

UNITED STATES NUCLEAR REGULATORY COMMISSION REGION II 245 PEACHTREE CENTER AVENUE NE, SUITE 1200 ATLANTA, GEORGIA 30303-1257

May 8, 2019

Mr. J. Ed Burchfield, Jr. Site Vice President Duke Energy Corporation Oconee Nuclear Station 7800 Rochester Highway Seneca, SC 29672

SUBJECT: OCONEE NUCLEAR STATION – NUCLEAR REGULATORY COMMISSION INTEGRATED INSPECTION REPORT 05000269/2019001, 05000270/2019001, 05000287/2019001, AND 07200004/2019001

Dear Mr. Burchfield:

On March 31, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Oconee Nuclear Station Units 1, 2, and 3. On April 24, 2019, 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.

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 <u>http://www.nrc.gov/reading-rm/adams.html</u> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/**RA**/

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

Docket Nos.: 50-269, 50-270, 50-287, 72-004 License Nos.: DPR-38, DPR-47, DPR-55, SNM-2503

Enclosure: IR 5000269/2019001, 5000270/2019001, 05000287/2019001, and 07200004/2019001

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SUBJECT: OCONEE NUCLEAR STATION – NUCLEAR REGULATORY COMMISSION INTEGRATED INSPECTION REPORT 05000269/2019001, 05000270/2019001, 05000287/2019001, AND 07200004/2019001 May 8, 2019

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U.S. NUCLEAR REGULATORY COMMISSION

Inspection Report

Docket Numbers:	50-269, 50-270, 50-287, 72-004	
License Numbers:	DPR-38, DPR-47, DPR-55, SNM-2503	
Report Numbers:	05000269/2019001, 05000270/2019001, 05000287/2019001, 07200004/2019001	
Enterprise Identifier:	I-2019-001-0020	
Licensee:	Duke Energy Carolinas, LLC	
Facility:	Oconee Nuclear Station, Units 1, 2, and 3	
Location:	Seneca, SC	
Inspection Dates:	January 1, 2019 to March 31, 2019	
Inspectors:	 E. Crowe, Senior Resident Inspector J. Parent, Resident Inspector A. Ruh, Resident Inspector J. Bundy, Operations Engineer P. Capehart, Senior Operations Engineer R. Carrion, Senior Reactor Inspector M. Riley, Reactor Inspector 	
Approved By:	F. Ehrhardt, Chief Reactor Projects Branch 1 Division of Reactor Projects	

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring licensee's performance by conducting a quarterly baseline inspection at Oconee Units 1, 2, and 3 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. NRC and self-revealed findings, violations, and additional items are summarized in the table below.

List of Findings and Violations

No findings were identified.

Additional Tracking Items

Туре	Issue number	Title	Report Section	Status
Unresolved Item (URI)	05000269,05000270, 05000287/2014007-	Degraded Voltage Relay Scheme	71111.21M	Closed
item (URI)	0500028772014007- 04	Relay Scheme		

PLANT STATUS

Unit 1 began the inspection period at 100 percent rated thermal power (RTP). On January 24, 2019, the unit performed a planned power reduction to 24 percent RTP to repair to a heater drain system valve (1HD-30). The unit was returned to 100 percent RTP on January 25, 2019. On March 3, 2019, the 1A2 feedwater heater developed a minor steam leak and the unit performed an unplanned power reduction to 65 percent RTP to make repairs on March 5, 2019. The unit was returned to 100 percent RTP on March 6, 2019 and remained at this power level for the remainder of the inspection period.

Unit 2 began the inspection period at 100 percent RTP and remained at this power level for the entire inspection period.

Unit 3 began the inspection period at 100 percent RTP and remained at this power level 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

71111.01 - Adverse Weather Protection

Impending Severe Weather Sample (IP Section 03.03) (1 Sample)

The inspectors evaluated readiness for impending adverse weather conditions for extreme cold weather on January 24, 2019 through January 30, 2019.

