UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

April 28, 2009

Mr. David A. Baxter
Site Vice President
Duke Power Company, LLC
d/b/a Duke Energy Carolinas, LLC
Oconee Nuclear Station
7800 Rochester Highway
Seneca, SC 29672

SUBJECT: OCONEE NUCLEAR STATION - INTEGRATED INSPECTION REPORT 05000269/2009002, 05000270/2009002, AND 05000287/2009002

Dear Mr. Baxter:

On March 31, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Oconee Nuclear Station. The enclosed report documents the inspection results which were discussed on April 2, 2009, with you, and other members of your staff.

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

Based on the results of the inspection, no findings of significance were identified. However, two licensee identified violations, one of which was determined to be of very low safety significance (Green) and the other a Severity Level IV violation under traditional enforcement, are listed in this report. However, because of the very low safety significance and categorization at a Severity Level IV, and because they are entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCVs), consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest any NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the United States Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001, with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the Oconee facility.

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 05000269/2009002, 05000270/2009002, and 05000287/2009002 w/Attachment: Supplemental Information

cc w/encl: (See page 3)

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Letter to David A. Baxter from Jonathan H. Bartley dated April 28, 2009

SUBJECT: OCONEE NUCLEAR STATION - INTEGRATED INSPECTION REPORT 05000269/2009002, 05000270/2009002, AND 05000287/2009002

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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:	05000269/2009002, 05000270/2009002, 05000287/2009002
Licensee:	Duke Power Company, LLC
Facility:	Oconee Nuclear Station, Units 1, 2 and 3
Location:	7800 Rochester Highway Seneca, SC 29672
Dates:	January 1, 2009 –March 31, 2009
Inspectors:	A. Hutto, Senior Resident Inspector E. Riggs, Resident Inspector G.Ottenberg, Resident Inspector E. Lea, Senior Operations Engineer (Section 1R11.2) P. Capehart, Operations Engineer (Section 1R11.2) W. Loo, Senior Health Physicist (Section 4OA5.2) M. Coursey, Reactor Inspector (Section 1R07) E. Michel, Senior Reactor Inspector (Section 1R07)
Approved by:	Jonathan H. Bartley, Chief Reactor Projects Branch 1 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000269/2009002, 05000270/2009002, 05000287/2009002; 01/01/2009 - 03/31/2009; Oconee Nuclear Station, Units 1, 2, and 3; Routine Integrated Inspection Report.

The report covered a three-month period of inspection by three onsite resident inspectors, and five region based inspectors (i.e., two operations engineers, two reactor inspectors, and one health physicist). The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a Severity Level (SL) after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, Reactor Oversight Process (ROP), Revision 4, dated December 2006.

Other Findings

- Two violations of very low safety significance (Green) or SL IV, which were identified by the licensee, have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and corrective actions are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Unit 1 began the report period at 100 percent rated thermal power (RTP). On January 24, 2009, the unit was reduced to 88 percent RTP for turbine valve movement testing. The unit was returned to 100 percent RTP later the same day, where it remained through the end of the inspection period.

Unit 2 began the report period at 100 percent RTP. On March 29, 2009, the unit was reduced to 88 percent RTP for turbine valve movement testing. The unit was returned to 100 percent RTP later the same day, where it remained through the end of the inspection period.

Unit 3 began the report period at 100 percent RTP. On February 21, 2009, the unit was reduced to 88 percent RTP for turbine valve movement testing. It was returned to 100 percent RTP later the same day. On March 7, 2009, the Unit experienced an automatic runback to 92.5 percent RTP due to a problem with the 3B main feed pump speed control circuit. Repairs were completed, and the Unit was returned to 100 percent RTP on March 8, 2009, where it remained through the end of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness

1R01 Adverse Weather Protection

Actual Cold Weather Conditions

a. Inspection Scope

The inspectors walked down cold weather protection features related to the protection of the Borated Water Storage Tanks (BWSTs) and the Essential Siphon Vacuum system during periods of cold weather (<20F) that occurred on January 16, 2009, and on January 21, 2009. The inspectors observed the freeze protection circuit panels associated with Units 1, 2 and 3 BWSTs to verify that the circuits were functioning properly with no circuits in the trip position. As a quantitative measure to determine if the freeze protection circuits were performing their function, the inspectors also utilized an infrared temperature measuring instrument to verify that external insulation surface for the BWST level instrument piping and emergency core cooling system (ECCS) piping read above ambient temperatures. The inspectors reviewed various operations and maintenance procedures listed in the Attachment to this report to verify that the freeze protection circuits, instrument enclosures, and insulation were operating correctly, and appropriately maintained.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

.1 Partial Walkdown

a. Inspection Scope

The inspectors conducted three partial equipment alignment walkdowns to evaluate the operability of selected redundant trains or backup systems while the other train or system was inoperable or out-of-service (OOS). The walkdowns included, as appropriate, reviews of plant procedures and other documents to determine correct system lineups, and verification of critical components to identify any discrepancies which could affect operability of the redundant train or backup system. Documents reviewed are listed in the Attachment to this report. The following systems were included in this inspection:

- Units 1 and 2, A and C Low Pressure Service Water (LPSW) pumps with the B pump OOS for preventive maintenance (PMs)
- Keowee Hydro-electric Unit (KHU)- 2 with KHU-1 inoperable for test and recharge of Keowee battery bank 1
- Standby Shutdown Facility (SSF); 230 KV and 525 KV switchyards; CT-1, 2, 3, and 5 transformers; 1T, 2T, and 3T transformers; Unit 1, 2, and 3 main transformers; and Unit 1, 2, and 3 Turbine Driven Emergency Feedwater (TDEFW) pumps with both KHUs OOS for a dual unit maintenance outage

b. Findings

No findings of significance were identified.

.2 Complete Walkdown of the Unit 1 and 2 LPSW System

a. Inspection Scope

The inspectors performed a system walkdown on accessible portions of the Unit 1 and 2 LPSW system. The inspectors focused on verifying proper valve lineup and breaker positioning, support system alignment and availability, and material condition.

