



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

July 30, 2013

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  
05000269/2013003, 05000270/2013003, 05000287/2013003**

Dear Mr. Batson:

On June 30, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Oconee Nuclear Station Units 1, 2, and 3. The enclosed inspection report documents the inspection results, which were discussed on July 8, 2013, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents two Severity Level IV violations. Further, a licensee-identified violation is listed in this report. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy. If you contest these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-001; with copies to the Regional Administrator Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Oconee.

S. Batson

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In accordance with 10 CFR 2.390 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 document 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/***

Jonathan H. Bartley, 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 05000269/2013003, 05000270/2013003,  
05000287/2013003 w/Attachment: Supplementary Information

cc w/encl: (See page 3)

S. Batson

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cc w/encl: (See page 3)

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S. Batson

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Letter to Scott L. Batson from Jonathan H. Bartley dated July 30, 2013

SUBJECT: OCONEE NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT  
05000269/2013003, 05000270/2013003, 05000287/2013003

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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: 05000269/2013003, 05000270/2013003, 05000287/2013003

Licensee: Duke Energy Carolinas, LLC

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

Location: Seneca, SC 29672

Dates: April 1, 2013, through June 30, 2013

Inspectors: E. Crowe, Senior Resident Inspector  
K. Ellis, Resident Inspector  
G. Croon, Resident Inspector  
C. Rapp Senior Project Engineer

Approved by: Jonathan H. Bartley, Chief  
Reactor Projects Branch 1  
Division of Reactor Projects

Enclosure

## SUMMARY OF FINDINGS

IR 05000269/2013-003, 05000270/2013-003, 05000287/2013-003; 04/01/2013 – 06/30/2013; Oconee Nuclear Station Units 1, 2 and 3; Follow-up of Events and Notices of Enforcement Discretion

The report covered a three-month period of inspection by the resident inspectors and a Region-based reactor inspector. Two Severity Level IV (SL IV) non-cited violations (NCVs) were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process revision 4."

### Traditional Enforcement

- An NRC- Identified a Severity Level IV non-cited violation of 10 CFR 50.73, Licensee Event Report System, was identified for the licensee's failure to submit a timely and complete Licensee Event Report (LER). The LER submittal did not contain the required narrative section and did not meet the 60 day report requirement. There are two examples of this violation. The issue was entered into the licensee's CAP. The licensee submitted the LERs to restore compliance.

The licensee's failure to submit LERs within 60 days of the date of discovery and with all required information as require by 10 CFR 50.73 is a performance deficiency (PD). This PD was assessed using traditional enforcement because it had the potential for impacting the NRC's ability to perform its regulatory function. The inspectors determined the significance of this violation was a Severity Level IV violation using Section 6.9.d.9 of the NRC's Enforcement Policy. Cross cutting aspects are not assigned to traditional enforcement violations. (Section 4OA3.1)

- An NRC-Identified SL IV non-cited violation for failure to make an 8-hour report as required by 10 CRF 50.72 was identified. The licensee failed to report an inadequate heat load analysis and design that impacted emergency power equipment. The issue was entered into the licensee's CAP. The licensee completed the 8-hour report to restore compliance.

The licensee's failure to submit an 8-hour report as required by 10 CFR 50.72 was a performance deficiency (PD). The PD was dispositioned as traditional enforcement because it had the potential for impacting the NRC's ability to perform its regulatory function. The violation was determined to be a SL-IV violation using Section 6.9.d.9 of the NRC's Enforcement Policy. Cross cutting aspects are not assigned to traditional enforcement violations. (Section 4OA3.2)

Enclosure

## REPORT DETAILS

### Summary of Plant Status

Units 1, 2, and 3 began the inspection period at approximately 100 percent rated thermal power (RTP) and remained there until the end of the inspection period.

#### 1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

#### 1R01 Adverse Weather Protection

##### a. Inspection Scope

Hot Weather Preparations: The inspectors reviewed the licensee's preparations for hot weather to ensure equipment used in the licensee's procedures was capable of functioning as intended. This included field walkdowns to assess the material condition and operation of ventilation and cooling equipment and a review of procedures designed to align equipment to support operation during the summer months. Risk-significant systems and areas reviewed included the standby shutdown facility, the auxiliary building, portions of the turbine building and the essential siphon vacuum (ESV) building. In addition, the inspectors conducted discussions with operations, engineering, and maintenance personnel in order to assess the licensee's ability to identify and resolve deficient conditions associated with hot weather protection equipment prior to actual hot weather being experienced at the site. Documents reviewed are listed in the Attachment.

