/1700/030	Auxiliary Building Flood	023
		SD 1.3.5	Shutdown Protection Plan	38
	Work Orders		20376855	
71111.08P	Drawings	5059431B	BWI Replacement OTSG EDM/ASME/WEAR Array Calibration Standard As-Built Drawing	0
		5059439B	BWI Replacement OTSG EDM/ASME/WEAR Array Calibration Standard As-Built Drawing	0
	Engineering Evaluations		Oconee Unit O1R31 Steam Generator Degradation Assessment	0
		3013-TECR-102789	BWXT Technologies, Inc. Steam Generator Condition Monitoring and Final Operational Assessment for Oconee—1 O1R30 Outage	000
	Miscellaneous		Framatome Steam Generator Team – Oconee Nuclear Station Analysis Guidelines Training: O1R31	October 21, 2020
			MoreTech Certificate of Personnel Qualification: ET III-QDA (Merriam)	08/17/18
			MoreTech Certificate of Vision Examination (Merriam)	08/15/20
	Procedures		Duke Energy Eddy Current Guidelines for Oconee Nuclear Station's Replacement Once-Through Steam Generators (ROTSG)	3
			Duke Energy ROTSG Site Technique Validation for Oconee	3

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Nuclear Station	
			Duke Energy Fifth Interval Steam Generator Inservice Inspection Plan Oconee Nuclear Station Unit 1, 2 & 3	0
	Shipping Records	S52593	Zetec Certificate of Conformance (Shipment ID 31634)	9/25/20
71111.11Q	Miscellaneous		Shutdown JITT power point training	
		AD-TQ-ALL-0420	Conduct of Simulator Training and Evaluation	14
		OOP-OC-15JT-05	Night Shift Shutdown JITT	09
	Procedures	OP/1/A/1102/010	Controlling Procedure for Unit Shutdown	233
		OP/1/A/1102/012	Degas of RCS and Pzr	022
		OP/1/A/1103/004	Soluble Poison Control	108
		OP/1/A/1103/004 A	RCS Boration	025
		OP/1/A/1103/005	Pressurizer Operation	065
		OP/1/A/1106/002 B	FDWPT Operation	041
		OP/1/A/1106/008	Steam Generator Secondary Hot Soak, Fill, Drain and Layup	084
71111.13	Calculations	OSC-11847	Oconee Low Pressure Turbine Replacement Heavy Lift Risk Evaluation	4
	Corrective Action Documents		2352507	
	Miscellaneous		Quarterly test data of EFM Hale Pump, Serial number EDM-PU-0004	July 21, 2020
			Pre-Job Brief Form for operations regarding use of portable pump during turbine building heavy lift	
			Pre-Job Brief Form for shift maintenance regarding use of portable pump during turbine building heavy lifts	
		Standing Instruction 20-04	Low Pressure Turbine Heavy Lift Mitigation Requirements	3
	Procedures	AP/0/A/1700/025	Standby Shutdown Facility Emergency Operating Procedure	66
		EP/1/A/1800/001 00	Unit 1 EOP Immediate Manual Actions and Subsequent Actions	3
		EP/1/A/1800/001 0B	Unit 1 EOP Blackout	6

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		EP/1/A/1800/001 0Q	Unit 1 EOP Enclosures 5.41-5.46	6
	Work Orders		20030028	
71111.15	Calculations	IP/0/A/3011/013	Molded Case Breaker Test and Inspection Using Circuit Breaker Tester Model PS250A Or PS9116	038
		OSC-3144	Pressurizer Heat Losses	20
	Corrective Action Documents		02353911, 02357910, 02351598, 02351864, 02351624	
	Drawings	O -0726-A	1/D Pressurizer Heater Fuse Blocks And Pressurizer Heater Element Panels	2
		O -0985-D-001	Connection Diagram Press HTR CAB (PHC) EOC System	10
		O -2752-A-070	Interconnection Diagram 600V SSF Motor Control Center 3XSF Units F01A Thru F04C	15
		O -2726	Interconnection Diagram Pressurizer Heaters	29
