



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

April 29, 2015

Mr. Scott Batson  
Site Vice President  
Duke Energy Carolinas, LLC  
Oconee Nuclear Station  
7800 Rochester Highway  
Seneca, SC 29672

SUBJECT: OCONEE NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT  
05000269/2015001, 05000270/2015001, 05000287/2015001

Dear Mr. Batson:

On March 31, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Oconee Nuclear Station Units 1, 2, and 3. On April 16, 2015, the NRC inspectors discussed the results of this inspection with you and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report. The inspectors did not identify any findings or violations of more than minor significance.

In accordance with Title 10 of the Code of Federal Regulations 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Document Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

**/RA/**

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

Docket Nos.: 50-269, 50-270, 50-287  
License Nos.: DPR-38, DPR-47, DPR-55

Enclosure: NRC Integrated Inspection Report 05000269/2015001, 05000270/2015001,  
05000287/2015001 w/Attachment: Supplementary Information

cc: Distribution via Listserv

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Supplementary Information

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**U. S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

Docket Nos: 50-269, 50-270, 50-287

License Nos: DPR-38, DPR-47, DPR-55

Report Nos: 05000269/2015001, 05000270/2015001, 05000287/2015001

Licensee: Duke Energy Carolinas, LLC

Facility: Oconee Nuclear Station, Units 1, 2 and 3

Location: Seneca, SC 29672

Dates: January 1, 2015, through March 31, 2015

Inspectors: E. Crowe, Senior Resident Inspector  
G. Croon, Resident Inspector  
N. Childs, Resident Inspector  
D. Lanyi, Senior Operations Engineer (Section 1R11)  
G. Ottenberg, Senior Reactor Inspector  
A. Toth, Operations Engineer (Section 1R11)

Approved by: Frank Ehrhardt, Chief  
Reactor Projects Branch 1  
Division of Reactor Projects

Enclosure

## **SUMMARY OF FINDINGS**

IR 05000269/2015-001, 05000270/2015-001, 05000287/2015-001; 01/01/2015 – 03/31/2015;  
Oconee Nuclear Station Units 1, 2 and 3; Integrated Inspection Report

The report covered a three-month period of inspection by the resident inspectors and three region-based reactor inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5. No NRC-Identified or self-revealing findings were identified.

## REPORT DETAILS

### Summary of Plant Status

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

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

Unit 3 began the inspection period at approximately 100 percent RTP. On January 31, 2015, the Unit 3 reactor was manually tripped due to main feedwater oscillations. The reactor was made critical on February 2, 2015 and the unit achieved 100 percent RTP on February 3, 2015. The unit remained at 100 percent RTP for the remainder of the inspection period.

### 1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

#### 1R01 Adverse Weather Protection

##### a. Inspection Scope

##### Readiness for Extreme Seasonal Weather Conditions

The inspectors reviewed the licensee's preparations for adverse weather associated with the cold ambient temperatures at the site. This included field walkdowns to assess the material condition and operation of freeze protection equipment, as well as other preparations made to protect plant equipment from freezing conditions. In addition, the inspectors reviewed the licensee's procedures for preparing for cold weather and conducted interviews with personnel responsible for implementing the licensee's cold weather protection program to assess the licensee's ability to identify and resolve deficient conditions associated with cold weather protection equipment prior to cold weather events. Documents reviewed are listed in the Attachment.

##### Impending Adverse Weather Conditions

The inspectors evaluated implementation of adverse weather preparation procedures and compensatory measures for the adverse weather condition listed below. The inspectors walked-down portions of the emergency feedwater systems, safe shutdown facility, low pressure service water, and portions of the auxiliary building. These systems and areas were selected because their safety-related functions could be affected by freezing weather.

- Projected freezing temperatures during January 7 – 8, 2015

##### External Flooding

The inspectors reviewed the licensee's compensatory measures identified in CAL 2-10-003, "Confirmatory Action Letter – Oconee Nuclear Station Units 1, 2, and 3 Commitments to Address External Flooding Concerns," to ensure the measures were available and properly maintained. This review included field walkdowns of temporary equipment to assess its material condition and operability. In addition, the inspectors

reviewed the licensee's procedures for external flood mitigation and conducted interviews with personnel responsible for implementing the licensee's program to assess the licensee's ability to respond to potential events.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial Walkdown

a. Inspection Scope

The inspectors performed the three partial walkdowns listed below to assess the operability of redundant or diverse trains and components when safety-related equipment was inoperable or out-of-service and to identify any discrepancies that could impact the function of the system potentially increasing overall risk. The inspectors reviewed applicable operating procedures and walked down system components, selected breakers, valves, and support equipment to determine if they were correctly aligned to support system operation. The inspectors reviewed protected equipment sheets, maintenance plans, and system drawings to determine if the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program (CAP). Documents reviewed are listed in the Attachment.