External Flooding: The inspectors performed a walkdown of exterior building walls to evaluate the plant's readiness to cope with external flooding. The sample included a walkdown of the exterior walls of the Auxiliary Building (AB) and CT-4 Blockhouse to verify the adequacy of flood protection features to prevent water from entering the plant and impacting plant equipment. Documents reviewed are listed in the Attachment.

Evaluation of Summer Readiness of Offsite and Alternate AC Power Systems: The inspectors reviewed the licensee's procedures used to respond to changing offsite grid conditions; including actions to be taken when notified that a Real Time Contingency Analysis (RTCA) shows inadequate post trip voltage to verify the implementation of the procedures protect mitigating systems from adverse weather affects. The inspectors also reviewed the procedural guidance for monitoring switchyard voltage and frequency when the RTCA is non-functional. The assessment of plant risk for maintenance activities that could affect grid reliability or offsite activities which could affect the transmission system's ability to provide adequate offsite power was discussed with the appropriate plant personnel. The inspectors also reviewed related work orders and performed a walkdown of the plant switchyards to verify the material condition of the offsite power sources. Documents reviewed are listed in the Attachment.

Enclosure



b. Findings

No findings were identified.

1R04 Equipment Alignmenta. Inspection Scope

Partial Walkdown: 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 CAP. Documents reviewed are listed in the Attachment.

- Unit 1, 2, and 3 electrical distribution systems during period when the standby shutdown facility (SSF) was inoperable for permanent modification
- Unit 1, 2, and 3 emergency feedwater systems during period when the SSF was inoperable and the emergence of inclement weather (tornado watch)
- Keowee overhead power path and Oconee Nuclear Station (ONS) Standby Bus #1 during period when Keowee underground path and ONS standby bus #2 were inoperable for scheduled switchgear planned maintenance.

Full System Walkdown: The inspectors performed a full system walkdown of the emergency AC power system to Unit 1 emergency switchgear. The inspectors reviewed applicable operating procedures and walked down system components, selected breakers 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.

b. Findings

No findings were identified.

## 1R05 Fire Protection

### a. Inspection Scope

Fire Area Tours: The inspectors walked down accessible portions of the five 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 1/2 Blockhouse
- 230 kV/525 kV Switchyard
- Unit 2 East Penetration Room
- Unit 2 West Penetration Room
- SSF

Fire Drill Observation: Inspectors observed the performance of a shift fire drill on April 9, 2013. The licensee conducted a drill simulating a fire in the 1A high pressure injection (HPI) pump room. The inspectors verified the fire brigade's use of protective gear and fire-fighting equipment; that firefighting pre-plan procedures and appropriate firefighting techniques were used; and that the directions of the fire brigade leader were thorough, clear, and effective. The inspectors also observe the post-drill critique to assess if it was appropriately critical, included discussions of drill observations, and identified any areas requiring corrective action. Documents reviewed are listed in the Attachment.

### 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 trench through direct observation. The inspectors inspected the trenches to ensure there was no standing water and that the cables within the trench were intact and in good condition.

- Condenser cooling water pump cable trench
- CT-5 cable trench

Internal Flood Protection: The inspectors reviewed risk-important plant design features and licensee procedures to protect the plant and its safety-related equipment from internal flooding events. The inspectors reviewed flood analysis documentation associated with internal plant areas to determine the effects of flooding for the area listed below. The internal area was selected and walked down based on the flood analysis calculation. The inspectors reviewed sealing of doors, holes in elevation penetrations, sump pump operations and potential flooding sources. The inspectors also reviewed CAP documents to ascertain the licensee was identifying and resolving issues. Documents reviewed are listed in the Attachment.