		O EE-149-08	Elementary Diagram SSF Press. HTR Group B Bank 2	27
		O EE-151-39	Elementary Diagram Reactor Coolant Makeup Pump Motor Controls	8
		O EE-349-01	Pressurizer Heaters Arrangement and Legend	25
		O-0703-K	One Line Diagram – 600V & 208V Essential Motor Control Aux Pwr Sys SSF	82
		OSS 251.00-00-0002	4X4X2 YARWAY m-MARC valve	2
	Engineering Changes		114484	
	Miscellaneous		1A Motor Driven Emergency Feedwater Pump bearing temperature charts	
			Sulzer Bingham Pumps Inc minimum flow requirements	
			Unit 1 Operator Logs for November 15, 2020	
			Clearance: PRT-1-20-1A MDEFWPOOS-0353	
		OM 251.— 0670.001	I/B – 7100 Series ARC Valve, DMV-1000 Installation, Operation and Maintenance Guide	003
	Procedures	AD-OP-ALL-0102	Operational Decision Making	3
		IP/0/A/0101/001	Low Risk Maintenance Configuration Control	19

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		IP/O/A/3011/013	Molded Case Breaker Test and Inspection Using Circuit	038
		IP/O/A/3011/015	Removal and Replacement of Motor Control Center, Panelboards, And Remote Starter Components	37
		IP/O/A/0200/037 A	Pressurizer Heater Group B Surveillance	16
		OP/1/A/1102/010	Controlling Procedure for Unit Shutdown	233
		PT/1/A/0230/016	Auxiliary Shutdown Panel Systems Operability Test	5
		PT/1/A/0251/014	Feedwater Check Valve Functional Test	017
	Work Orders		20376561, 20376344, 20385098, 20434504, 20188761	
71111.18	Calculations	OSC-4151	Penetration Overcurrent Protection Type III	17
	Corrective Action Documents		1821414	
	Engineering Changes		106427	
71111.19	Drawings	0-422M-4	Instrument Details Steam To emergency FDWP Trip Valve Control	14
		O FD-124B-01-01	Flow Diagram of Low Pressure Service Water System (Auxiliary Building Services)	69
		OEE-117-47	Elementary Diagram 4160V Switchgear #1TC #9 – HP Injection Pump Motor No. 1A	13
		OEE-151-04	Elementary Diagram 1A HPI BWST Suction 1HP-24	20
		OEE-151-04-01	Elementary Diagram 1A HPI BWST Suction 1HP-24	10
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		OFD-101A-01.3	Flow Diagram of High Pressure Injection System (Charging Section)	34
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		OM 251. -- 0762.001	Outline Drawing For 6" CCI Drag Valve with Warming Disk, DMV-1265	1
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	Changes			
	Miscellaneous		Work Order Task Instructions #20319772-43	
			Work Order Task Instructions #20315362-41	
		1-LPSW-0149	Valve Packing Datasheet	0
		1-LPSW-0149 Enclosure 8.1	Repair/Replacement Traveler	
		1-LPSW-0149 Enclosure 8.3	Reconciliation Report	
		1-MS-0093	Valve Packing Datasheet	4
		1MS-93	AOV Test Datasheet	
		AD-MN-ALL-0009, Attachment 1	Rotor Lift Plan	
		O1R31	Turbine Deck Heavy Lifts Site Notification Checklist (Exhaust Hoods, Inner Casings, Rotors)	0
		OSC-5674	1HP-24 Generic Letter 99-10 Test Acceptance Criteria	31
		OSS-0254.00-00-1001	MECH High Pressure Injection and Purification & Deborating Demineralizer Systems	60
		REPORT NO. 2000627.401	Duke Energy – Oconee HPI Pump Assessment	0
	Procedures	AD-MN-ALL-0009	Nuclear Rigging, Lifting, and Material Handling	7
		AD/EG/ALL/1907	Cyber Security Sedia Protection Program	7
		IP/0/A/3001/001	Limit Torque Preventive Maintenance	96
		IP/0/A/3012/002	Disconnect and Reconnect of Air Operated Valves	32