Seasonal Extreme Weather Sample (IP Section 03.02) (1 Sample)

The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of seasonal cold temperatures for the following systems: standby shutdown facility (SSF); protected service water (PSW) building; auxiliary building heating and cooling; and turbine building heating and cooling on January 9, 2019, January 10, 2019, and January 17, 2019.

71111.04 - Equipment Alignment

Partial Walkdown (IP Section 02.01) (6 Samples)

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

- (1) PSW; 4160 volt safety related electrical distribution system; emergency feedwater system (EFW); SSF; and Lee combustion turbines and associated CT-5 transformer during dual Keowee hydro outage on January 15 - 17, 2019 (installation of antirotational device during Keowee hydro Unit 1 stator replacement)
- (2) SSF on January 19, 2019
- (3) Lee combustion turbines and dedicated AC power path to CT-5 on January 31, 2019
- (4) PSW; 4160 volt safety related electrical distribution system, EFW; SSF; and Lee combustion turbines and associated CT-5 transformer during dual Keowee hydro outage on February 6 7, 2019 (removal of anti-rotational device during Keowee hydro Unit 1 stator replacement)
- (5) 'B' chiller and operating temporary chiller during planned maintenance of the 'A' chiller on March 12 14, 2019
- (6) Unit 2 low pressure injection (LPI) trains 'A' and 'B' during planned maintenance on the 2C LPI pump on March 13 14, 2019

71111.04S - Equipment Alignment

Complete Walkdown (IP Section 02.02) (1 Sample)

The inspectors evaluated system configurations during a complete walkdown of the PSW system on February 6 and 7, 2019.

71111.05A - Fire Protection (Annual)

Annual Inspection (IP Section 03.02) (1 Sample)

The inspectors evaluated fire brigade performance on January 22, 2019.

71111.05Q - Fire Protection

Quarterly Inspection (IP Section 03.01) (5 Samples)

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

- (1) Unit 2 auxiliary building elevation 771', fire zone 66 on March 13, 2019
- (2) Unit 2 auxiliary building elevation 783', fire zone 83 on March 13, 2019
- (3) Unit 1 turbine building elevation 775', fire zone 24 on March 14, 2019
- (4) Unit 3 auxiliary building elevation 771', fire zone 60 on March 29, 2019
- (5) Unit 3 auxiliary building elevation 783', fire zone 79 on March 29, 2019

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 02.02a.) (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the:

Unit 1 turbine building basement during preventive maintenance (PM) on the Unit 1 Presray watertight door on February 4, 2019.

Inspection Activities - Underground Cables (IP Section 02.02c.) (1 Sample)

The inspectors evaluated cable submergence protection in:

CT-5 cable trench in the west laydown yard (elevation 793') on January 15, 2019 and the CT-5 cable trench west of the old radiation protection building (elevation 791') on January 16, 2019.

71111.11B - Licensed Operator Regualification Program and Licensed Operator Performance

Licensed Operator Regualification Program (IP Section 03.04) (1 Sample)

The inspectors reviewed the facility operating history and associated documents in preparation for this inspection. During the week of March 11 - 15, 2019, the inspectors reviewed documentation, interviewed licensee personnel, and observed the administration of operating tests associated with the licensee's operator regualification program. Each of the activities performed by the inspectors was done to assess the effectiveness of the facility licensee in implementing requalification requirements identified in 10 CFR Part 55, "Operators' Licenses." The evaluations were also performed to determine if the licensee effectively implemented operator regualification guidelines established in NUREG-1021. "Operator Licensing Examination Standards for Power Reactors," and IP 71111.11, "Licensed Operator Regualification Program." The inspectors also evaluated the licensee's simulation facility for adequacy for use in operator licensing examinations using ANSI/ANS-3.5-2009. "American National Standard for Nuclear Power Plant Simulators for use in Operator Training and Examination." The inspectors observed two crews during the performance of the operating tests. Documentation reviewed included written examinations, job performance measures (JPMs), simulator scenarios, licensee procedures, on-shift records, simulator modification request records, simulator performance test records, operator feedback records, licensed operator qualification records, remediation plans, watchstanding records, license reactivation packages, and medical records. The records were inspected using the criteria listed in IP 71111.11.