- Unit 2 low pressure injection pump room

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 low pressure service water system including the testing and analysis program of the Unit 2 reactor building cooling units. The inspector's review was to verify that the frequency of inspection was sufficient to detect degradation prior to loss of heat removal capabilities below design requirements; 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 Regualification

a. Inspection Scope

Routine Operator Regualification Review: On May 23, 2013, the inspectors observed one active simulator training session to assess the performance of licensed operators during a simulator training session. The scenario involved a plant power reduction, loss of feedwater, a manual reactor trip, feeding the 1B once through steam generator with the 1B motor driven emergency feedwater (MDEFW) pump, loss of all FDW sources requiring forced HPI cooling. The post-scenario critique conducted by the training instructor and the crew was observed. Documents reviewed are listed in the Attachment.

Observation of Operator Performance: The inspectors observed operator performance in the main control room on April 12, 2013, during control movement at power. Inspectors observed licensed operator performance to assess the following:

- Use of plant procedures
- Control board manipulations
- Crew communications
- 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.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the licensee's effectiveness in performing the following two corrective maintenance activities. 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.

- PIP-O-13-03811, Maintenance rule unavailability records need to be evaluated for the following systems exceeding 50 percent unavailability: Unit 2 building spray; Keowee overhead power path super system – Unit 2; Keowee generator super system – Unit 2; Lee/Central power system; and SSF
- PIP O-13-4860, A Maintenance Rule (a)(1) action plan is needed for protected service water (PSW)

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 five activities listed below: (1) the effectiveness 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.

- Emergent risk assessment and management in response to adverse weather at ONS during SSF outage for PSW Power tie-in
- Emergent risk assessment and management in response to discovery of improper switch alignment in the 230KV high voltage switchyard
- Review of complex activity plan associated with PSW power feed to SSF
- Review of complex activity plan associated with planned maintenance on CT-5 transformer, B2T05 (SL2) switchgear and shutter lift replacement.
- Review of removal and restoration of switchyard electrical power circuit breaker (PCB) 27

#### b. Findings

No findings were identified

### 1R15 Operability Evaluations and Functionality Assessments

#### a. Inspection Scope

The inspectors reviewed the following five 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. Operating Experience Smart Sample (OpESS ) 2012/02, Technical Specification Interpretation and Operability Determination, was used by the inspectors during the review.

- PIP O-13-04037, The Unit 1&2 CT4 switchgear enclosure ventilation fans and their openings have not been evaluated for tornado loadings
- PIP O-13-04032, Lee CT8C tripped during system generation
- PIP O-13-04697, PIRT report for O-13-04304 and O-13-04503 improper operation of switchyard disconnects; selection and performance of incorrect procedure

- PIP O-13-05083, Keowee fire protection line leakage
- PIP O-13-06279, CT-4 blockhouse ventilation dampers only capable of withstanding up to 85.5 mph windspeeds

b. Findings

No findings were identified.

1R18 Plant Modifications

a. Inspection Scope

The inspectors reviewed the following plant modification to verify the adequacy of the modification package and the 10 CFR 50.59 screenings and to evaluate the modification for adverse effects on system availability, reliability, and functional capability. Documents reviewed are listed in the Attachment.

Permanent Plant Modifications

- EC 110111; Modify Unit 1/2 blockhouse ventilation fans, Rev. 3

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.

- SSF auxiliary service water pump test following power-up of the SSF from PSW power through B7T
- 1B ESV pump test following pump motor replacement
- Functional test of 3DIA inverter following planned maintenance and fuse replacement
- 1A MDEFW pump test following lubrication preventive maintenance
- 3B HPI pump test following breaker and lubrication preventive maintenance
- 1 LP-22 valve stroke test following mechanical and electrical preventive maintenance

b. Findings

No findings were identified.

1R22 Surveillance Testinga. Inspection Scope

The inspectors either witnessed and/or reviewed test data for the five 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/0/A/30112/001B, Vital Inverter Maintenance for calibration of 2B DIB vital inverter
- PT/2/A/0204/007, Reactor Building Spray Pump Test
- IP/2/A/0270/018, AFIS Analog On-Line Functional Test