A review of Problem Investigation Process reports (PIPs) and open work orders was performed to assess whether material condition deficiencies significantly affected the system's ability to perform its design functions and determine if appropriate corrective action was being taken by the licensee.

The inspectors conducted a review of the system engineer's trending data and system health reports to determine if appropriate trending parameters were being monitored and that no adverse trends were noted. Documents reviewed for this semiannual inspection sample are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

.1 Fire Area Walkdowns

a. Inspection Scope

The inspectors conducted tours in six areas of the plant to assess whether combustibles and ignition sources were properly controlled, and that fire detection and suppression capabilities were intact. The inspectors selected the areas based on a review of the licensee's safe shutdown analysis and the probabilistic risk assessment based sensitivity studies for fire-related core damage sequences. Documents reviewed are listed in the Attachment to this report. The following areas were inspected during this inspection period:

- Unit 1 East and West Penetration Rooms (1)
- Keowee Hydro-electric Station (1)
- Unit 1 and 2 Control Room (1)
- Unit 3 Control Room (1)
- Unit 1 and 2 High Pressure Injection (HPI), Low Pressure Injection (LPI) and Reactor Building Spray (RBS) pump rooms (1)
- CT-1, 2, and 3 transformer area; 1T, 2T and 3T transformer area; Unit 1, 2 and 3 main transformer area (1)

b. Findings

No findings of significance were identified.

.2 Fire Drill Observations

a. Inspection Scope

The inspectors evaluated fire brigade performance by observing the licensee's fire drill conducted on March 6, 2009, that simulated a fire in motor control center MCC 2XC, due to a failure of breaker F3A. The simulated fire was in the vicinity of the Unit 2 main feed pumps and their associated lube oil supply. The inspectors evaluated the drill for the following attributes:

- command and control of the affected control room personnel
- protective clothing/self-contained breathing apparatus properly worn
- adequacy/appropriateness of fire extinguishing methods
- controlled access to the fire area by the fire brigade members
- adequacy of fire fighting equipment
- command and control effectiveness of the fire brigade leader
- adequate communications
- effectiveness of smoke removal gear

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (Triennial Review)

a. Inspection Scope

From January 12-16, 2009, the inspectors reviewed documentation and performed plant walkdowns for a sample of risk significant Heat Exchangers (HXs) to ensure that deficiencies that could mask or degrade performance were identified and corrected. The inspectors also verified that HX testing, monitoring, and maintenance activities were consistent with Generic Letter (GL) 89-13 licensee commitments, and industry guidelines. The inspectors selected the following HXs to review:

- 1B HPI Motor Cooler
- 3A Motor Driven Emergency Feedwater Pump (MDEFWP) Motor Air Cooler

For the HXs listed above, the inspectors reviewed, as applicable, the performance testing methodology and results, basis for acceptance criteria, frequency of performance monitoring, inspection/cleaning methods and results, HX cleaning and replacement schedules, susceptibility to water hammer, periodic flow testing for infrequently used HXs, tube plugging history, and eddy current/visual inspection records. In addition, the inspectors conducted a walkdown of the accessible HXs to assess general material condition and to identify any degraded conditions.

The inspectors also reviewed the general health of the ultimate heat sink (UHS) and its subcomponents via review of design basis documents, engineering evaluations, system health reports, intake screen inspection results, performance testing of safety-related components, safety-related buried piping inspections [flow balance testing of Service Water (SW) piping] and repairs, SW intake structure diver inspections, intake canal inspection procedures, through-wall piping leak history and discussions with service water system engineers. These documents were reviewed to verify design basis were maintained and to verify adequate SW system performance under current preventive maintenance, inspections, and frequencies. The UHS subcomponents selected for performance testing review were:

- 2C1 Condenser Circulating Water (CCW) inlet waterbox
- 2B1 CCW inlet waterbox

In addition, the inspectors performed a walkdown of the SW intake structure and SW system to assess general material condition and proper operation.

Finally, the inspectors reviewed Corrective Action Program documents to verify that industry operating experience, potential common cause problems, and problems which could affect system performance were entered into the corrective action program for evaluation and resolution. Documents reviewed are listed in the Attachment to this report.

b. Findings

No findings of significance were identified

1R11 Licensed Operator Requalification

.1 Simulator Training

a. Inspection Scope

The inspectors observed licensed operator simulator training on February 25, 2009. The simulator scenarios involved a failure of the reactor power input module to the integrated control system (ICS) concurrent with reactor coolant pump high vibrations and a subsequent power reduction with ICS in manual.

The inspectors observed crew performance in terms of communications between the operators; ability to take timely and proper actions; prioritizing, interpreting, and verifying alarms; correct use and implementation of procedures, including the alarm response procedures; timely control board operation and manipulation, including high-risk operator actions; and oversight and direction provided by the shift supervisor.

b. Findings

No findings of significance were identified.

.2 Licensed Operator Requalification Program

a. Inspection Scope

The inspectors reviewed the facility operating history and associated documents in preparation for this inspection. While onsite, 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 was done to assess the effectiveness of the 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." The inspectors evaluated the licensee's simulation facility for adequacy for use in operator licensing examinations using ANSI/ANS-3.5 -1998, "American National Standard for Nuclear Power Plant Simulators for use in Operator Training and Examination." The inspectors observed four 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 and performance test records, the feedback process, licensed operator qualification records, remediation plans, watchstanding, and medical records. The records were inspected using the criteria listed in Inspection Procedure 71111.11. Documents reviewed during the inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the licensee's effectiveness in performing routine maintenance activities. This review 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 item 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. The inspectors reviewed the following items:

- SSF biannual maintenance outage
- Keowee biennial dual unit maintenance outage

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work Evaluations

a. Inspection Scope

The inspectors evaluated the following attributes for the six SSCs and 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 to this report.