Biennial Requalification Written Examinations

The inspectors evaluated the quality of the licensed operator biennial requalification written examination administered on March 11, 2019.

Annual Regualification Operating Tests

The inspectors evaluated the adequacy of the facility licensee's annual requalification operating test.

Administration of an Annual Regualification Operating Test

The inspectors evaluated the effectiveness of the facility licensee in administering requalification operating tests required by 10 CFR 55.59(a)(2) and that the facility licensee is effectively evaluating their licensed operators for mastery of training objectives.

Regualification Examination Security

The inspectors evaluated the ability of the facility licensee to safeguard examination material, such that the examination is not compromised.

Remedial Training and Re-examinations

The inspectors evaluated the effectiveness of remedial training conducted by the licensee, and reviewed the adequacy of re-examinations for licensed operators who did not pass a required requalification examination.

Operator License Conditions

The inspectors evaluated the licensee's program for ensuring that licensed operators meet the conditions of their licenses.

Control Room Simulator

The inspectors evaluated the adequacy of the facility licensee's control room simulator in modeling the actual plant, and for meeting the requirements contained in 10 CFR 55.46.

Problem Identification and Resolution

The inspectors evaluated the licensee's ability to identify and resolve problems associated with licensed operator performance.

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)

The inspectors observed and evaluated licensed operator performance in the control room during the start of 'A' chiller due to the unexpected stopping of the 'B' chiller which resulted in degraded control room area cooling on January 24, 2019. Additionally, the inspectors observed and evaluated licensed operator performance in the control room during a reduction in reactor power from 100 percent RTP to 25 percent RTP on January 24, 2019, in preparation for repair to the 1B first stage reheater drain tank dump valve 1HD-30.

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

The inspectors observed and evaluated operator training on SSF operation following a simulated loss of power and loss of all feedwater on January 15, 2019.

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (7 Samples)

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

- (1) Oconee Nuclear Site elevated green risk during Keowee hydro dewater activities for installation of Keowee hydro Unit 1 anti-rotation device to support stator replacement on January 15 - 17, 2019
- (2) Unit 1 elevated green risk associated with emergent work activities associated with valve controller failure for 1-HD-30 on January 24, 2019
- (3) Oconee Nuclear Site elevated green risk during Keowee hydro dewater activities for removal of Keowee hydro Unit 1 anti-rotation device to support stator replacement on February 6 - 7, 2019
- (4) Oconee Nuclear Site elevated yellow risk during PM activities to 3B circulating water system pump discharge valve 3CCW-11 on February 13, 2019
- (5) Oconee Nuclear Site elevated yellow risk during PM activities to 1A circulating water system pump discharge valve 1CCW-10 on March 4, 2019
- (6) Emergent work activities associated with 1A2 feedwater heater steam leak on March 4 6, 2019
- (7) Oconee Nuclear Site elevated yellow risk during PM activities to 2C LPI pump on March 13, 2019

71111.15 - Operability Determinations and Functionality Assessments

<u>Operability Determinations and Functionality Assessments Sample (IP Section 02.01) (7</u> <u>Samples)</u>