In-Service Tests

- PT/2/A/0203/006 A, Low Pressure Injection Pump Test – Recirculation

RCS Leakage

- PT/3/A/0600/010, Reactor Coolant Leakage

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluationa. Inspection Scope

The inspectors evaluated the licensee's performance in the Unit 1 simulator, the Technical Support Center, and the field during an emergency drill conducted on May 22, 2013. The drill involved an initial rod drop event, Unit 1 main transformer fault which resulted in a transformer fire, the loss of both the Unit 1 startup transformer and the Keowee underground transformer, CT-4, resulting in the loss of onsite AC power. The NRC assessment focused on the timeliness and location of classification, offsite agency notification, and the licensee's expectations of response. The performance of emergency response organization was evaluated against applicable licensee procedures and regulatory requirements. The inspectors attended the post-exercise critique for the

drill to evaluate the licensee's self-assessment process for identifying potential deficiencies relating to failures in classification and notification. Documents reviewed are listed in the Attachment.

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: Mitigating Systems

- MSPI Cooling Water System (3 units)
- MSPI High Pressure Injection (3 units)

Cornerstone: Barrier Integrity

- RCS Activity (3 units)

For the period of April 1, 2012, through March 31, 2013, the inspectors reviewed Chemistry database data, operating logs, train unavailability data, maintenance records, Maintenance Rule Data, PIPs, Consolidated Derivation Entry (CDE) 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

In accordance with Inspection Procedure (IP) 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.



.2 Semi-annual Trend Review

a. Inspection Scope

As required by IP 71152, Identification and Resolution of Problems, the inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screenings discussed in section 4OA2.1 above, licensee trending efforts, licensee human performance results and inspector observations made during in-plant inspections and walk-downs. The inspectors' review primarily considered the six-month period of January 2013 through June 2013, although some examples expanded beyond those dates when the scope of the trend warranted. The review also included issues documented outside the normal CAP in major equipment problem lists, plant health reports, Independent Nuclear Oversight reports, self-assessment reports, and maintenance rule reports. The inspectors compared and contrasted their results with the results contained in the licensee's latest quarterly trend reports. Corrective actions associated with a sample of the issues identified in the licensee's trend report were reviewed for adequacy.

b. Observations and Findings

No findings were identified. In general, the licensee performs adequate monitoring of their programs for adverse trends. The inspectors reviewed corrective actions associated with problem identification reports for potential trends and observed the corrective actions were adequate to address the trends.

4OA3 Follow-up of Events and Notices of Enforcement Discretion (NOED)

.1 (Closed) LER 05000269/270/287/2011-004-00, The Inability to Consistently Detect the Required Reactor Coolant System Leak Rate Using the Particulate Radiation Monitor, In All Applicable Modes of Operation, Results in a Condition Prohibited by the Technical Specifications

(Closed) LER 05000269/270/287/2011-004-01, Inability to Detect RCS Leak Rate Using the Particulate Radiation Monitor

a. Inspection Scope

On February 10, 2011, the licensee determined that the particulate activity instrument RIA-47, Reactor Building Particulate Monitor, would not have been able to consistently detect a one gallon per minute RCS leak within one hour in Modes 1, 2, 3 and 4 as required by TS 3.4.15. This condition was captured in the CAP as PIP-O-11-00387.

b. Findings

Introduction: An NRC- Identified Severity Level IV NCV of 10 CFR 50.73, Licensee Event Report System, was identified for the licensee's failure to submit a timely and complete LER. The LER submittal did not contain the required narrative section and did not meet the 60 day report requirement.

Description: The inspectors reviewed the LER and PIP-O-11-00387 to verify the accuracy of the LER and that corrective actions were identified and implemented to address the issue. The inspectors noted the LER did not include a narrative description as required by 10 CFR 50.73(b)(2)(ii); however, the licensee indicated that a supplemental LER would be submitted in October 10, 2011, which would include the required narrative description. On April 16, 2013, the inspectors questioned the licensee if a supplemental LER was submitted. The licensee determined that they failed to submit a supplemental LER. Subsequently, the licensee submitted a supplemental LER on May 22, 2013, which included the narrative description. The inspectors also noted the LER identified the date of discovery or event date as April 4, 2011. This was 51 days after the actual date of discovery documented in PIP-O-11-00387 as February 10, 2011. Therefore, the LER submitted on June 1, 2011, exceeded the 60 day reporting requirement of 10 CFR 50.73(a).