- PIP O-09-0041, Risk results for current plant status with 1HP-26 OOS are Red
- Critical Activity Plan for OD 300729C, Unit 3 North Control Room Wall NPBS Installation
- Critical Activity Plan for Replacement of Pipe Downstream of LWD-969
- PIP O-09-0521, Scheduling of SSF unavailability concurrent with unit trip risk activity
- Critical Activity Plan for 2009 Keowee Hydro Station (KHS) Dual Outage
- Critical Activity Plan for LPI System Fill and Vent Orange ORAM risk condition

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed six operability evaluations affecting risk significant systems, to assess, as appropriate: (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 Specification (TS) limiting condition for operations (LCOs). Documents reviewed are listed in the Attachment to this report. The inspectors reviewed the following operability evaluations:

- PIP O-08-7869, Unit 1 Reactor Coolant Pump (RCP) seal performance during the current operating cycle
- PIP O-09-0152, Low voltage on 2X transformer at Keowee Hydro Station
- PIP O-09-0209, Emergency Feedwater (EFW) support 2-03A-1-O-1400A-H109 is installed incorrectly
- PIP O-09-0253, Unit 1 H9 incore closure assembly leak
- PIP O-09-1358, Auxiliary Building masonry wall issues
- PIP O-09-1339, KHU-2 brakes are not cycling as expected on unit shutdown

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed seven post-maintenance test procedures and/or test activities, as appropriate, for selected risk significant systems to assess whether: (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 adequately 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 to this report. The inspectors observed testing and/or reviewed the results of the following tests:

- PT/3/A/0202/011, 3C HPI Pump Test, following motor and breaker PMs
- OP/3/A/1104/005, RBS System, Encl 4.12, 3A RBS Pump Breaker Check, following motor inspection and testing
- PT/0/A/0400/011, SSF Diesel-Generator Test, following annual PMs
- PT/1/A/0203/006A, 1A LPI Pump Test, following boron cleaning, pump and motor lube PMs, and 1 LP-11 oil leak repair
- PT/0/A/0620/009, Keowee Hydro Operation, Encl. 13.1, KHU-1 Operability Verification, following activities associated with the 2009 Keowee Hydro Station Dual Outage
- PT/0/A/0620/009, Keowee Hydro Operation, Encl. 13.2, KHU-2 Operability Verification, following activities associated with the 2009 Keowee Hydro Station Dual Outage
- PT/3/A/0600/013, 3B MDEFW Pump Test, following pump lubrication and breaker PMs

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors witnessed six surveillance tests and/or reviewed test data of the risk-significant SSCs listed below, to assess, as appropriate, whether the SSCs met TS, 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 to this report.

- PT/3/A/0600/012, TDEFW Pump Test (In-service Test (IST))
- PT/0/A/0600/021, SSF Diesel-Generator Operation
- PT/1/A/0600/013, 1B MDEFW Pump Test (IST)
- IP/0/A/0305/014A, Unit 3 Reactor Protection System Control Rod Drive Breaker Trip and Events Recorder Test
- PT/3/A/0600/010, Reactor Coolant Leakage
- CP/1, 2/A/2002/001, Unit 1, 2 Primary Sampling System

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed and evaluated a simulator/plant based emergency preparedness drill held on March 26, 2009. The drill scenario involved an earthquake

tremor felt onsite and the seismic trigger actuating, which resulted in an Alert declaration. The drill scenario progressed to Site Area Emergency declaration due to a simulated 1A main steam line break and steam generator tube rupture; specifically, one fission product barrier had been lost (Containment) and another potentially lost (the Reactor Coolant System). The scenario further progressed to a General Emergency declaration, due to calculated high dose rates at the site boundary. The operators were observed to determine if they properly classified the event and made the appropriate notifications for both the alert and site area emergency conditions. Notification sheets were reviewed for accuracy and to verify that protective action recommendations were made in accordance with the licensee's emergency plan procedures. The inspectors observed the post drill critique to assess whether the licensee appropriately captured drill deficiencies and/or weaknesses. Documents reviewed are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

.1 Initiating Events and Barrier Integrity Cornerstones

a. Inspection Scope

The inspectors reviewed the PIs listed in the tables below (for all three Units), to determine their accuracy and completeness against requirements in Nuclear Energy Institute (NEI) 99-02, Regulatory Assessment Performance Indicator Guideline, Rev. 5.

Cornerstone: Initiating Events		
Performance Indicator	*Verification Period*	*Records Reviewed*
Unplanned Scrams	1st, 2nd, 3rd, and 4th quarters of 2008	• Licensee Event Reports • NRC Inspection Reports • Monthly Operating Reports • operator logs • licensee power history curves • PIPs
Unplanned Scrams with Complications	1st, 2nd, 3rd, and 4th quarters of 2008	
Unplanned Power Changes	1st, 2nd, 3rd, and 4th quarters of 2008	

Cornerstone: Barrier Integrity		
Performance Indicator	*Verification Period*	*Records Reviewed*
Reactor Coolant System (RCS) Specific Activity	1st, 2nd, 3rd, and 4th quarters of 2008	• daily plant chemistry data • daily status reports • operator logs • PIPs
RCS Leakage	1st, 2nd, 3rd, and 4th quarters of 2008	• RCS leakage surveillances • daily status reports • operator logs • PIPs

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

.1 Daily Screening of Corrective Action Reports

In accordance with 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 corrective action program. This review was accomplished by reviewing copies of PIPs, attending daily screening meetings, and accessing the licensee's computerized database.

.2 Focused Review

a. Inspection Scope

The inspectors performed an in-depth review of one issue entered into the licensee's corrective action program. The sample was within the mitigating systems cornerstone and involved risk significant systems. The inspectors reviewed the actions taken to determine if the licensee had adequately addressed the following attributes:

- Complete, accurate and timely identification of the problem
- Evaluation and disposition of operability and reportability issues
- Consideration of previous failures, extent of condition, generic or common cause implications
- Prioritization and resolution of the issue commensurate with safety significance
- Identification of the root cause and contributing causes of the problem
- Identification and implementation of corrective actions commensurate with the safety significance of the issue.

The following issues and corrective actions were reviewed:

- Licensee's Final Safety Analysis Report (FSAR) Completeness Review; PIPs O-08-0669, O-08-0670, O-08-0857, O-08-1419, O-08-2446, O-08-3144, O-08-3171, O-08-4476, O-09-1206

b. Findings

No findings of significance were identified.