- Standby Shutdown Facility (SSF) mechanical systems and electrical distribution systems and protected service water (PSW) electrical distribution systems, during PSW pump installation
- Unit 0, electrical distribution equipment including Lee combustion turbine 7C, during Keowee hydro dual unit outage
- Unit 3, emergency feedwater mechanical and electrical systems, during 3B motor driven feedwater pump outage

b. Findings

No findings were identified.

1R05 Fire Protection

a. Inspection Scope

Fire Area Tours: The inspectors walked down accessible portions of the four plant areas listed below to assess the licensee's control of transient combustible material and ignition sources, fire detection and suppression capabilities, fire barriers, and any related compensatory measures. The inspectors observed the fire protection suppression and detection equipment to determine if any conditions or deficiencies existed which could impair the operability of that equipment. The inspectors selected the areas based on a

review of the licensee's safe shutdown analysis probabilistic risk assessment and sensitivity studies for fire-related core damage accident sequences. Documents reviewed are listed in the Attachment.

- Unit 2, ventilation room, fire zone 119
- Unit 3, cable room, fire zone 101
- Unit 3, equipment room, fire zone 89
- Unit 3, turbine driven feedwater pump, fire zone 13

b. Findings

No findings were identified.

1R06 Flood Protection Measures

a. Inspection Scope

Submerged or Buried Cable Inspections: The inspectors inspected the condition of the following cable trenches through direct observation. The inspectors inspected the trench to ensure there was no standing water and that the cables within the trench were intact and in good condition. The inspectors also verified that the trenches were free of debris which could have an adverse effect upon the cables. Documents reviewed are listed in the Attachment.

- CT-5 cable trench sump
- SSF cable trench sump
- Unit 3 turbine building cable trench sump

b. Findings

No findings were identified.

1R07 Heat Sink Performance

a. Inspection Scope

Annual Review: The inspectors reviewed the licensee's program for maintenance and testing of risk-important heat exchangers in the high pressure injection system including the testing and analysis program of the Unit 3 high pressure injection pump motor coolers for pumps 3A, 3B, and 3C. The inspector's review was to verify that the frequency of inspection was sufficient to detect degradation prior to loss of heat removal capability below design requirements; and that the inspection results were appropriately categorized against pre-established engineering acceptance criteria. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

## 1R11 Licensed Operator Requalification

### .1 Routine Operator Requalification Review:

#### a. Inspection Scope

On March 11, 2015, the inspectors observed one active simulator training session to assess the performance of licensed operators during the session. The scenario involved a loss of two main feedwater pumps, failed automatic feedwater isolation system and reactor building cooling unit, combined with a steam generator tube rupture. Events progressed to a point where the crew entered an unusual event emergency declaration. The inspectors also observed the post-scenario critique conducted by the training instructor and the crew. Documents reviewed are listed in the Attachment.

#### b. Findings

No findings were identified.

### .2 Observation of Operator Performance:

#### a. Inspection Scope

The inspectors observed operator performance in the main control room on February 2, 2015 during reactor start-up activities following a Unit 3 forced outage.

Additionally on March 18, 2015, the inspectors observed operator performance in the main control room during elevated risk conditions from the SSF being out of service as well as PSW power being unavailable from the Fant line. Inspectors observed licensed operator performance to assess the following:

- use of plant procedures
- control board manipulations
- communications between crew members
- use and interpretation of instruments, indications, and alarms
- use of human error prevention techniques
- documentation of activities
- management and supervision

#### b. Findings

No findings were identified.