Analysis: The licensee's failure to submit an LER within 60 days of the date of discovery and with all required information as required by 10 CFR 50.73 is a PD. This PD was assessed using traditional enforcement because it had the potential for impacting the NRC's ability to perform its regulatory function. The inspectors determined the significance of this violation was a Severity Level IV violation using Section 6.9.d.9 of the NRC's Enforcement Policy. Cross cutting aspects are not assigned to traditional enforcement violations.

Enforcement: 10 CFR 50.73(a) required the holder of an operating license under part 50 shall submit a LER for any event of the type described in this paragraph within 60 days after the discovery of the event. 10 CFR 50.73(b)(ii) required the LER contain a clear, specific, narrative description of what occurred so that knowledgeable readers conversant with the design of commercial nuclear power plants, but not familiar with the details of a particular plant, can understand the complete event. Contrary to the above, the licensee did not submit LER 05000269/270/287-2011-004-00 within 60 days after discovery and LER 05000269/270/287-2011-04-00 did not contain a clear, specific narrative of the event. Because this finding was of very low safety significance, was not repetitive or willful, and was entered into the licensee's CAP as PIPs O-13-05693, O-13-06184, and O-13-06185, this violation is being treated as an NCV, consistent with the NRC Enforcement Policy and designated as NCV 05000269/270/287/2013003-01, Failure to Timely Report Required Information.

.2 (Closed) Licensee Event Report (LER) 05000269/270/287/2013-001-00 and -01:  
Inadequate HVAC Load Analysis and Design Impacts on Emergency Power Equipment:

a. Inspection Scope

The licensee determined that emergency power equipment could be adversely impacted by a design issue involving inadequate analysis of electrical equipment heat loads and inadequate HVAC system design which left the equipment in the Unit 1 and 2 blockhouse, the Unit 3 blockhouse, and the 230kV switchyard relay house susceptible to single failures. Immediate compensatory measures taken to restore the equipment to operable included having guidance to open doors in the areas to increase natural air circulation. The inspectors verified the accuracy of the LER, the appropriateness of completed and planned corrective actions, and the licensee's root cause evaluation. The enforcement aspects of this issue are discussed below and in Section 4OA7. The licensee entered this issue into their CAP as PIP O-12-10969.

b. Findings

Introduction: An NRC-Identified SL IV violation for failure to make an 8-hour report as required by 10 CRF 50.72 was identified. The licensee failed to report an inadequate HVAC heat load analysis and design that impacted emergency power equipment.

Description: On September 26, 2012, the licensee identified an inadequate HVAC heat load analysis and design that impacted emergency power equipment. The licensee performed an operability determination on October 26, 2012, and concluded that the equipment in Unit 1 and Unit 2 common blockhouse would not have been able to perform their safety function during certain accident scenarios. On February 6, 2013, the licensee completed the reportability review section for PIP O-12-10969 and concluded that an 8-hour report per 10CFR50.72 was not required. 10 CFR 50.72 required an 8-hour report for any condition that significantly degrades plant safety and any condition that at the time of discovery could have prevented the fulfillment of the safety function. The inspectors reviewed the PIP including the reportability section and questioned why an 8-hour report was not required when the licensee determined this condition could have prevented fulfillment of a safety function. After additional review by the licensee, the licensee determined that an 8-hour report was required and provided the 8-hour report to the NRC on May 24, 2013.

On April 8, 2013, the licensee submitted LER 05000269/270/287-2013-01 to report this condition. However, the licensee used February 6, 2013, as the date of discovery for LER reportability. The date of discovery should have been October 26, 2013, because that was when the licensee determined equipment in the Unit 1 and 2 common blockhouse was affected. This resulted in the LER being submitted in excess of the required 60-days from the date of discovery.

Analysis: The licensee's failure to submit an 8-hour report as required by 10 CFR 50.72 was a performance deficiency. The PD was dispositioned as traditional enforcement because it had the potential for impacting the NRC's ability to perform its regulatory function. The violation was determined to be a SL-IV violation using Section 6.9.d.9 of the NRC's Enforcement Policy. Cross cutting aspects are not assigned to traditional enforcement violations.