4OA3 Event Followup

.1 (Closed) Licensee Event Report (LER) 05000270/2008002-00, Main Steam Relief Valves (MSRVs) Exceeded Lift Setpoint Acceptance Band. On October 24, 2009, while performing as-found lift pressure testing of the Unit 2 MSRVs, the licensee identified that 3 out of the 16 MSRVs did not lift within their allowable set pressure tolerance. Causal analysis determined the reason for the out-of-tolerance MSRVs was setpoint drift. The licensee's investigation revealed additional prior instances that should have been reported to the NRC under 10 CFR 50.73(a)(2)(i)(B) reporting criteria. The inspectors reviewed the licensee's LER and immediate and proposed corrective actions. These actions included lowering the acceptable as-left setpoint on the MSRVs to reduce the likelihood of the MSRVs from drifting above the allowable set pressure, and developing an event driven reportability manual to prevent missing reportable conditions. The enforcement aspects of this issue are discussed in Section 4OA7 of this report. The issue is documented in the licensee's corrective action program as PIP O-08-06525. This LER is closed.

.2 (Closed) LER 05000287/2008001-00, Unit 3 Reactor Trip Due to Control Rod Drive System Processor Failure. On November 7, 2008, while operating at 100 percent RTP, Unit 3 experienced a reactor trip. The inspectors responded to the event and observed the operator's response, reviewed the licensee's post trip review documentation, and reviewed the licensee's root cause of the event. The event was caused by a simultaneous failure of the digital control rod drive system processors P1 and P2 due to a spurious invalid date input value from a satellite clock signal repeater. This type of failure mode was not previously known by the manufacturer of the digital control rod drive system. The inspector's reviewed the licensee's corrective actions, which included removing the clock signal input to the processors. No performance deficiencies were identified. The licensee entered this issue into their corrective action program as PIP O-08-7110. This LER is closed.

.3 (Closed) LER 05000287/2009001-00, Two Post Accident Liquid Sampling (PALS) System Containment Isolation Valves (CIVs) Inoperable Due to Use of Unqualified Seat Material. On December 12, 2008, two one-inch CIVs (in series) in the Unit 3 PALS system were declared inoperable and TS LCO 3.6.3, Conditions A and B were entered. The cause of the inoperability was the licensee's discovery that unqualified soft seating material used in the valves may be damaged during post accident sampling of the RCS at design pressure and temperature, which could subsequently affect the valves' containment isolation function. This condition existed since 1996 when the valves were replaced. Upon discovery, power was removed from these two solenoid operated,

normally closed valves in the same line, to meet the requirements of the LCO. The inspectors reviewed the licensee's LER and immediate and planned corrective actions, which are to rebuild the valves with the correct seating material during the upcoming Unit 3 outage. The enforcement aspects of this issue are discussed in Section 4OA7 of this report. The licensee entered this issue into their corrective action program as PIP O-08-8339. This LER is closed.

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 of significance were identified.

.2 (Closed) Temporary Instruction (TI) 2515/173, Review of the Implementation of the Industry Ground Water Protection Voluntary Initiative

a. Inspection Scope

On March 9 - 11, 2009, the inspectors reviewed the licensee's groundwater protection actions for compliance with the industry initiative described in the NEI Document "Industry Ground Water Protection Initiative - Final Guidance Document, August 2007" (NRC document reference ML072600292 and ML072610036).

The inspectors reviewed the licensees site characterization with regard to site hydrology and geology, site risk assessment with respect to systems structures and components that posed a credible risk for licensed material to reach ground water, on-site ground water monitoring programs, established programs for remediation in the event of inadvertent releases, and record keeping which allows for proper planning and resource allocation for the eventual decommissioning of the site.

The inspectors reviewed the communication aspects of the licensee's program. These aspects included the requirements for initial and periodic briefing of the licensee's Groundwater Protection Initiative program with designated State and Local officials, voluntary notifications of State/Local officials and follow-up notifications of the NRC regarding any significant on-site spills or environmental water samples exceeding the criteria in the Radiological Environmental Monitoring Program. In addition, the inspectors reviewed the programmatic inclusion regarding NRC documentation

requirements to include a written 30 day report and annual reporting in the Annual Radiological Release Report for the Radiological Effluent Technical Specifications. The inspectors reviewed the licensee's program to determine if it included the oversight commitments of having a self-assessment of the program no later than December 31, 2008, by an independent and knowledgeable individual periodically at an interval not to exceed five (5) years thereafter. This also included the conduct of a separate review by an independent and knowledgeable individual under the auspices of NEI within one year of the initial self-assessment and periodically thereafter at an interval not to exceed five (5) years. The self-assessment of the licensee's program was completed in October 2008.

The inspectors reviewed various program documents including the Updated Final Safety Analysis Report, licensee procedures, self-assessments, and corrective actions. It was determined that the licensee's program was implemented consistent with the NEI document with one action scheduled, but not yet completed. The independent NEI review began in January 2009 and was still under review at the time of the onsite inspection. This completes the Region II inspection requirements for this TI.

b. Findings

No findings of significance were identified.

4OA6 Management Meetings (Including Exit Meeting)

Exit Meeting Summary

The inspectors presented the inspection results to Mr. Dave Baxter, Site Vice President, and other members of licensee management at the conclusion of the inspection on April 2, 2009. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee Identified Violations

The following violations of very low safety significance (Green) or SL IV were identified by the licensee and are violations of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as non-cited violations (NCVs).

- 10 CFR 50.73(a)(2)(i)(B) requires that conditions prohibited by TSs be reported to the NRC via a LER within 60 days of the discovery of the event. Contrary to this requirement, the licensee did not report the failure of multiple MSRVs to pass their pressure lift tests, a condition prohibited by TSs, to the NRC via a LER within 60 days of the discovery of the event. The MSRVs failed the lift tests in October 2006 on Unit 1, April 2007 on Unit 2, and October 2007 on Unit 3. The licensee identified the missed reports while investigating the failure of multiple Unit 2 MSRVs to pass their lift pressure test on October 24, 2009. The inspectors determined this licensee identified finding was a Severity Level IV NCV in accordance with the NRC Enforcement Policy, section IV.A.3., due to the failure to make required LERs

following the failed tests, because the licensee knew of the information to be reported, but did not recognize that a report was required to be made. These prior events were also described in LER 05000270/2008002-00. The event is captured in the licensee's corrective action program as PIP O-08-06525.