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) Unit 1 essential siphon system tank minimum flow valve 1ESV-29 failed to cycle during stroke testing of February 13, 2019. (Nuclear Condition Report (NCR) 02257474)
- (2) Missing flow restrictor cartridge element in valve 3-LPSW-849 (NCR 2253656)
- (3) External grid trouble protection system 230kV red bus Y-phase underfrequency relay failure (NCR 2261061)
- (4) Vendor identified failure mode for PSW flow control valves (NCR 2259431)
- (5) 1-HP-4 failed to operate from SSF power (NCR 2241697)
- (6) Incorrectly configured pipe support on Unit 1 'B' main steam line (NCR 2238294)
- (7) 2A high pressure injection pump motor cooler test failed acceptance criteria (NCR 2265364)

71111.18 - Plant Modifications

<u>Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (2</u> <u>Samples)</u>

The inspectors evaluated the following permanent modifications:

- (1) Engineering Change (EC)110240, Alternate Chilled Water System And Procedure Changes Associated With Unanalyzed Effects In Unit 3 Cable Room
- (2) EC101838, Replacement of Keowee Unit #1 Generator Stator

71111.19 - Post Maintenance Testing

Post Maintenance Test Sample (IP Section 03.01) (7 Samples)

The inspectors evaluated the following post maintenance tests:

- (1) PT/0/A/0400/005, SSF auxiliary service water pump test following planned mechanical and electrical maintenance on January 10, 2019
- (2) PT/0/A/0620/009, operability test of Keowee hydro Unit 2 following restoration from dewatering activity on January 16, 2019
- (3) OP/3/A/1104/010, Low Pressure Service Water; Enclosure 4.34, Shutdown and Return to Service of 3B LPSW pump following planned mechanical and electrical maintenance on February 4, 2019
- (4) PT/1/A/0203/006A, Low Pressure Injection Pump Test Recirculation following PM to the 1B LPI pump on February 5, 2019
- (5) 3B CCW pump discharge valve (3CCW-11) stroke test following planned electrical and mechanical maintenance on February 8, 2019 (Work Order (WO) 20276508)
- (6) PT/1/A/0600/027, PAM Instrument Channel Checks following repairs to 1RIA-58 on March 15, 2019 (WO # 20301820)
- (7) MP/0/B/3009/020 C, Motor Non-QA Electric Removal, Replacement, and Post Maintenance Testing following the replacement of the B spent fuel pool pump's motor on March 18, 2019 (WO # 20289815)

71111.21M - Design Bases Assurance Inspection (Teams)

The inspectors reviewed URI 05000269, 270, 287/2014007-04, "Degraded Voltage Relay Scheme," for closure.

<u>Design Review - Risk-Significant/Low Design Margin Components (IP Section 02.02) (1</u> <u>Partial)</u>

(1) URI 05000269, 270, 287/2014007-04, Degraded Voltage Relay Scheme

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

In Service Testing (IST) (IP Section 03.01) (2 Samples)

- (1) PT/2/A/0600/013, Test of the 2B Motor Driven Emergency Feedwater Pump, on January 11, 2019
- (2) PT/0/A/0500/001, PSW Primary and Booster Pump Test on February 26, 2019

Surveillance Testing (IP Section 03.01) (2 Samples)

(1) OP/0/A/1600/010, Operation of the SSF Diesel-Generator, on February 19, 2019.

(2) PT/2/A/0152/002, Building Spray System Valve Stroke Test of 2BS-2, on February 26, 2019

71114.06 - Drill Evaluation

Drill and/or Simulator-Based Licensed Operator Requalification Training (IP Section 02.01) (1 Sample)

Inspectors observed a simulator-based licensed operator requalification training evolution on March 19, 2019, that involved a small RCS leak that developed into a larger leak, fuel damage and a leak through the containment equipment hatch.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

IE01: Unplanned Scrams per 7000 Critical Hours Sample (IP Section 02.01) (1 Sample)

Unit 1, 2, 3 (March, 2018 - March, 2019) the inspectors verified licensee performance indicator and submittal for unplanned scrams.

IE03: Unplanned Power Changes per 7000 Critical Hours Sample (IP Section 02.02) (1 Sample)

Unit 1, 2, 3 (March, 2018 - March, 2019) the inspectors verified licensee performance indicator and submittal for unplanned power changes per 7000 critical hours.