The failure to submit an LER within 60 days as required by 10 CFR 50.73 was a performance deficiency. The PD was dispositioned as traditional enforcement because it had the potential for impacting the NRC's ability to perform its regulatory function. The violation was determined to be a SL-IV violation using Section 6.9.d.9 of the NRC's Enforcement Policy and is another example of NCV 05000269/270/287/2013003-01, Failure to Timely Report Required Information, and therefore, was not separately assessed.

Enforcement: 10 CFR 50.72(b)(3)(ii)(B) and 10CFR 50.72(b)(3)(v) required, in part, that operating reactor licensees shall notify the NRC within 8 hours of the occurrence of a condition that resulted in the nuclear power plant being in an unanalyzed condition that significantly degrades plant safety and any condition that at the time of discovery could have prevented the fulfillment of the safety function of structures or systems needed to shut down the reactor, remove residual heat, control the release of radioactive material, or mitigate the consequences of an accident. Contrary to the above, on October 26, 2012, the licensee failed to notify the NRC within 8 hours following the identification of an HVAC design issue which resulted in an unanalyzed condition that significantly degrades plant safety and a condition that could have prevented the fulfillment of the safety function of structures or systems needed to shut down the reactor, remove residual heat, control the release of radioactive material, or mitigate the consequences of an accident. Because this finding was of very low safety significance, was not repetitive or willful, and was entered into the licensee's CAP as PIPs O-13-5693, O-13-6184, O-13-6185, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy, and is identified as NCV 05000269/270/287/2013003-02, Failure to Make Required 8-Hour Report.

#### 4OA5 Other Activities

##### .1 Quarterly Resident Inspector Observations of Security Personnel and Activities

###### a. Inspection Scope

During the inspection period the inspectors conducted observations of security force personnel and activities to ensure that the activities were consistent with licensee security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours. These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status reviews and inspection activities.

b. Findings

No findings were identified.

2. Operation of an Independent Spent Fuel Storage Installation

a. Inspection Scope

Under the guidance of IP 60855.1, Operation of an Independent Spent Fuel Storage Installation at Operating Plants, the inspectors observed operations involving spent fuel storage. The inspectors reviewed documentation related to Dry Shielded Canister (DSC) 128, and verified that parameters and characteristics for each fuel assembly stored in the DSC was recorded, and that the records were maintained as controlled documents. The inspectors verified that the fuel selected for storage was consistent with the ISFSI Certificate of Compliance requirements. The inspectors also observed selected licensee activities related to the loading, vacuum drying and transfer of the DSC into the Horizontal Storage Module, to ensure procedural requirements were met. The inspectors also reviewed selected screening evaluations performed pursuant to 10 CFR 72.48 since the last inspection. There were no 72.48 evaluations performed during this period as all screenings determined no 72.48 evaluations were required.

b. Findings

No findings were identified.

40A6 Management Meetings (Including Exit Meeting)

Exit Meeting Summary

On July 8, 2013, the resident inspectors presented the inspection results to Mr. Scott Batson and other members of licensee management. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

40A7 Licensee Identified Violations

The following violation of very low safety significance (Green) or Severity Level IV was identified by the licensee and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy for being dispositioned as a Non-Cited Violation.

- 10 CFR 50, Appendix B, Criterion III, states in part that measures shall be established to assure that applicable regulatory requirements and the design basis, as defined in 50.2 and as specified in the license application, for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions. 10 CFR 50, Appendix B, Criterion III further states that these measures shall include provisions to assure that appropriate quality standards are specified and included in design documents and that deviations from such standards are controlled. Contrary to this requirement, from

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original plant licensing to October 26, 2012, design basis requirements for the Unit 1/2 Blockhouse, Unit 3 Blockhouse, and the 230 kV relay house weren't adequately translated into specifications. The licensee's failure to perform an adequate heat load analysis impacted the functionality of safety related equipment in the Unit 1/2 Blockhouse, Unit 3 Blockhouse, and the 230 kV relay house during certain design basis events. This condition was not greater than Green because the limited amount of hours per year above 90 degrees, the slow heatup allowing operator recovery, and the availability of the availability of the SSF and the Lee line limited the more significant sequences to those caused by Tornado or Fire initiators which have low initiating event frequencies. This violation was entered into the licensee's corrective action program as PIP O-12-10969.