- 10 CFR 50, Appendix B, Criterion III, Design Control, requires in part that measures shall be established for the selection and review of suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of the SSCs. Contrary to these requirements, the licensee did not have adequate measures in place in 1996 to ensure that the valves selected for replacing two one-inch CIVs in the Unit 3 PALS system (3RC-164 and 165) contained valve seat material that was suitable for conditions in which they would operate (i.e., during post accident sampling of the RCS at design pressure and temperature). As such, the valves' containment isolation function could not be assured from the time of their replacement in 1996 until the discovery of the unqualified seat material in December 2008. The violation was determined to be of very low safety significance (Green), based on screening criteria in MC 0609, Appendix H, Section 4.2 for Type B findings. Specifically, the one-inch sample line containing the two in series CIVs does not represent a significant contributor to large early release frequency (LERF) per Table 4.1. The licensee entered the finding into their corrective action program as PIP 08-8339 and reported the issue in LER 05000287/2009001-00.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

B. Abellana, LPSW Systems Engineer
K. Alter, MCE/BOP Supervisor
E. Anderson, Superintendent of Operations
B. Ayers, License Operator Requalification Supervisor
S. Batson, Engineering Manager
J. Batton, MCE-VHE-HX Engineer
D. Baxter, Site Vice President
D. Brewer, Safety Assessments Manager
R. Brown, Emergency Preparedness Manager
E. Burchfield, Reactor and Electrical Systems Manager
C. Curry, Mechanical/Civil Engineering Manager
P. Culbertson, Maintenance Manager
G. Davenport, Compliance Manager
F. Eppler, VHE Supervisor
R. Fruedenberger, Safety Assurance Manager
P. Gillespie, Station Manager
M. Glover, General Manager of Projects
R. Harris, Senior Raw Water Engineer
L. Haynes, Acting Radiation Protection Manager
D. Hubbard, Training Manager
J. Kammer, Modification Engineering Manager
T. King, Security Manager
T. Lee, Operations Training Liaison
J. Link, HX Engineer
C. Martinec, Scientist, Nuclear Technical Services, Nuclear Generation Office
B. Meixell, Regulatory Compliance
W. Pursley, Supervising Scientist, RP
S. Severance, Regulatory Compliance
J. Smith, Regulatory Compliance
J. Steely, Continuing Training Supervisor
E. Sullivan, Consulting Engineer, Environmental Health and Safety, Corporate Office
L. Wehrman, Senior Scientist, RP
K. Welchel, Simulator Supervisor

NRC

J. Stang, Project Manager, NRR

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

05000270/2008002-00	LER	Main Steam Relief Valves Exceeded Lift Setpoint Acceptance Band (Section 4OA3.1)
05000287/2008001-00	LER	Unit 3 Reactor Trip Due to Control Rod Drive System Processor Failure (Section 4OA3.2)
05000287/2009001-00	LER	Two PALS System CIVs Inoperable Due to Use of Unqualified Seat Material (Section 4OA3.3)
2515/173	TI	Review of the Implementation of the Industry Ground Water Protection Voluntary Initiative (Section 4OA5.2)

DOCUMENTS REVIEWED

Section 1R01: Adverse Weather

IP/0/A/1606/009, Preventive Maintenance and Operational Check of QA-1 Freeze Protection
OP/1/A/1102/020, Control Room Rounds Enclosure 5.5, Cold Weather Checklist
OP/1/A/1102/020A, Primary Rounds
OP/1/A/1102/020C, Turbine Building Third and Fifth Floor Rounds
OP/2/A/1102/020D, SSF and Outside Rounds

Section 1R04: Equipment Alignment

Partial Walkdown
OSS-0254.00-00-1039, Design Basis Specification for the Low Pressure Service Water System
Drawing OFD-124A-1.1, Units 1 &2 Flow Diagram of Low Pressure Service Water System – Turbine Building (Low Pressure Service Water Pumps)
OP/0/A/2000/041, Keowee Hydro Station - Modes of Operation
TS 3.8.1 and bases, AC Sources - Operating
OSS-0254.00-00-2005, Design Basis Specification for Keowee Emergency Power
UFSAR Section 8.3.1.1.1, Keowee Hydro Station
SLC 16.8.6, Lee/Central Alternate Power System
OSS-0254.00-00-1000, Design Basis Specification for Emergency Feedwater and the Auxiliary Service Water Systems
OSS-0254.00-00-1005, Standby Shutdown Facility Auxiliary Service Water System
Drawing OFD-121D-1.1, Unit 1 Flow Diagram of Emergency Feedwater System
Drawing OFD-121B-1.3, Unit 1 Flow Diagram of Feedwater System (Final Feedwater)
Drawing OFD-121D-2.1, Unit 2 Flow Diagram of Emergency Feedwater System

Drawing OFD-121B-2.3, Unit 2 Flow Diagram of Feedwater System (Final Feedwater)
Drawing OFD-121D-3.1, Unit 3 Flow Diagram of Emergency Feedwater System
Drawing OFD-121B-3.3, Unit 3 Flow Diagram of Feedwater System (Final Feedwater)
Drawing OFD-121D-1.2, Units 1, 2, and 3 Flow Diagram of Emergency Feedwater System (Auxiliary Service Water)
Drawing OFD- 133A-2.5, Units 1, 2, and 3 Flow Diagram of Condenser Circulating Water System (SSF Aux. Service)
OP/0/A/1600/009, SSF Auxiliary Service Water System
OP/1/A/1106/006, Emergency Feedwater System
OP/2/A/1106/006, Emergency Feedwater System
OP/3/A/1106/006, Emergency Feedwater System
AP/0/A/1700/025, Standby Shutdown Facility Emergency Operating Procedure
EP/1/A/1800/001, EOP - Rules and Appendix, Rule 3, Loss of Main and Emergency Feedwater
EP/2/A/1800/001, EOP - Rules and Appendix, Rule 3, Loss of Main and Emergency Feedwater
EP/3/A/1800/001, EOP - Rules and Appendix, Rule 3, Loss of Main and Emergency Feedwater
UFSAR Section 9.6, Standby Shutdown Facility
UFSAR Section 10.4.7, Emergency Feedwater System
TS 3.10.1 and bases, Standby Shutdown Facility (SSF)
TS 3.7.5 and bases, Emergency Feedwater System