IE04: Unplanned Scrams with Complications (USwC) Sample (IP Section 02.03) (1 Sample)

Unit 1, 2, 3 (March, 2018 - March, 2019) the inspectors verified licensee performance indicator and submittal for unplanned scrams with complications.

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

<u>Temporary Instruction 2690/011 - Review of Aging Management Programs at Independent</u> <u>Spent Fuel Storage Installations (ISFSIs)</u>

This inspection is a Part 72 inspection. The Inspection Number is 07200004/2019001 and this inspection closes Temporary Instruction 2690/011.

Aging Mgmt at ISFSI (1 Sample)

Temporary Instruction 2690/011 is an information-gathering activity whose results will be used to develop an inspection procedure to address the licensees' performance of the AMP activities related to ISFSIs. From January 21 to January 22, 2019, the inspectors evaluated the licensee's processes or procedures of the aging management program (AMP) for the ISFSI for adequacy. The inspectors conducted an in-office review of additional information following the inspection. Because Oconee is a pre-SRP (Standard Review Plan) plant, it did not specifically follow the ten elements defined in the AMP as identified in NUREG-1927,

"Standard Review Plan for Renewal of Specific Licenses and Certificates of Compliance for Dry Storage of Spent Nuclear Fuel," Revision 1.

<u>60855.1 - Operation of an Independent Spent Fuel Storage Installation (ISFSI) at Operating</u> <u>Plants</u>

Operation of an ISFSI at Operating Plant (1 Sample)

The inspectors evaluated the licensee's independent spent fuel storage installation cask loading of DSC 154 and DSC 155 on January 27 - 31, 2019, and February 19 - 21, 2019, respectively.

INSPECTION RESULTS

Unresolved Item	Degraded Voltage Relay Scheme	71111.21M					
(Closed)	05000269,05000270,05000287/2014007-04						
Description: This U	Description: This URI was opened on June 27, 2014, in NRC Design Bases Assurance						
Inspection Report 0	Inspection Report 05000269/2014007, 05000270/20140007, and 05000287/2014007						
(ADAMS Accession Number: ML14178A535) to determine if a performance deficiency existed							
with respect to the degraded voltage relay (DVR) protection scheme at Oconee Nuclear							
Station. During the inspection, the team questioned the DVR protection scheme on the							
4.16kv safety buses during normal operation, the licensee's use of manual actions during							
mitigation of degraded voltage conditions, and the setpoints of the loss of power relays not							
being included in the technical specifications. The team determined that consultation with the							
Office of Nuclear Reactor Regulation was warranted, and task interface agreement (TIA)							
2014-04, "Request for Technical Assistance Regarding the Adequacy of the Oconee Station							
Design and Licensing Bases for the Degraded Voltage Relay Protection Design," (ADAMS							
Accession Number: ML18226A215) was issued to determine if these issues were within the							
plant's current licensing basis. TIA 2014-04 concluded that Oconee Nuclear Station's DVR							
protection scheme, including the issues described above, was consistent with the plant's							
licensing basis. Therefore, based on the conclusions in the TIA, the team determined that no							
performance deficiency was identified.							

Corrective Action Reference(s): PIP O-14-2034

EXIT MEETINGS AND DEBRIEFS

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

• On April 24, 2019, the inspector presented the inspection results to Mr. J. Ed Burchfield, and other members of the licensee staff.