ATTACHMENT: SUPPLEMENTARY INFORMATION

## SUPPLEMENTARY INFORMATION

### KEY POINTS OF CONTACT

#### Licensee

K. Alter, Regulatory Compliance Manager  
S. Batson, Site Vice President  
S. Boggs, Emergency Services Coordinator  
E. Burchfield, Engineering Manager  
T. Cheslak, Oconee Fire Protection Engineer  
P. Fisk, Superintendent of Operations  
R. Guy, Organization Effectiveness Manager  
T. King, Security Manager  
A. Loffi, Duke - Construction  
T. Patterson, Safety Assurance Manager  
J. Pounds, OMP Tornado/HELB QA Oversight  
T. Ray, Station Manager  
F. Rickenbaker, OMP Manager  
D. Robinson, Radiation Protection Manager  
J. Smith, Regulatory Compliance  
P. Street, Emergency Planning Manager

#### NRC

J. Boska, Project Manager, NRR

### LIST OF REPORT ITEMS

#### Opened and Closed

05000269/270/287/2013003-01	NCV	Failure to Timely Report Required Information (Section 40A3.1)
05000269/270/287/2013003-02	NCV	Failure to Make Required 8-Hour Report (Section 40A3.2)

#### Closed

05000269/270/287/2011-004-00	LER	The Inability to Consistently Detect the Required Reactor Coolant System Leak Rate Using the Particulate Radiation Monitor, In All Applicable Modes of Operation, Results in a Condition Prohibited by the Technical Specifications (Section 40A3.1)
05000269/270/287/2011-004-01	LER	Inability to Detect RCS Leak Rate Using the Particulate Radiation Monitor (Section 40A3.1)
05000269/270/287/2013-001-00	LER	Inadequate HVAC Load Analysis and Design Impacts on Emergency Power Equipment (Section 40A3.2)

## LIST OF DOCUMENTS REVIEWED

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

#### External Flooding Walkdown

RP/0/B/1000/035, Severe Weather Preparations, Rev. 8  
O-PDF-0003, PMP Rainfall Event Flood Barriers, Rev. A  
PIP O-12-4318

#### Hot Weather Preparations

OP/0/B/1104/050, Weather Related Activities, Rev. 4  
OP/1/A/1104/051, ESV System, Rev. 25  
OP/0/A/1600/002, SSF HVAC, Rev. 34  
PT/0/A/0110/018, Hot Weather Protection, Rev. 5  
OP/0/A/1104/041, Auxiliary Building Ventilation, Rev. 38  
OP/0/A/1106/041, Turbine Building Ventilation, Rev. 1

#### Offsite Grid Readiness Review

AP/1/A/1700/034, Degraded Grid, Rev. 7  
COP-NUC-P01, TCC/SOC Response to Nuclear Switchyard Low Voltage  
NSD 417, Nuclear Facilities/Generation Status Communications, Rev. 13  
PT/0/A/0610/022, Degraded Grid and Switchyard Isolation Test, Rev. 30  
OP/0/A/1107/016, Removal and Restoration of Switchyard Electrical Equipment, Rev 033  
PIPs O-13-04304, O-13-04503, O-13-04697

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

Unit 0 Plant Data for 6/28/2013, Protected Equipment.  
TS 3.8.1.D KHU underground power path (standby bus #2)

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

O-FS-1-AB-9758-001, Fire Zone 55A, Unit 1 & 2 Auxiliary Building, Elevation 758', Rev 0  
O-FS-2-AB-9809-001, Fire Zone 102, Unit 2 West Penetration Room, Elevation 809', Rev 0  
O-FS-2-AB-9809-001, Fire Zone 103, Unit 2 East Penetration Room, Elevation 809', Rev 0  
O-FS-0-OC-90000-001, Fire Zone SWC-H-001, Pre Fire Plan, Yard Owned Controlled Area  
Switchyards, 230 KV Switchyard, Rev 0  
PT/0/B/2000/050, Fire Drill – Performance and Evaluation, Rev 0  
Oconee Nuclear Site, Second Quarter 2013 Fire Drill Drill Number 01-01-12 (Makeup) Scenario

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

AP/1-2/A/1700/030, Auxiliary Building Flood, Revision 020  
OSC-8671, Auxiliary Building Flood design Values, Revision 3

