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

July 25, 2008

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 05000269/2008003, 05000270/2008003, AND 05000287/2008003

Dear Mr. Baxter:

On June 30, 2008, 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 July 8, 2008, with you and 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.

This report documents one NRC-identified finding of very low safety significance (Green) which was determined to be a violation of NRC requirements. In addition, one licensee identified violation is also listed in this report. However, because of their very low safety significance 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 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/

Steven D. Rose, Acting 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 05000269/2008003, 05000270/2008003, 05000287/2008003 w/Attachment: Supplemental Information

cc w\encl.: (See page 3)

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Letter to David A. Baxter from Steven D. Rose, dated July 25, 2008

SUBJECT: OCONEE NUCLEAR STATION - INTEGRATED INSPECTION REPORT 05000269/2008003, 05000270/2008003, 05000287/2008003

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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:	05000269/2008003, 05000270/2008003, 05000287/2008003
Licensee:	Duke Power Company, LLC
Facility:	Oconee Nuclear Station, Units 1, 2, and 3
Location:	7800 Rochester Highway Seneca, SC 29672
Dates:	April 1, 2008 - June 30, 2008
Inspectors:	A. Hutto, Senior Resident Inspector E. Riggs, Resident Inspector L. Lake, Senior Reactor Inspector (Section 1R08) R. Chou, Reactor Inspector (Section 1R08) B. Collins, Reactor Inspector - in training (Section 1R08) R. Mackowski, Reactor Inspector - in training (Section 1R08)
Approved by:	Steven D. Rose, Acting Chief Reactor Projects Branch 1 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000269/2008003, 05000270/2008003, 05000287/2008003; 04/01/2008 - 06/30/2008; Oconee Nuclear Station, Units 1, 2, and 3; Inservice Inspection.

The report covered a three-month period of inspection by the onsite resident inspectors, one regional senior reactor inspector, and three regional reactor inspectors. One Green non-cited violation (NCV) was identified. 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 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," Revision 4, dated December 2006.

A. NRC Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

Green. The inspectors identified a Green non-cited violation (NCV) of 10 CFR 50.55a(g)(4) for the failure to perform periodic leakage testing of Class 1 portions of low pressure injection system during the third inspection interval of the Unit 1 Inservice Inspection Program as required by Section XI of the American Society of Mechanical Engineers (ASME) Code for the third 10-year Inservice Inspection interval. The licensee entered this issue into their Corrective Action Program (CAP) for resolution.

This finding is more than minor because it affected the Equipment Performance attribute of the Mitigating Systems Cornerstone objective, in that there were no additional measures taken to perform the required pressure testing (or obtain regulatory relief within the time limits of the regulation) to ensure the availability, reliability, and capability of a system that responds to initiating events to prevent undesirable consequences. This finding is of very low safety significance because it was not a design issue resulting in a loss of operability, did not represent an actual loss of a system's safety function, did not result in exceeding a Technical Specification (TS) allowed outage time, and did not affect external event mitigation. This finding has a cross-cutting aspect of Work Control in the area of Human Performance, as identified in NRC Manual Chapter 0305, Section 06.07 [H.3.(b)]. (Section 1R08.1)

B. Licensee-Identified Violations

A violation of very low safety significance (Green) was identified by the licensee and reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's CAP. The violation and corrective actions are listed in Section 4OA7 of this report.

Report Details

Summary of Plant Status

Unit 1 began the report period at 73 percent rated thermal power (RTP) and the 1A1 Reactor Coolant Pump (RCP) secured due to a service water leak into one of the pump's oil reservoirs. On April 12, 2008, the unit was shutdown from 73 percent RTP for the 1 End-of-Cycle (EOC)-24 refueling outage. On May 31, 2008, Unit 1 was taken critical following outage activities. It achieved 100 percent RTP on June 4, 2008, where it remained through the end of the inspection period.

Unit 2 began the report period in Mode 3, following an automatic trip from 100 percent RTP on March 31, 2008. On April 2, 2008, Unit 2 was taken critical and achieved 100 percent RTP on April 3, 2008, where it remained through the end of the inspection period.