DOCUMENTS REVIEWED

71111.01: Adverse Weather Protection

Procedures

OMP 2-16, Shift Turnover, Rev. 037 OP/0/A/1104/037, Plant Heating, Rev. 005 OP/0/A/1104/041, Auxiliary Building Ventilation, Rev. 042 OP/0/A/106/041, Turbine Building Ventilation, Rev. 009 OP/0/A/1600/002, Standby Shutdown Facility Heating, Ventilation and Air Conditioning System Operation (HVAC), Rev. 037 OP/0/B/1104/050, Weather Related Activities, Rev. 005 OP/1/A/1104/051, ESV System, Rev. 028 OP/2/A/1102/020 D, SSF and Outside Rounds, Rev. 089 OP/2/A/1102/020 D, SSF and Outside Rounds, Rev. 089 OP/3/A/1104/051, ESV System, Rev. 040 OP/3/A/1104/051, ESV System, Rev. 028 PT/0/A/0110/017, Cold Weather Protection, Rev. 015 RP/0/A/1000/035, Severe Weather Preparations, Rev. 004

<u>Nuclear Condition Report</u> 02229621; 02240341; 02242590; 02247787; 02251763; 02251764; 02253556

<u>Other</u>

Clearance: OPS-1 -18-AS –EARLY TAGS -2329 Clearance: PSC-0 -18-PH –PH 251 SPINS-0314 Operators' Logs on eSOMS

<u>Work Orders/Requests</u> 20118741; 20119309; 20122195; 20124638; 20125908; 20130858; 20130863; 20143662; 20243947; 20289421

71111.04: Equipment Alignment

Documents

OMP 5-05, 100 KV Backup/Emergency Power System, Rev. 002
OSS-0254.00-00-1000, Design Basis Document for Emergency Feedwater and Auxiliary Service Water Systems, Rev. 55
OSS-0254.00-00-1021, Design Basis Document for the Control Room Ventilation System, Rev. 35
OSS-0254.00-00-1053, Design Basis Document for Protected Service Water System, Rev. 2
OSS-0254.00-00-2000, Design Basis Document for 4KV Essential Auxiliary Power System, Rev. 22
OSS-0254.00-00-2004, Design Basis Document for 230KV Switchyard System, Rev. 22
OSS-0254.00-00-2011, Design Basis Document for 100KV Alternate Power System. Rev. 17
OSS-0254.00-00-2014, Design Basis Document for 4160/600/120V SSF Essential AC Power System, Rev. 15

O-702, One Line Diagram 6900V and 4160V Station Auxiliary System, Rev. 36 O-702-A, One Line Diagram 6900V and 4160V Auxiliary System, Rev. 35 O-702-A2, One Line Diagram 6900V and 4160V Station Auxiliary System, Rev. 18 OFD-102A-2.1, Flow Diagram of Low Pressure Injection System (Borated Water Supply and LPI Pump Suction), Rev. 59

OFD-102A-2.2, Flow Diagram of Low Pressure Injection System (LPI Pump Discharge), Rev. 52

OFD-116J-1.2, Flow Diagram of Control Room Air Condition System, Rev. 15

OFD-116J-1.5, Flow Diagram of Chilled Water System Pumps and Chillers, Rev. 26

OFD-116J-1.6, Flow Diagram of Chilled Water System Chilled Water Supply and Return, Rev. 21

OFD-121D-1.1, Flow Diagram of Emergency Feedwater System, Rev. 38

OFD-121D-2.1, Flow Diagram of Emergency Feedwater System, Rev. 40

OFD-121D-3.1, Flow Diagram of Emergency Feedwater System, Rev. 46

OFD-131A-1.1, Flow Diagram of Protected Service Water System, Rev. 2

OFD-131A-1.2, Flow Diagram of Protected Service Water System, Rev. 1

OFD-131A-2.2, Flow Diagram of Protected Service Water System, Rev. 1

OFD-131A-3.2, Flow Diagram of Protected Service Water System, Rev. 2

OFD-133A-1.1, Flow Diagram of Condenser Cooling Water System (CCW Intake Pump Discharge), Rev. 32

OFD-133A-1.2, Flow Diagram of Normal Intake and Discharge (CCW System), Rev. 25

OFD-133A-2.5, Flow Diagram of Condenser Circulating Water System (SSF Aux. Service), Rev. 60