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

PT/2/A/0160/08, RBCU Performance Test

### **Section 1R11: Licensed Operator Regualification**

EP/1/A1800/01, Emergency Operating Procedure, Rev. 39E  
OP-OC-SAE-R189, SAER-189 Exercise Guide, Exercise SAE-R189, Rev 5  
PIP O-12-224 CA #75 for LOR; TOP 10 PRA Action Items For LOR



**Section 1R12: Maintenance Effectiveness**

Oconee Maintenance Rule Assessor database

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

Risk Management Alert, PM on CT-5 Transformer, B2T05 (SL2) Switchgear PM and Shutter Lift Arm Replacement Wk 26, 6/27/13

**Section 1R15: Operability Evaluations**

OSC-24, Transformer and Switchgear Enclosure, Rev. 6

**Section 1R18: Plant Modifications**

MP/0/A/3009/020 B, Motor – Removal, Replacement and Post Maintenance Testing, Rev. 32

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

IP/0/A/3011/001B, Vital Inverter Maintenance, Rev. 17  
 OP/0/A/1600/009, SSF Auxiliary Service Water System, Rev. 35  
 PT/0/A/0400/005, SSF ASW Pump Test, Rev. 63  
 PT/1/A/0261/010, Essential Siphon Vacuum System Test, Rev. 17  
 TT/0/A/0500/008, Protected Service Water Power to SSF, Rev. 3  
 PT/3/A/0202/011, High Pressure Injection Pump Test, Rev. 86  
 PT/1/A/0152/012, Low Pressure Injection System Valve Stroke Test, Rev. 37  
 OP/1/A/1102/008, On-Line Valve Lineup for MOV Maintenance, Rev. 38  
 Work Orders\_02035160-01; 02060222-01; 02051029

**Section 1R22: Surveillance Testing**

IP/0/A/3011/001B, Vital Inverter Maintenance, Rev 017  
 PT/2/A/0204/007, Reactor Building Spray Pump Test, Rev 089  
 PT/2/A/0203/006 A, Low Pressure Injection Pump Test – Recirculation, Rev 083  
 PIP O-12-02341, O-13-00695, O-13-04393  
 Work Orders 01920657-03; 02037408-01; 02037408-03; 02089662-01, U2, AFIS Analog Channel Functional Test (Innage)

**Section 1EP6: Drill Evaluation**

Emergency Planning Drill/Exercise Notebook, Drill 2013-02, Oconee Nuclear Station Drill, dated 5/15/2013  
 AP/1/A/1700/001, Unit Runback, Rev. 14  
 RP/0/A/1000/001, Emergency Classification, Rev. 0  
 RP/0/B/1000/002, Control Room Emergency Coordinator, Rev. 25

**Section 4OA1: Performance Indicator Verification**

Chemistry Desktop- Datasheets for Jan 1 2013- May 30, 2013  
 CSM 3.10, Primary Lab Sampling Frequencies, Specifications, and Corrective Actions, Rev. 42

**Section 4OA3: Follow-up of Events and Notices of Enforcement Discretion (NOED)**

PIPs O-10-10835, O-11-00016, O-11-00387, O-11-00388, O-11-09646, O-11-11479, O-12-01216, O-12-03447  
 GL 91-18, Information to Licensees Regarding Two NRC Inspection Manual Sections on

Resolution of Degraded and Nonconforming Conditions and on Operability, dated November 7, 1991

RIS 2005-20, Revision to Guidance Formerly Contained in NRC Generic Letter Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability, dated September 26, 2005

NUREG-1022, Event Reporting Guidelines 10 CFR 50.72 and 50.73, Revision 2 published October, 2000

**Section 40A5: Other Activities**

MP/0/A/1500/023, Independent Spent Fuel Storage Installation Phase V and VI DSC Loading and Storage, Rev. 21

PT/0/A/0750/012, Development of Fuel Movement Instructions Procedure, Rev. 41

MP/0/A/1810/019, Cask – Nuhoms 24PHB Dry Storage Canister – Welding, Rev. 25

HP/0/B/1000/097, Radiological Protection Requirements for Independent Spent Fuel Storage Installation Phase V and VI, Rev. 14