### .3 Biennial Review:

#### a. Inspection Scope

The inspectors reviewed the facility operating history and associated documents in preparation for this inspection. During the week of March 16 – 20, 2015, the inspectors



reviewed documentation, interviewed licensee personnel, and observed the administration of operating tests associated with the licensee's operator requalification program. Each of the activities performed by the inspectors assessed 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 requalification guidelines established in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," and described in Inspection Procedure 71111.11, "Licensed Operator Requalification 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 three 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, and medical records. The records were inspected using the criteria listed in Inspection Procedure 71111.11. Documents reviewed during the inspection are documented in the Attachment.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the licensee's effectiveness in performing the two corrective maintenance activities listed below. These reviews included an assessment of the licensee's practices pertaining to the identification, scoping, and handling of degraded equipment conditions, as well as common cause failure evaluations. For each activity selected, the inspectors performed a detailed review of the problem history and surrounding circumstances, evaluated the extent of condition reviews as required, and reviewed the generic implications of the equipment and/or work practice problem. For those structures, systems, and components (SSCs) scoped in the maintenance rule per 10 CFR 50.65, the inspectors verified that reliability and unavailability were properly monitored and that 10 CFR 50.65 (a)(1) and (a)(2) classifications were justified in light of the reviewed degraded equipment condition. Documents reviewed are listed in the Attachment.

- Problem investigation program (PIP) O-15-00788, 2 CS-56 failed during RCS makeup
- PIP O-14-00633, Station batteries showing increased number of cell voltage issues

b. Findings

No findings were identified.

### 1R13 Maintenance Risk Assessments and Emergent Work Control

#### a. Inspection Scope

The inspectors evaluated the following attributes for the four activities listed below: (1) the completeness of the risk assessments performed before maintenance activities were conducted; (2) the management of risk; (3) that, upon identification of an unforeseen situation, necessary steps were taken to plan and control the resulting emergent work activities; and (4) that maintenance risk assessments and emergent work problems were adequately identified and resolved. Documents reviewed are listed in the Attachment.

- Yellow risk condition during SSF outage for monthly surveillance
- Orange risk condition during Keowee hydro dual unit outage
- Orange risk condition during monthly SSF outage in which SSF auxiliary feedwater was unavailable
- Yellow risk condition during 3B motor driven emergency feedwater (MDEFW) pump testing concurrent with air handling unit (AHU) 1-6 piping reference

#### b. Findings

No findings were identified.

### 1R15 Operability Evaluations and Functionality Assessments

#### a. Inspection Scope

The inspectors reviewed the following seven operability evaluations or functionality assessments affecting risk significant systems to assess: (1) the technical adequacy of the evaluations; (2) whether continued system operability was warranted; (3) whether other existing degraded conditions were considered; (4) if compensatory measures were involved, whether the compensatory measures were in place, would work as intended, and were appropriately controlled; and (5) where continued operability was considered unjustified, the impact on technical specifications (TS) limiting condition for operations. Documents reviewed are listed in the attachment.

- PIP-O-15-00147, Unit 3, craft identified discrepancies between existing drawing and as left regarding pipe support 02158649-29 and -39 on low pressure injection (LPI) piping
- PIP-O-15-00149, Unit 3, vent valve 3LP-206 (upstream of pump discharge check valve 3LP-31) was installed at an angle of 7 degrees from vertical
- PIP-O-15-00327, Unit K2, Multiple failures of a relay in breaker KPF-9 control circuit requires engineering to provide a design change, including equipment replacement, capable of meeting the requirements of the breaker control circuit operation
- PIP-O-15-00453, Unit 1, active leak on auxiliary pressurizer spray line outside containment isolation check valve (1HP-236)
- PIP-O-15-00461, Unit 2, reactor coolant makeup pump suction pressure decreasing
- PIP-O-15-00707, Unit K2, Keowee #2 emergency lockout
- PIP-O-15-00912, Unit 3, Main steam relief valve (3MS-3) failed to reseal at its required setpoint following Unit 3 manual reactor trip

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed the following six post-maintenance test procedures and/or test activities to assess if: (1) the effect of testing on the plant had been adequately addressed by control room and/or engineering personnel; (2) testing was adequate for the maintenance performed; (3) acceptance criteria were clear and demonstrated operational readiness consistent with design and licensing basis documents; (4) test instrumentation had current calibrations, range, and accuracy consistent with the application; (5) tests were performed as written with applicable prerequisites satisfied; (6) jumpers installed or leads lifted were properly controlled; (7) test equipment was removed following testing; and (8) equipment was returned to the status required to perform its safety function. Documents reviewed are listed in the Attachment.