Unit 3 began the report period at 100 percent RTP. On June 21, 2008, the unit was reduced to 88 percent RTP for turbine valve movement testing and was returned to 100 percent RTP later the same day, where it remained through the end of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

.1 Hot Weather Preparations

a. Inspection Scope

The inspectors observed the condition and readiness of the room cooling equipment for the Units 1, 2, and 3 Low Pressure Injection (LPI) pump rooms to ensure that the ability to maintain ambient temperatures in these rooms consistent with post accident design basis assumptions is preserved during hot weather conditions. The inspectors walked down the applicable portions of the Low Pressure Service Water (LPSW) system to verify appropriate flows and temperatures were being maintained. The inspectors also observed the material condition of the LPSW piping, coolers and air handling equipment in the LPI pump rooms to ensure that the licensee was maintaining this equipment at the appropriate level. The inspectors took temperature measurements in the rooms during hot weather conditions to verify that the appropriate ambient conditions were being maintained. Documents reviewed are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

.2 External Flooding Preparations

a. Inspection Scope

The inspectors performed a walkdown of the Standby Shutdown Facility (SSF) to examine its external flood protection features and barriers. This included the flood walls, the watertight door at the South entrance of the SSF, accessible cable and piping penetrations and seals, structural integrity of the building with regard to external flooding, and the building's floor drain and sump system. Documents reviewed are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

.3 Evaluation of Summer Readiness of Offsite and Alternate AC Power Systems

a. Inspection Scope

The inspectors reviewed the licensee's procedures and measures designed to monitor and maintain availability and reliability of both the offsite AC power system (grid) and the onsite alternate AC power systems prior to the onset of summer weather conditions and the resulting higher load demand on the grid. This included the review of the licensee's station, Nuclear Division and Power Delivery group procedures defining the coordination of activities that could impact the on-site and offsite AC power systems and the communication protocols established between the Power Delivery group and licensee to verify that the appropriate information is exchanged when issues arise that could impact the AC power systems. The inspectors also discussed the implementation of the procedural guidance with personnel from Operations, Engineering and Work Control. The documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings and Observations

No findings of significance were identified.

1R04 Equipment Alignment

Partial Walkdown

a. Inspection Scope

The inspectors conducted 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. 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 review:

- Unit 1 decay heat drop line and LPI pumps and coolers while the steam generators were not available for decay heat removal prior to defueling
- 3B Reactor Building Spray (RBS) train with the 3A RBS train out-of-service (OOS) for maintenance
- Keowee Hydro-electric Unit (KHU)-2, underground power path, CT-4 and CT-5 transformers with the KHU step up transformer OOS for preventive maintenance (PM)

b. Findings

No findings of significance were identified.

1R05 Fire Protection

Fire Area Walkdowns

a. Inspection Scope

The inspectors conducted tours in selected 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, 2 and 3 Control Rooms (2)
- Unit 1 Reactor Building (1)
- Turbine Building Basement (1)

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

Internal Flooding – Turbine Building

a. Inspection Scope

The inspectors reviewed Problem Investigation Process report (PIP) O-08-2465, which documents the results of an inspection of the main condenser waterboxes expansion joint internal seals during the Unit 1 EOC-24 refueling outage (RFO). The internal

expansion joint seals were installed on the inlet and outlet condenser waterboxes during the Unit 1 EOC-21 RFO in the Fall of 2003. They serve as the primary seals, while the rayon reinforced rubber expansion joints that have been in service for over 30 years act as secondary seals. Both seals are inspected each RFO. The inspectors discussed the inspection results with engineering and the expansion joint manufacturer, which included the discovery of several small, inward bulges on the condenser inlet waterbox seal sleeves and several backing ring retention bands inside several condenser inlet waterboxes that had slipped out of position, to assess their significance and to verify the adequacy of the planned corrective actions.

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection (ISI) Activities

.1 Non-Destructive Examination (NDE) Activities and Welding Activities

a. Inspection Scope

From April 14 - 25, 2008, the inspectors reviewed the implementation of the licensee's ISI program for monitoring degradation of the reactor coolant system (RCS) boundary and risk significant piping boundaries. Documents reviewed are listed in the Attachment of this report. The inspectors' activities consisted of an on-site review of NDE and welding activities to evaluate compliance with the applicable edition of the ASME Boiler and Pressure Vessel Code, Section XI (Code of record: 1998 Edition with 2000 Addenda), and to verify that indications and defects (if present) were appropriately evaluated and dispositioned in accordance with the requirements of the ASME Code, Section XI acceptance standards. The inspectors' review of NDE activities specifically covered examination procedures, NDE reports, equipment and consumables certification records, personnel qualification records, and calibration reports (as applicable) for the following examinations:

- Ultrasonic examinations (UT) of weld 1-PSL-1, Reactor Coolant System, ASME Class 1, 10.75-inch diameter pipe-to-safe end weld (Risk Informed ISI)
- UTs of Reactor Pressure Vessel (RPV) Head Bolts 1-RPV-25-203-37, 38, 65, and 40
- Magnetic Particle examinations of weld 1-03-0-551-R12, snubber attachment weld to pipe on feed water system. Inspectors observed examination and calibration
- Visual examination (VT-2) of pressurizer bottom mounted heater penetrations and sleeves
- Visual Examinations (VT-3) of supports 53A-0-479A-H1, Revision D1

The inspectors' review of welding activities specifically covered the welding activity listed below in order to evaluate compliance with procedures and the ASME Code. The inspectors reviewed the work order, repair and replacement plan, weld data sheets, welding procedures, procedure qualification records, welder qualification records, and NDE reports.

- Weld Process Control Sheet for 1-FDW-0342-62 and 1-FDW-0150-17; Replacement Weld on Branch Connection in Recirculation Line off Emergency Feedwater (EFW) Pumps
- Weld Traveler 900757-N6 Revision 0, Pressurizer Surge Nozzle 14-Inch Safe End to Pipe Weld Overlay

b. Findings

Introduction: The inspectors identified a Green non-cited violation (NCV) of 10 CFR 50.55a(g)(4) for failure to perform the required periodic pressure test on Class 1 portions of the Low Pressure Injection (LPI) system during the third 10-year ISI interval in accordance with the 1989 Edition of the ASME Code, Section XI. The licensee was committed to this Code Edition for the third interval. The unit is currently in the fourth ISI interval and the one-year period allowed to submit for regulatory relief following the third interval has expired. The failure to perform this pressure test constitutes a violation of the ASME Code.

Description: ASME Section XI, IWB-5000 requires Class 1 systems to be pressure tested each refueling outage. The test includes a system leakage test conducted prior to startup; at a pressure not less than 100 percent rated reactor power, and with a test boundary corresponding to the reactor coolant boundary with all valves in the position required for normal reactor startup. During pressurization, a visual examination for leakage (VT2) is conducted by examining the external exposed surfaces for evidence of leakage and is required to be extended to the second closed valve at the system boundary. The Class 1 pressure retaining boundary not pressurized when system valves are in their position for normal reactor startup shall be pressurized and examined at or near the end of the inspection interval.

Portions of the Oconee LPI system at the Class 1 boundary consist of two valves, in series, which are normally closed during reactor startup and are designed with no vent, drain, or test connections between the two valves. Therefore, this portion of the LPI system can not be pressurized during system leakage tests and VT2 examinations. The licensee had determined that it is not practical to perform this test because the design of this portion of the LPI system is such that it is not pressurized during the pressure tests required by ASME Section XI. On December 21, 2004, the licensee had submitted a request for relief from these code requirements for the third inspection interval, and subsequently retracted the request on July, 6, 2006. The licensee subsequently re-submitted a request for relief on April 21, 2008. This relief request was not accepted because it was submitted beyond the allowable 12 month period after the end of the third interval.

Analysis: The inspectors determined that the licensee's failure to submit a relief request within the 12 month period after the end of the third inspection interval resulted in the operation of Unit 1 in violation of 10 CFR 50.55a(g)(4). This performance deficiency is more than minor because it affected the attribute of the Reactor Safety Mitigating Systems Cornerstone, in that there were no additional measures taken to either perform the required pressure tests or obtain relief from these requirements within the time limits

of the regulation. There has been no evidence of boundary leakage that would call into question the operability of these portions of the LPI system. The licensee plans to address this condition during the current (fourth) inspection interval by submitting a request for relief from these pressure test requirements or performing the tests near the end of the interval. This finding is more than minor because it affects the Equipment Performance attribute of the Mitigating Systems cornerstone objective of ensuring availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding is of very low safety significance because it was not a design issue resulting in a loss of operability, did not represent an actual loss of a system's safety function, did not result in exceeding a TS allowed outage time, and did not affect external event mitigation. Because the licensee did not monitor the timeliness of re-submitting the relief request within the third interval and the 12-month grace period, this finding has a cross-cutting aspect of Work Control in the area of Human Performance, as identified in NRC Manual Chapter 0305, Section 06.07 [H.3.(b)].