<u>Complete Walkdown</u>
AP/1/A/1700/024, Loss of LPSW
Drawing OFD 124A-1.1, Flow Diagram of Low Pressure Service Water System Turbine Building (Low Pressure Service Water Pumps)
Drawing OFD 124A-1.2, Flow Diagram of Low Pressure Service Water System Turbine Building (Main Turbine Oil Tank)
Drawing OFD 124A-1.3, Flow Diagram of Low Pressure Service Water System (Turbine Building Services)
Drawing OFD 124B-1.1, Flow Diagram of Low Pressure Service Water System (Auxiliary Building Services)
Drawing OFD 124B-1.2, Flow Diagram of Low Pressure Service Water System (Reactor Building Cooling Units)
Drawing OFD 124B-1.3, Flow Diagram of Low Pressure Service Water System (Reactor Building Ventilation Cooling)
Drawing OFD 124B-1.4, Flow Diagram of Low Pressure Service Water System (RC Pump Motor Cooling and RB Fire Protection)
Drawing OFD 124B-1.5, Flow Diagram of Low Pressure Service Water System (Radiation Monitors and Heat Exchangers)
Drawing OFD 124B-1.6, Flow Diagram of Low Pressure Service Water System (Auxiliary Building Air Handling Units)
Drawing OFD 129A-1.1, Flow Diagram of Siphon Seal Water System
PIP O-08-07877, Additional procedural guidance needed to quantify LPSW flows
PIP O-08-07835, LPSW Low Header Pressure
PIP O-08-04142, Baseplate of pipe S/R 1-GH-QR-6970-02 is overstressed
PIP O-08-07881, 2LPSW-22 failed to operate from the control room
PT/0/A/0251/029, Siphon Seal Water Test
TT/3/A/3117/004, LPSW Waterhammer Prevention System (WPS) Integrated Functional Test
WO 01854425, 1 LPS VA 0465, Inspect the Standpipe
WO 01814142, 1 LPS VA 0007 Packing Leak

WO 01811137, Replace 1LPSW-475. Has Stem Leak
WO 01801941, Remove 3 temp Supports Near 1-14B-0
WO 01794248, I/R 1LPSW-111 Seat Leak
WO 01797916, PM Valve 2LPS-252

Section 1R05: Fire Protection

Fire Area Walkdowns
UFSAR Section 9.5.1, Fire Protection System
OSS-0254.00-00-4008, Design Basis Specification for Fire Protection

Fire Drill Observations
Oconee Nuclear Station – Fire Drill Planning Guide and Critique Form, dated 3/06/09
OSS-0254.00-00-4008, Design Basis Specification for Fire Protection
UFSAR Section 9.5.1, Fire Protection System

Section 1R07: Heat Sink Performance

Procedures
Motor Driven Emergency Feedwater Pump Test PT/3/0600/013 Rev. 051 dated 08/29/2006
High Pressure Injection Motor Cooler Flow Test PT/1/A/0230/015 Rev. 031 dated 04/24/2008

Calculations
OSC-864 RCS Decay Heat Removal Following Loss of Intake Canal/Structure Rev. 4 dated 05/29/2007
OSC-5649 LPSW Test Acceptance Criteria (TAC), Rev.12, dated 10/03/2005

Corrective Action Documents
PIP O-07-04919, dated 09/06/2007
PIP O-08-00089, dated 01/07/2008
PIP O-08-04082, dated 07/07/2008
PIP O-07-02463, dated 05/07/2007
PIP O-07-02464, dated 05/07/2007
PIP O-07-02609, dated 05/10/2007
PIP O-07-02619, dated 05/11/2007
PIP O-07-02658, dated 05/12/2007
PIP O-07-06238, dated 11/05/2007
PIP O-07-06261, dated 11/05/2007
PIP O-08-00093, dated 01/07/2008
PIP O-07-05874, dated 10/24/2007
PIP O-08-08020, dated 12/02/2008
PIP O-08-04403, dated 07/22/2008
*PIP O-09-00225, dated 01/13/2009
PIP O-06-06672, dated 10/04/2006
PIP O-08-05404, dated 09/04/2008
PIP O-07-05990, dated 10/29/2007

*(Documents created as a direct result of this inspection.)

Other
UFSAR for Oconee Nuclear Station Rev. 17, dated 12/31/2007
NRC Generic Letter 89-13 on Service Water Systems Duke Power Response Action II: Test Program, dated 01/26/1990
Oconee Nuclear Station Engineering Support Document Service Water Piping Inspection Program Rev. 6, dated 07/24/2008
Oconee Nuclear Station Engineering Support Document Service Water Piping Inspection Program Appendix A- Buried Pipe Integrity Program Rev. 6, dated 07/24/2008
Service Water System Program Manual Rev. 9, dated 08/14/2008
Engineering Support Document for Raw Water Program Rev. 8
OSC-7019 CCW Intake & Discharge Structures 5 YR Civil/Structural Inspection Rev. 3, dated 4/7/2008
OSC-7380 CCW Intake & Discharge Piping Units 1, 2, and 3; 5 Year Civil/Coating Inspection Report Rev. 10, dated 04/07/2008
Design Basis Specification for the Design Basis Event OSS-0254.00-00-4005 Rev.19, dated 11/26/1991
DWG No. O-331 Rev.16 Condenser Cooling Water Intake & Discharge Pipe General Layout