		IP/0/A/3012/007 A	Diagnostic Testing Air Operated Valves Using Teledyne/Quiklook System	0
		MP/0/A/1200/001	Valve Packing Replacement and Adjustment	77
		MP/0/A/1200/002	Valve Gate Disassembly, Repair, and Reassembly	69
		MP/0/A/1200/197	Valve and Operator - CCI - Drag Valve - DMV- 1265 - Disassembly, Repair, and Reassembly	9
		MP/0/A/1300/020	Pump – Ingersoll-Rand – High Pressure Injection – Removal and Replacement of Pump and Motor	59
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		PT/1/A/0152/015	Main Steam System Valve Stroke Test	17
		PT/1/A/0202/011	High Pressure Injection Pump Test	105
		PT/1/A/0202/012	Component Test of ES Channels 1 & 2	30
		PT/1/A/0230/015	High Pressure Injection Motor Cooler Performance Test	54
		PT/1/A/0251/024	HPI Full Flow Test	52
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	Work Orders		20379772, 20432659, 20376841, 20225916, 20315632	
71111.20	Calculations	OSC-11805	Generic Load Drop Analysis for Turbine Building Operating Floor Lifts	0
		OSC-11847	Oconee Low Pressure Turbine Replacement Heavy Lift Risk Evaluation	4
	Corrective Action Documents		02080235, 2354700, 2354722, 2355166, 2357873, 2353693, 2353503	
	Drawings	OFD-100A-01-01	Flow Diagram of Reactor Coolant System	43
	Miscellaneous		Oconee 1 Cycle 32 Core Operating Limits Report	
			O3R30 Shutdown Safety Overview	
		O1BOC32	Reload Pattern	
		O1R31	Containment Report WC6487F	October 20, 2020
		OSS-0254.00-00-4005	Design Basis Specification for Design Basis Events	35
	Procedures	AD-MN-ALL-0009	Nuclear Rigging, Lifting, And Material Handling	7
		AD-OP-ALL-0106	Conduct of Infrequently Performed Tests or Evolutions	4
		AD-OP-ALL-0203	Reactivity Management	13
		AD-OP-ALL-1000	Conduct of Operations	17

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		AD-WC-ALL-0410	Work Activity Integrated Risk Management	9
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		AP/1/A/1700/026	Loss of Decay Heat Removal	28
		CSD-MN-ALL-0009	Duke Energy Nuclear Rigger's Handbook	March 2016
		CSD-MN-ALL-1000-00	Fleet Technical Fundamentals Handbook	3
		IP/0/B/0200/027 B	Ultrasonic Level Instrument Installation and Calibration	24
		IP/0/B/0275/007	OTSG Temporary Level Indication Installation and Removal	9
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		OP/1/A/1103/011	Draining and Nitrogen Purging RCS	102
		OP/1/A/1105/019	Control Rod Drive System	034
		OP/1/A/1106/002 B	FDWPT Operation	041
		OP/1/A/1106/008	Steam Generator Secondary Hot Soak, Fill, Drain and Layup	084
		OP/1/A/1502/007	Operations Defueling/Refueling Responsibilities	93
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		PT/0/A/0775/015	Core Alignment Verification Procedure	15
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		PT/1/A/0600/030	NI Overlap	001
		SD 1.3.5	Shutdown Protection Plan	38
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71111.22	Corrective Action Documents		2357829	
	Procedures	PT/1/A/0150/034	Leak Rate History Record and Reactor Building Leak Rate Verification	14
71124.08	Corrective Action Documents Resulting from Inspection	02355699		
	Miscellaneous	AD-RP-ALL-5002	10 CFR 61 RADIOACTIVE WASTE CLASSIFICATION	10/8/2019 - 9/19/2019
71153	Corrective Action Documents		2345473, 2297905	