- IP/0/A/2001/003 A, 1TC01 Breaker following periodic maintenance
- MP/0/A/1800/132, 1C High Pressure Injection Pump Test, following periodic maintenance
- MP/0/A/1840/040 A, 3A Motor Driven Feedwater Pump Test following periodic maintenance
- OP/1/A/1104/004, Low Pressure Injection System, Enclosure 4.55, Removal, Restoration, and Vent of 1A LPI Pump/Train in Modes 1, 2, 3, and 4 for Hydraulic Maintenance following replacement of 1A LPI pump suction valve (1LP-5) switch
- PT/2/A/0203/006 A, 2B Low Pressure Injection Pump Test following periodic maintenance
- PT/3/A/0203/006A, Low Pressure Injection Pump Test following replacement of the 3A low pressure injection pump discharge check valve

b. Findings

No findings were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors either witnessed and/or reviewed test data for the four surveillance tests listed below to assess if the SSCs met TS, updated final safety analysis report (UFSAR), and licensee procedure requirements. In addition, the inspectors determined if the testing effectively demonstrated that the SSCs were ready and capable of performing their intended safety functions. Documents reviewed are listed in the Attachment.

### Routine Surveillances

- IP/3/A/3000/001CA, CA Instrument and Control Battery 3CA Weekly Surveillance
- MP/0/A/5050/017, SSF Monthly Surveillance
- PT/2/A/0261/10, Essential Syphon Vacuum System Test

### In-Service Tests

- PT/1/A/0152/005, Component Cooling System Valve Stroke Test, Enclosure 13.2  
Component Cooling Valves Stroked on Refueling Frequency which cycled component cooling return penetration inside/outside block valves 1CC-7 and 1CC-8

#### b. Findings

No findings were identified.

#### 4. OTHER ACTIVITIES

##### 4OA1 Performance Indicator (PI) Verification

#### a. Inspection Scope

The inspectors sampled licensee data to confirm the accuracy of reported PI data for the following nine PIs. To determine the accuracy of the report PI elements, the reviewed data was assessed against PI definitions and guidance contained in Nuclear Energy Institute 99-02, Regulatory Assessment Indicator Guideline, Revision 6. Documents reviewed are listed in the Attachment.

#### Cornerstone: Initiating Events

- Unplanned Scrams per 7000 Critical Hours (3 units)
- Unplanned Scrams with Complications (3 units)
- Unplanned Power Changes per 7000 Critical Hours (3 units)

For the period of April 1, 2014, through March 31, 2015, the inspectors reviewed operating logs, train unavailability data, maintenance records, maintenance rule data, PIPs, consolidated derivation entry reports, and system health reports to verify the accuracy of the PI data reported for each PI.

#### b. Findings

No findings were identified.

## 4OA2 Problem Identification and Resolution

### .1 Daily Screening of Corrective Action Reports

#### a. Inspection Scope

In accordance with Inspection Procedure 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed daily screening of items entered into the licensee's CAP. This review was accomplished by reviewing copies of PIPs, attending daily screening meetings, and accessing the licensee's computerized database.

#### b. Findings

No findings were identified.

### .2 In Depth Review

#### a. Inspection Scope

In addition to the routine review, the inspectors selected the one issue listed below for a more in-depth review. The inspectors considered the following during the review of the licensee's actions: 1) complete and accurate identification of the problem in a timely manner; 2) evaluation and disposition of operability/reportability issues; 3) consideration of extent of condition, generic implications, common cause, and previous occurrences; 4) classification and prioritization of the resolution of the problem; 5) identification of root and contributing causes of the problem; 6) identification of problem identification reports; and 7) completion of corrective actions in a timely manner. Documents reviewed are listed in the attachment.

- PIP-O-14-07055, Priority 3 actions are being used as the sole means to resolve some conditions adverse to quality (CAQs) in the corrective action program which are considered actions outside the corrective action program

#### b. Observations

NRC inspectors discovered PIP-O-14-07055 written by the Oconee Nuclear Oversight group to document potential corrective actions taken outside the corrective action program which created a programmatic vulnerability with respect to assuring full compliance with 10 CFR 50 Appendix B, Criterion XVI. The inspectors noted the corrective action document identified the increased risk of the condition not being corrected in a timely manner, or at all, since the administrative controls, formality, and rigor applied to Priority 3 actions are significantly less than those applied to Priority 2 corrective actions. The licensee identified 112 conditions adverse to quality PIPs written over a period of time from January 1, 2012 until June 23, 2014 that may have been inappropriately closed using solely Priority 3 actions contrary to the guidance of Duke Energy fleet procedure NSD 208, "Corrective Action Program." The licensee performed a review of these 112 PIPs and determined that the vast majority of PIPs had actions performed correctly (albeit with Priority 3 classifications) or could have been classified as

a condition not adverse to quality and thus did not require any Priority 2 actions. The inspectors reviewed a sampling of this population of PIPs and determined the licensee had appropriately dispositioned the Priority 3 actions. Thus, the inspectors discovered that the issue was with the improper classification of the corrective action rather than improper corrective actions to address the adverse condition.