Enforcement: 10 CFR 50.55a(g)(4) requires the implementation of an in-service inspection program that meets the requirements of ASME Section XI. ASME Section XI, IWB-5000 requires Class 1 systems to be pressure tested each refueling outage. Contrary to the above, measures were not implemented to perform the required periodic pressure test on Class 1 portions of the LPI system during the third 10-year ISI interval in accordance with the 1989 Edition of Section XI. Because this failure to comply with 10 CFR 50.55a(g)(4) is of very low safety significance and has been entered into the licensee's Corrective Actions Program as PIP 0-08-02523, this violation is being identified as an NCV, consistent with Section VI.A.I of the NRC Enforcement Policy: NCV 05000269/2008003-01, Required Pressure Tests Not Performed.

.2 Pressurized Water Reactor Vessel Upper Head Penetration Inspection Activities

a. Inspection Scope

Examination activities in compliance with the regulatory requirements of NRC Order EA-03-009, although scheduled, where not available during the time of these inspections.

b. Findings

No findings of significance were identified.

.3 Boric Acid Corrosion Control (BACC) Inspection Activities

a. Inspection Scope

The inspectors reviewed the licensee's BACC program activities to ensure implementation with commitments made in response to NRC Generic Letter 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary," and applicable industry guidance documents. Specifically, the inspectors performed an on-site record review of procedures and the results of the licensee's containment walk-down inspections performed during the Unit 1 Spring 2008 outage. The inspectors also

interviewed the BACC program owner and conducted an independent walk-down of the reactor building to evaluate compliance with licensee's BACC program requirements and verify that degraded or non-conforming conditions, such as boric acid leaks identified during the containment walk-down, were properly identified and corrected in accordance with the licensee's BACC and Corrective Action Programs.

The inspectors reviewed a sample of engineering evaluations completed for evidence of boric acid found on systems containing borated water. The inspectors selected the following evaluations for review:

- PIP 0-08-01933, Items Noted on Unit 1 EOC-24 ENG/MNT Mode 3 Shutdown Reactor Building Tour
- PIP 07-06548, Level 2 Assessment: Boric Acid Corrosion Program Execution Effectiveness Review
- PIP 0-07-01092, Items Noted on Unit 1 Reactor Building Tour (Mode 3)
- PIP 0-07-02186, U2 Engineering/Maintenance RB Tour Results (Mode 3)
- PIP 0-08-01933, U1EOC 24 ENG/MNT Mode 3 Shutdown RB Tour
- PIP 0-08-02407, Items Noted on U1EOC24 RFO NRC Inspection (Boric Acid Walk-down)

b. Findings

No findings of significance were identified.

.4 Steam Generator (SG) Tube ISI

a. Inspection Scope

On April 14 - 18, 2008, the inspectors reviewed activities, plans, condition monitoring and operational assessments, the pre-outage degradation assessment, and procedures for the inspection and evaluation of the steam generator Inconel Alloy 690TT tubing for Unit 1 SGs A and B to determine if the activities were being conducted in accordance with TS and applicable industry standards. Data gathering, analysis, and evaluation activities were reviewed. The inspectors reviewed data results for tubes at SG A - R91C126, R96C123, R93C120, R89C120, R58C04, and R95C125; SG B - R62C02, R63C01, R65C125, R65C127, R66C131, R69C122, R69C124, R70C124, R71C122, and R71C120 to verify the adequacy of the licensee's primary, secondary, and resolution analyses. The licensee did not perform the inspection for the secondary side of the SGs during this outage. The inspectors reviewed a PIP in the office which was a summary of the licensee steam generator inspection results for this outage. The inspectors also reviewed equipment, data operators, and analysts' certifications and qualifications, including medical exams. Documents reviewed are listed in the Attachment to this report.

b. Findings

No findings of significance were found.