Section 1R11.2: Licensed Operator Requalification Program

Procedures
OTP 2701.0, Simulator Configuration Management, Rev. 15
OTP 3205.0 NRC License Application Process, Rev. 3
OTP 4116.1, Licensed Operator Requalification, Rev. 36
OTP 5405.0, Developing, Administration, & Security of Exams, Rev. 17
OTG #016, Conduct of Simulator Training & Evaluation, Rev. 14
NSD 512, Maintenance of RO/SRO NRC Licenses, Rev. 3

Simulator Performance Test Data
CAE2008 Startup and Shutdown Test Summary
CAE Steady State Comparison Test Summary
CAE2008 Transient Test Tabular Summary (7 Transients Reviewed)
1. Anticipatory Reactor Trip on Loss of Main FW
2. Loss of Offsite Power
3. Trip of One RCP from Full Power
4. Reactor Trip with Failure of TBV Bias
5. Steam Generator Tube Rupture With No Operator Actions
6. Steam Generator Tube Rupture With Operator Actions
7. Dropped Control Rod

Deficiency Reports
SnagNo 937
SnagNo 1016

Licensed Operator Re-activations Records - (8 Operators; -- March 2007 – March 16, 2009)

Security Logs - (20 Operators)

License Operators Renewals - (March 2007 – March 16, 2009)

Job Performance Measures
JPM CRO -19, Initiate Forced HPI Cooling
JPM CRO- 052 Perform Required Actions in Preparation for Manning the SSF

Simulator Scenarios
Active Simulator Exam (ASE) -10
ASE – 08

Medical Records - (13 Operators)

Training Feed Back Forms

Emergency Plan (EAP-SEP) Lesson Plan - (Rev.19)

Section 1R12: Maintenance Effectiveness

PIP O-09-0955, SSF Annual Outage (09W08) Lessons Learned
PIP O-09-1026, SSF Diesel Air Compressor #1 Discharge Relief Valve Lifting
PIP O-09-1030, SSF Fuel Oil Inventory PT acceptance criteria not met
PIP O-09-1065, Verification of Requirement of the Annual SSF Outage Critical Plan
PIP O-09-1088, Troubleshooting DA-67 issues documented in PIP O-09-1026
PIP O-09-1273, Keowee Dual Unit Outage lessons learned
PIP O-09-1297, During KHU-1 planned generator inspection, corona residue was observed in a couple of the stator vent slots
PIP O-09-1339, KHU-2 brakes are not cycling as expected on unit shutdown
PIP O-09-1366, Material used to repair the insulation on Keowee generator may not have been adequately evaluated

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluations

Risk Management Alert 09-07: Keowee Hydro Station 2009 Dual Outage
Critical Activity Plan: Keowee Hydro Station 2009 Dual Outage
Critical Activity Plan: KHU-2 Electrical Generator Forced Outage 2006
Critical Activity Plan: 2004 Turbine/Generator Refurbishment Outage (Dual Unit Outage #1)
Critical Activity Plan: 2004 Turbine/Generator Refurbishment Outage (Dual Unit Outage #2)
Critical Activity Plan: LPI System Restoration Fill and Vent
09W10- Keowee Dual Outage Schedule
Maintenance Callout List
WO 01854108, Perform Work Readiness Review on Keowee Dual Outage
WO 01822317, K0, Keowee PM CRN/CN84 Intake Gate Hoist 120T
WO 01839367, K0, Keowee Intake Gate Hoist KLD-4 - I/R Hoist Motor Brake
Preapproved Keowee Intake Hoist Lift Plan
OP/3/A/1104/004, Low Pressure Injection System
PIP O-09-01741, Started 3B LPI pump per PT/3/A/0203/006A (LPI pump testing- Recirculation)
Drawing OFD 102A-3.1, Flow Diagram of Low Pressure Injection System (LPI Pump Suction)
Drawing OFD 102A-3.2, Flow Diagram of Low Pressure Injection System (LPI Pump Discharge)
NSD 213, Risk Management Process
NSD 415, Operational Risk Management (modes 1-3) per 10 CFR 50.65(a)(4)

Section 1R15: Operability Evaluations

Ops Guide 08-19, Unit 1 RCP Seal Leakage
ODMI Unit 1 RCP Seal Leakage
PIP O-08-7869, Unit 1 RCP Seal leakage

Section 1R19: Post Maintenance Testing

Drawing OFD-102A-1.1, Flow Diagram of Low Pressure Injection System (Borated Water Supply and LPI Pump Suction)
Drawing OFD-102A-1.2, Flow Diagram of Low Pressure Injection System (LPI Pump Discharge)
Drawing OFD-102A-1.3, Flow Diagram of Low Pressure injection System (Core Flood)
OP/0/A/1600/010, Operation of the SSF Diesel-Generator

Section 1R22: Surveillance Testing

Drawing OFD-122A-3.4, Flow Diagram of Main Steam System (Emergency FDW Pump Turbine Steam Supply & Exhaust)
Drawing OFD-121D-3.1, Flow Diagram of Emergency Feedwater System
OP/3/A/1106/006, Emergency Feedwater System
Drawing OFD-121D-1.1, Unit 1 Flow Diagram of Emergency Feedwater System
Drawing OFD-121B-1.3, Unit 1 Flow Diagram of Feedwater System (Final Feedwater)
OP/1/A/1106/006, Emergency Feedwater System

Section 1EP6: Drill Evaluation

EP/1/A/1800/001, EOP- IMAs and SAs
RP/0/B/1000/001, Emergency Classification
NEI 99-02, Regulatory Assessment Performance Indicator Guideline

Section 4OA2: Identification and Resolution of Problems

UFSAR Section 3.0, Design of Structures, Components, Equipment, and Systems
UFSAR Section 5.0, Reactor Coolant System and Connected Systems
UFSAR Section 6.0, Engineered Safeguards
UFSAR Section 8.0, Electric Power
UFSAR Section 9.0, Auxiliary Systems
UFSAR Section 10.0, Steam and Power conversion Systems
UFSAR Section 18.0, Aging Management Programs