4OA6 Management Meetings (Including Exit Meeting)

Exit Meeting Summary

On April 16, 2015, the resident inspectors presented the inspection results to Mr. Scott Batson, Site Vice President and members of licensee management. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

## **SUPPLEMENTARY INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee

S. Batson, Site Vice President  
S. Boggs, Emergency Services Coordinator  
B. Bowers, Operations Instructor  
E. Burchfield, Engineering Manager  
T. Cheslak, Oconee Fire Protection Engineer  
T. Doss, LOR Supervisor  
P. Fisk, Superintendent of Operations  
R. Guy, Organization Effectiveness Manager  
A. Lotfi, Duke - Construction  
T. Patterson, Safety Assurance Manager  
J. Pottmeyer, Simulator Supervisor  
J. Pounds, OMP Tornado/HELB QA Oversight  
T. Ray, Station Manager  
F. Rickenbaker, OMP Manager  
D. Robinson, Radiation Protection Manager  
C. Ropp, Operations Training Supervisor  
J.R. Steely, Training Manager  
J. Smith, Regulatory Compliance  
P. Street, Emergency Planning Manager  
C. Wasik, Regulatory Compliance Manager

#### NRC

R. Hall, Project Manager, NRR

### **LIST OF ITEMS OPENED, CLOSED, DISCUSSED AND UPDATED**

#### Opened and Closed

None

#### Discussed

None

#### Opened

None

#### Closed

None

## **LIST OF DOCUMENTS REVIEWED**

### **Section 1R01: Adverse Weather Protection**

#### **Procedures:**

AP/0/A/1700/047, Jocassee Dam Failure, Rev. 0  
AP/1/A/1700/013, Dam Failure, Rev. 31  
AP/1/A/1700/034, Degraded Grid, Rev. 011  
IP/0/B/1606/009, Preventive Maintenance and Operational Check of Freeze Protection, Rev. 32  
MP/0/B/3007/059, Plant Heater Testing, Rev. 7  
OP/0/A/1104/041, Auxiliary Building Ventilation, Rev. 39  
OP/0/B/1104/050, Weather Related Activities, Rev. 4  
OP/0/A/1106/041, Turbine Building Ventilation, Rev. 3  
OP/0/A/1106/042, Hale Portable Pump Operation, Rev. 007  
OP/0/A/1107/016, Removal and Restoration of Switchyard Electrical Equipment, Rev 034  
OP/2/A/1102/020D, AAF and Outside Rounds, Rev. 065  
PT/0/A/0110/017, Cold Weather Preparation, Rev. 7  
RP/0/A/1000/035, Severe Weather Preparations, Rev. 0

### **Section 1R04: Equipment Alignment**

#### **Complex Activity Plans:**

Oconee Nuclear Station, Protected Equipment Log, 3/2/2015

### **Section 1R05: Fire Protection**

#### **Procedures:**

O-FS-2-AB-9838-001, Pre-Fire Plan – Unit 2 Auxiliary Building, Rev 0  
O-FS-2-TB-9775-001, Pre-Fire Plan – Unit 2 Turbine Building, Rev 0  
O-FS-3-AB-9796-001, Pre-Fire Plan – Unit 3 Equipment Room, Rev 1  
O-FS-3-AB-9809-001, Pre-Fire Plan – Unit 3 Cable Room, Rev 0

### **Section 1R06: Flood Protection Measures**

#### **Problem Identification Program Reports (PIPs):**

14-10111; 15-01818

#### **Work Orders:**

02148299-01; 021683013-01; 02171233-01

### **Section 1R07: Heat Sink Performance**

#### **Documents:**

ONS Technical Specification 5.5.9, Inservice Testing Program  
ONTC-3-124B-0020-001, 002, LPSW Flow to U3 HPI Motor Coolers Test Acceptance Criteria  
OSS-0254.00-00-1001, Design Basis Specification for the High Pressure Injection and Purification & Deborating Demineralizer Systems, Rev 49  
OSS-0254.00-00-1039, Design Basis Specification for the Low Pressure Service Water System, Rev 46