- OFD-133A-2.5, Flow Diagram of Condenser Cooling Water System SSF Auxiliary Service Water, Rev. 66
- OM 245-2698.001, NPS 6" (DN 150) Bolted Bonnet Globe Valve (Forged) c/w Gear Operator, Rev. D

Other Engineering Change 101838

Procedures

LECOP/00/TBD/0007, Lee CT, Rev. 004 OMP 5-05, 100 kV Backup/Emergency Power System, Rev. 2 OP/0/A/1107/003, 100 KV Power Supply, Rev. 097 OP/0/A/1107/003, B, Procedure for Furnishing Power to Oconee, Rev. 15 OP/0/A/1650/001, PSW System, Rev. 4 OP/0/A/1650/002, PSW Ventilation, Rev. 4 OP/0/A/1650/005, PSW AC Power. Rev. 18 OP/0/A/1650/006, PSW DC Power, Rev. 9 OSS-0254.00-00-1053, Design Basis Document for Protected Service Water System, Rev. 2 PT/2/A/0203/006 A, Low Pressure Injection Pump Test – Recirculation, Rev. 087

Work Orders/Requests 20261363; 20262803

Condition Report 2256635; 2195609; 2259431; 2194263; 2108086; 2229649

71111.05: Fire Protection

<u>Calculations</u> OSC-9375, Oconee Fire PRA, Fire Scenario Report, Rev. 007

OSC-9588, Oconee Fire Hazard Ignition Source Tabulation, Rev. 006

Documents

AD-EG-ALL-1522, Duties of a Fire Watch, Rev. 8

AD-HU-ALL-0003, Conduct of Pre-Job Briefs and Post-Job Critiques, Rev. 7

AD-OP-ALL-0111, Operations, Communications, Rev. 1

AD-OP-ALL-0207, Fire Brigade Administrative Controls, Rev. 1

AD-PI-ALL-0106, Cause Investigation Checklists, Rev. 3

AD-RP-ALL-6002, Inspections of Self-Contained Breathing Apparatus (SCBA) and Associated Equipment, Rev. 1

AD-TQ-ALL-0086, Fire Brigade and Hazmat Training, Rev. 5

AD-TQ-ALL-0660, Use and Administration of the Nuclear Learning Management System (NLMS), Rev. 9

O-FS-0-PA-9000-001, PA Unit 2 Transformers T2, 2T and CT2, Rev. 01

O-FS-1-TB-9775-001, Unit 1 – Turbine Building Elevation 775', Rev. 002

O-FS-2-AB-9771-001, Unit 2 – Auxiliary Building Elevation 771', Rev. 002

O-FS-2-AB-9783-001, Unit 2 – Auxiliary Building Elevation 783', Rev. 002

O-FS-2-TB-9775-001, Unit 2 Turbine Building Elevation 775', 796', 822', & 838', Rev. 001

O-FS-3-AB-9771-001, Unit 3 – Auxiliary Building Elevation 771', Rev. 002

O-FS-3-AB-9783-001, Unit 3 – Auxiliary Building Elevation 783', Rev. 002

OSS-0254.00-00-4008, Design Specification for Fire Protection, Rev. 043

Renewed License No. DPR-47, Renewed Facility Operating License, Amendment No. 363 Selected Licensee Commitments, Revised 11/28/2018

Nuclear Condition Report

02251618; 02253705; 02254223; 02254847; 02255541; 02259084; 02261330; 02261333 02263477

<u>Other</u>

Fire Drill Designator: MCC 2 X-C

HS0113-N Initial / HS0116-N Requalification, MSA-SCBA, Advanced Basic Respirator Initial, Rev. 01 Impairment Status Sheet

IMP-19-2017 IMP-ON-19-2015 IMP-ON-19-2016 IMP-ON-19-2019 IMP-ONS-19-2018

Procedures

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