Section 4OA3: Event Follow-up

AREVA Customer Service Bulletin 08-13, Invalid IRIG Value Can Cause Processor Shut Down
LER 05000270/2008002-00, Main Steam Relief Valves Exceeded Lift Setpoint Acceptance Band
OSC-7969, ROTSG UFSAR Section 15.8- Turbine Trip
PIP O-08-06525, PIP generated to document the results of Unit 2 Main Steam Safety Valve testing prior to shutdown
PIP O-07-05911, Valves 3MS-3 and 3MS-10 failed as found set pressure acceptance criteria of

+1% acceptance criteria. 3MS-3 was 1.5% and 3MS-10 was 1.8%
PIP O-07-02168, Valves 2MS-11 and 2MS-14 as found set pressure found outside +1% tolerance allowed
PIP O-07-03204, Main Steam relief valves leaking past seat
PIP O-06-06400, 1MS-8 and 1MS-12 as found set pressure found outside +1% range
PIP O-04-01464, 2MS-8, 2MS-14, and 2MS-15 as found set pressure found outside +1% tolerance
PIP O-02-01365, Valves 1MS-9 and 1MS-14 failed as found set pressure test outside the +1% allowable range
PIP O-01-02070, MSSV as found set pressure outside the +1% tolerance

Section 4OA5.2: TI 2515/173

Procedures
Nuclear Generation, Procedure No. (No.) SRPMP 8-2, Investigation of Unusual Radiological Occurrence, Revision (Rev.) No. 003
Nuclear Generation, Procedure No. SRPMP 9-1, Groundwater Well Sampling Protocol, Rev. No. 002
Nuclear Policy Manual, Nuclear System Directive 517, Radiological Ground Water Protection Program, Rev. No. 0

Documents
Duke Energy Nuclear Operations, Communications Protocol to be used in the Event of Contamination Release, 2008
Nuclear Groundwater Protection Initiative Communication Plan, Rev. 10/08
Site Characterization Report for Groundwater Protection Initiative at Duke Energy Oconee Nuclear Station, Seneca, South Carolina, August 2008

Corrective Action Program Documents
PIP G-08-00419, Implementation requirements for the new NSD 517, Radiological Ground Water Protection Program
PIP G-08-01004, NEI 07-07 Industry Ground Water Protection Initiative, three site assessment
PIP O-07-03369, Additional groundwater wells will be installed at ONS as part of the Groundwater Monitoring Project
PIP O-07-03541, Samples of rainwater were collected at the Oconee site to measure the levels of tritium present in rainwater
PIP O-08-00289, A sample obtained from ground water monitoring well GM-7 contained higher than expected levels of tritium
PIP O-08-06291, Self Assessment of NEI 07-07 Groundwater Protection Initiative Implementation
PIP O-08-06635, Recommendations from ANI inspection conducted on 08/27 – 08/28/08
PIP O-08-07540, Tendon Gallery sample results indicate higher than expected Tritium concentration

LIST OF ACRONYMS

ADAMS	-	Agency Wide Documents Access and Management System
AP	-	Abnormal Procedure
ASME	-	American Society of Mechanical Engineers
ASW	-	Auxiliary service Water
BACC	-	Boric Acid Corrosion Control
BPVC	-	Boiler and Pressure Vessel Code
BWST	-	Borated Water Storage Tank
CAP	-	Corrective Action Program
CCW	-	Condenser Circulating Water
CFR	-	Code of Federal Regulations
CRD	-	Control Rod Drive
DEC	-	Duke Energy Corporation
DMBW	-	Dissimilar Metal Butt Welds
DPC	-	Duke Power Company
DSC	-	Dry Storage Certification
ECCS	-	Emergency Core Cooling System
EDY	-	Effective Degradation Years
EFW	-	Emergency Feedwater
EOC	-	End-of-Cycle
FSWOL	-	Full Structural Weld Overlay
GL	-	Generic Letter
HPI	-	High Pressure Injection
HX	-	Heat Exchanger
IA	-	Instrument Air
ICCS	-	Integrated Control System
INPO	-	Institute of Nuclear Power Operations
IP	-	Inspection Procedure
IR	-	Inspection Report
ISI	-	In-Service Inspection
IST	-	In-Service Testing
JIT	-	Just-In-Time Training
JPM	-	Job Performance Measure
KHU	-	Keowee Hydro-electric Unit
LCO	-	Limiting Condition for Operation
LDST	-	Letdown Storage Tank
LER	-	Licensee Event Report
LPI	-	Low Pressure Injection
LPSW	-	Low Pressure Service Water
LRT	-	Leak Rate Test
MRP	-	Materials and Reliability Program
MSRV	-	Main Steam Relief Valve
MT	-	Magnetic Particle Testing
NCV	-	Non-Cited Violation
NDE	-	Non-Destructive Examination
NEI	-	Nuclear Energy Institute
No.	-	Number
NRC	-	Nuclear Regulatory Commission
NSD	-	Nuclear Site Directive

OOS	-	Out-of-Service
PARS	-	Publicly Available Records
PI	-	Performance Indicator
PIP	-	Problem Investigation Process report
PM	-	Preventive Maintenance
PMT	-	Post-Maintenance Test
PWR	-	Pressurized Water Reactor
RB	-	Reactor Building
RBS	-	Reactor Building Spray
RCA	-	Radiologically Controlled Area
RCP	-	RCP
RCS	-	Reactor Coolant System
Rev.	-	Revision
RG	-	Regulatory Guide
RR	-	Relief Request
RT	-	Radiographic Testing
RTP	-	Rated Thermal Power
SER	-	Safety Evaluation Report
SG	-	Steam Generator
SLC	-	Selected Licensee Commitment
SSC	-	Structures, Systems, and Components
SSF	-	Standby Shutdown Facility
SW	-	Service Water
TDEFWP	-	Turbine Driven Emergency Feedwater Pump
TI	-	Temporary Instruction
TLD	-	Thermoluminescent Dosimeters
TS	-	Technical Specification
UFSAR	-	Updated Final Safety Analysis Report
UHS	-	Ultimate Heat Sink
UT	-	Ultrasonic Testing
URI	-	Unresolved Item
VT	-	Visual Examination
VUHP	-	Vessel Upper Head Penetration
WO	-	Work Order
WPS	-	Waterhammer Prevention System