#### **Procedures:**

PT/3/A/0230/015, High Pressure Injection Motor Cooler Test, Rev 33



**Section 1R11: Licensed Operator Regualification****JPM Packages:**

CO-101, Evacuate the Control Room, Rev 0, 3/5/2015  
 CO-601a, Perform Required Actions for Powering SSF from PSW FANT, Rev 1, 3/4/2015  
 CO-S401a, Isolate Main Steam Line Rupture, Rev 1, 3/4/2015  
 AO-S406, Manually Operate FDW-315, Rev 1, 3/4/2015  
 ADM-CO-004, Calculating Deboring Demineralizer Removal Capacity, Rev 1, 3/4/2015  
 ADM-SO-004, Emergency Classification Based on Dose Calculation, Rev 1, 3/3/2015  
 AO-800a, Start Diesel Air Compressors and Align to Service Air Header, Rev 0, 3/1/2015  
 CO-P400a, Align ECCS Suction from Emergency Sump, Rev 0, 3/4/2015  
 AO-S404, Align EFDWP Suction to the Hotwell, Rev 0, 3/4/2015  
 CO-100a, Manually Drive Rods and Initiate Emergency Borating Following an ATWS = 1HP-26  
 Fails to Open, Rev 0, 3/4/2015

**Problem Identification Program Reports (PIPs):**

PIP-O-15-02606, LMS Not Correctly Updated to Reflect Training Attendance  
 PIP-O-15-02609, NSD 512 Clarification Needed to Support Site and Industry Practice  
 PIP-O-15-02526, Simulator Scenario Based Testing Documentation Incomplete  
 PIP-O-13-01020, Exam Security Issue at Oconee Training Center  
 PIP-O-13-14166, Inadvertent Water Transfer from RCS to QT  
 PIP-O-14-01284, Unplanned Entry into TS 3.8.1 Condition 1  
 PIP-O-14-01508, Late E-Plan Classification During Drill  
 PIP-O-14-03745, 45RIA-45 Low Flow Annunciator not Recognized During Performance of  
 Surveillance PT  
 PIP-O-14-07345, No-show to Scheduled Training

**Procedures:**

AD-TQ-ALL-1000, Conduct of Training, Rev 4  
 AP/1/A/1700/001, Unit Runback, Rev 15  
 AP/1/A/1700/028, ICS Instrument Failure, Rev 20  
 EP/1/A/1800/001, Emergency Operating procedure, Rev 40  
 ETQS-3115.5, Operations Shift Manager Program, Rev 9  
 ETQS-4000.0, Continuing Training Design and Implementation, Rev 8  
 ETQS-4116.1, Licensed Operator Regualification Training Program, Rev 14  
 ETQS-5100.0, Remediation and Reevaluation, Rev 4  
 ETQS-5401.0, Conduct of Simulator Training and Evaluation, Revision 1  
 OP/0/A/1108/001, Enclosure 4.33, Unit 3 RCS Heatup/Cooldown Curves  
 OP/3/A/1102/001, Controlling Procedure for Unit Startup, Rev 264  
 OTP-4116.1, Licensed Operator Regualification, Rev 48a  
 OTP-5404.0, Development, Administration, and Security of Exams, Rev 34  
 OTP-5405.2, LOR Sample Plan and Exam Selection Process, Rev 6  
 OTP-5601.0, JPM Administration, Rev 12  
 RP/0/A/1000/001, Emergency Classification, Rev 2  
 RP/0/A/1000/002, Control Room Emergency Coordinator Procedure, Rev 7

**Other**

0-TRN-SA-14-06, 2014 NRC 71111.11 Readiness Assessment, 12/15/2014  
 Comprehensive Corrective Action Effectiveness Assessment, 5/4/2013 LER 05000269/2013-02-0, LPI and RBS Trains Inoperable When 1LP-21 was Closed Due to Human Error

OP-OC-ASF-15, Active Simulator Exam, Rev. 00a  
 TRN 13-21A, Operations Training Enhanced Objective 6 Finding CA Effectiveness Assessment,  
 12/10/2013  
 TRN-13-02A, Operations Training Objective 6 Root Cause / Operations Training

Records:

License Reactivation Packages (4 Records Reviewed)  
 LORP Training Attendance records (8 Records Reviewed)  
 Medical Files (13 Reviewed)  
 Remedial Training Records (1 Record Reviewed)  
 Remedial Training Examinations (1 Record Reviewed)  
 Feedback Summaries (15 Records Reviewed)

Scenario Packages:

ASE-15, Revision 0a, 3/1/2015  
 ASE-21, Revision 0a, 2/22/2015  
 ASE-23, Revision 0, 2/23/2015  
 ASE-43, Revision 0, 2/2/2015

Simulator Physics Tests:

PT/0/A/0711/001, Zero Power Physics Test, 10/27/2014

Simulator Problem Reports & Design Change Requests:

WR-1930, Station Modification for MUR Power Uprate, 2/23/2011  
 WR-2075, PSW Design Revision Affecting Pressurizer Heater Alignment & Controls, 1/10/2012  
 WR-2497, HPP-355 Does Not Move, 10/6/2014  
 WR-2537, Simulator B Reactor Trip Relay Does not Trip, 1/23/2015  
 WR-2543, Condenser Vacuum Low Function Alarm, 2/27/2015  
 WR-2510, The Following OAC Points have Incorrect Setpoints, 11/14/2014

Simulator Scenario Based Tests:

ASE-05, 2/13/2014  
 ASE-06, 2/11/2014  
 ASE-10, 2/21/2013  
 ASE-36, 3/11/2013  
 ASE-41, 2/28/2014

Simulator Steady State Tests:

PT/003/N/003, Oconee Training Simulator A 100% Parameter Verification, 75% Parameter  
 Verification, 50% Parameter Verification, 9/13/2014

Simulator Transient Tests:

PT/03/T/03, Loss of Offsite Power, 9/16/2014  
 PT/06/T/06, Reactor Trip with Turbine Bypass Valve Bias Failure, 9/6/2014  
 PT/09/T/09, Depressurization with Pressurizer Spray, 9/6/2014  
 PT/12/T/12, Loss of all Feedwater Resulting in HPI Cooling, 9/11/2014  
 PT/16/T/16, Loss of Main Feedwater / ATWS Transient, 9/11/2014

Written Examinations:

LOR Biennial A Shift 3-6-15, Revision 0, 3/6/2015.

LOR Biennial E Shift 2-23-15, Revision 1, 2/23/2015.

**Section 1R12: Maintenance Effectiveness**Drawings:Problem Identification Program Reports (PIPs):

10-00717; 10-04024; 10-05746; 10-06061; 10-08772; 11-01311; 11-03562; 11-06695; 11-11647; 11-12232; 11-14398; 12-00072; 12-00197; 12-03818; 12-08169; 12-13244; 13-01545; 13-04290; 13-05197; 13-05340; 13-06539; 13-07735; 13-08035; 13-08806; 13-09934; 13-10043; 13-11731; 14-00383; 14-0544; 14-00633; 14-03339; 14-05071; 14-07025; 14-07025; 14-07423; 14-07502; 14-07563; 14-08560; 14-10974; 14-12670; 14-13771; 15-00788

Procedures:

AD-PI-ALL-0300, Self-Assessment and Benchmark Programs, Rev. 0

OP/0/A/1102/016, Generic Valve Stroke, Rev 04

OP/2/A/1103/004, Soluble Poison Control, Rev 107

Work Request:

1114179

Other:

Engineering Change Request 5176, Replace the Unit 2 Control Batteries (2CA and 2CB) in 2016

Self Assessment O-ENG-SA-14-08, Station Gattery Cell Voltage Issues Self-Assessment and Potential Trend Validation

System Health Report ONS-OAD, Vital AC/DC and Essential AC, Report period 2014Q4

**Section 1R13: Maintenance Risk Assessments and Emergent Work Control**Critical Activity Plans:

2015 Keowee Hydro Dual Unit Outage Critical Activity Plan approved 2/10/15

SSF Monthly Outage 15Week09 Critical Activity Plan approved 2/23/15

Procedures:

RP/0/A/1000/035, Severe Weather Preparations, Rev 1

**Section 1R15: Operability Evaluations**Drawings:

KEE-0119, Elementary Diagram PSW Emergency Power 13.8KV Feeder Bkr KPF-9 Control Circuit, Rev. 0

KEE-0219, Elementary Diagram PSW Emergency Power 13.8KV Feeder Bkr KPF-10 Control Circuit, Rev. 0

OFD-102B-3.2, Flow Diagram of Low Pressure Injection System, Rev 44

OFD-122A-3.1, Flow Diagram of Main Steam System, Rev 32

OFD-122A-3.2, Flow Diagram of Main Steam System, Rev 18

Problem Identification Program Reports (PIPs):

07-04959; 07-07201; 13-05050; 13-08088; 14-00338; 14-14132; 15-00147; 15-00149; 15-

00453; 15-00461; 15-00707; 15-00912

Procedures:

AD-MN-ALL-006, Leak Classification by Fluid Type, Rev 0  
 OP/0/A/1106/019, Keowee Hydro at Oconee, Rev 100  
 OP/0/A/1650/005, PSW AC Power, Rev 11  
 OP/0/A/2000/041, KHS Modes of Operation, Rev 35  
 OP/0/A/2000/043, KHS Shift Turnover and Rounds, Rev 41  
 OP/2/A/1102/020D, SSF and Outside Rounds, Rev 74  
 OP/2/A/1600/008, SSF Reactor Coolant Make Up System, Rev 29  
 PT/0/A/0620/009, Keowee Hydro Operation, Rev 50  
 PT/0/A/0500/020, PSW Power Path Test, Rev. 1, dated 1/3/15  
 PT/2/A/2200/020, KHU2 ACB IST

Work Request:

1127515

Work Order:

01128008  
 02190632

Other:

OSS-0254.00-00-1028, Design Basis Specification for the Low Pressure Injection and Core Flood System (LPI)  
 OSS-0254.00-00-1037, Design Basis Specification for the Main Steam System  
 UFSAR Section 10.3, Main Steam System  
 UFSAR Section 15.13, Steam Line Break Accident  
 UFSAR Section 15.17, Small Steam Line Break Accident

**Section 1R19: Post-Maintenance Testing**

Procedures:

IP/0/A/2001/003A, Inspection and Maintenance of 4.16kV and 6.9kV ACB, Rev 056  
 IP/0/A/4980/002B, TD-5 Relay, Rev 025  
 IP/0/A/4980/050B, General Electric CHC11A Relay, Rev 014  
 IP/0/A/4980/051A, CO-5, CO-6, CO-7, CO-8 and CO-11 Relay Test, Rev 020  
 MP/0/A/1840/040A, Pumps, Motors, Miscellaneous Components – Lubrication and Post Maintenance Test, Rev 003  
 OP/1/A/1104/004, Low Pressure Injection System, Rev 150  
 PT/2/A/0203/006A, Low Pressure Injection Pump Test – Recirculation, Rev 86  
 PT/3/A/0203/006A, Low Pressure Injection Pump Test – Recirculation, Rev 91

Problem Identification Program Reports (PIPs):

15-01839

Other:

Engineering Change 111309  
 OSC-6857-08  
 ONS Procedure Test Database – PT/2/A/0203/006A, 2B Low Pressure Injection Pump Test  
 2B LPI Pump IST Testing Results

Work Orders:

02128185; 02158649; 02162562; 02172755

**Section 1R22: Surveillance Testing**Procedures

IP/3/A/3000/001 CA, CA Instrument and Control Battery 3CA Weekly Surveillance, Rev 1  
 MP/0/A/5050/017, Diesels – SSF – Inspection and Operational Check, Rev. 30  
 PT/1/A/0152/005, Component Cooling System Valve Stroke Test, Rev 8  
 PT/2/A/0261/10, Essential Syphon Vacuum System Test, Rev 28

Problem Identification Program Reports (PIPs):

14-12634

Work Orders

02188497; 02197383; 02197384; 02198475

**Section 4OA1: Performance Indicator Verification**Documents:

Oconee Unit 1 Power History (24 months)  
 Oconee Unit 2 Power History (24 months)  
 Oconee Unit 3 Power History (24 months)  
 NRC Reactor Oversight Process (ROP) Oconee Nuclear Station Performance Indicator Data,  
 NRC Submittal Approval Form, 4<sup>th</sup> Quarter 2014  
 PI Summary, Oconee U1, Unplanned SCRAMS per 7,000 Critical Hours  
 PI Summary, Oconee U1, Unplanned Power Changes per 7,000 Critical Hours  
 PI Summary, Oconee U1, Unplanned SCRAMs with Complications  
 PI Summary, Oconee U2, Unplanned SCRAMS per 7,000 Critical Hours  
 PI Summary, Oconee U2, Unplanned Power Changes per 7,000 Critical Hours  
 PI Summary, Oconee U2, Unplanned SCRAMs with Complications  
 PI Summary, Oconee U3, Unplanned SCRAMS per 7,000 Critical Hours  
 PI Summary, Oconee U3, Unplanned Power Changes per 7,000 Critical Hours  
 PI Summary, Oconee U3, Unplanned SCRAMs with Complications

**Section 4OA2: Problem Identification and Resolution**Problem Identification Program Reports (PIPs):

13-05937; 13-10533; 13-14998; 14-03041; 14-06052; 14-07055; 14-07979; 14-10630; 15-00098

Procedures

AD-PI-ALL-0300, Self-Assessment and Benchmark Programs, Rev. 0