.5. Identification and Resolution of Problems

a. Inspection Scope

The inspectors performed a review of ISI-related problems, including welding, BACC, and SG inspections that were identified by the licensee and entered into the CAP as PIPs. The inspectors reviewed the PIPs to confirm that the licensee had appropriately described the scope of the problem and had initiated corrective actions. The inspectors performed this review to ensure compliance with 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requirements. The corrective action documents reviewed are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

Simulator Training

a. Inspection Scope

The inspectors observed licensed operator simulator training on June 24, 2008. The simulator scenario began with a reactor coolant pump seal failure followed by a main steam line break. Subsequently, a large break loss of coolant accident occurred resulting in a general area emergency. The inspectors observed crew performance in terms of communications; 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, including the ability to identify and implement appropriate TS actions and properly classify the simulated event.

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. Documents reviewed are listed in the Attachment to this report. The inspectors reviewed the following items:

- PIP O-08-2739, 1B LPI Pump Test Stopped Due to Low Developed Head
- PIPs O-08-2640 and O-08-3887, Self Contained Battery Emergency Lights Failed to Meet Performance Criteria of IP/0/B/3000/020

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 selected 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.

- Critical Activity Plan for KHU Main Step Up Transformer Major PMs
- Critical Activity Plan for Unit 1 RCP seal work while RCPs are on back-seat and Unit 1 RCS Level is 350 - 370”
- Critical Activity Plan for Wet Tap on B Chiller Piping
- Unit 1 EOC-24 Outage Risk Review
- Critical Activity Plan for SSF Monthly PMs During Unit 1 EOC-24 RFO
- Critical Activity Plan for Investigation and Repair of 3HPSW-75 Seat Leak

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed selected 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 TS limiting condition for operations. Documents reviewed are listed in the Attachment to this report. The inspectors reviewed the following operability evaluations:

- PIP O-08-0295 and PIP O-08-2551, B SA Compressor Engine Oil Level too High
- PIP O-08-1502, Waterhammer During 1A LPI Pump Start
- PIP O-08-3021, 3A LPI Pump Casing Vent Pipe Leak
- PIP O-08-2998, EFW Snubber Support Pulled Out of Wall
- PIP O-08-1753, Unit 2 Reactor Coolant Makeup Pump Declared Inoperable Due to Low Shutdown Margin Resulting in a Red ORAM Risk Condition
- PIP O-08-2656 and PIP O-08-3459, Missing Insulation From RBS and LPI Piping
- PIP O-08-3297, 1RC-163 Failed Stroke Time Test

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (PMT)

a. Inspection Scope

The inspectors reviewed PMT 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:

- OP/0/A/1106/029, Control Room , Equipment Room, Cable Room Chiller A following Unit 1 outage maintenance in the 1TE Switchgear
- PT/1/A/0600/012, Turbine Driven EFW Pump Test following outage maintenance
- PT/2/A/0204/007, 2A RBS Pump Test following pump lubrication
- MP/1/A/1310/052, RCP Seal – Unit 1 – Bingham – Type RCRW 950B-3 Static Fitness Test following redesign and replacement of the Unit 1 RCP seals
- PT/1/A/0600/015, Control Rod Movement PT following joystick replacement
- PT/0/A/0711/001, Unit 1 Zero Power Physics Test following the Unit 1 EOC-24 refueling outage

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities

a. Inspection Scope

The inspectors conducted reviews and observations for selected outage activities to ensure that: (1) the licensee considered risk in developing the outage plan; (2) the licensee adhered to the outage plan to control plant configuration based on risk; (3) that mitigation strategies were in place for losses of key safety functions; and (4) the licensee adhered to operating license and TS requirements. Between April 12, 2008, and June 4, 2008, the following activities related to the Unit 1 EOC-24 refueling outage were reviewed for conformance to applicable procedures, and selected activities associated with each evaluation were witnessed:

- Outage risk management plan/assessment
- Clearance activities
- Reactor coolant system instrumentation
- Plant cooldown
- Mode changes from Mode 1 (power operation) to No Mode (defueled)
- Shutdown decay heat removal and inventory control
- Containment closure
- Refueling activities
- Plant heatup/mode changes from No Mode to Mode 1
- Core physics testing
- Power Escalation

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

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

- PT/1/A/0151/019, Penetration 19 Leak Rate Test (CIV)
- PT/3/A/0600/012, Turbine Driven Emergency Feedwater Pump Test (IST)
- PT/1/A/0251/024, High Pressure Injection (HPI) Full Flow Test (IST)
- PT/3/A/0290/004, Turbine Stop Valve Test
- PT/0/A/0400/004, SSF Diesel Engine Service Water Pump Test (IST)

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems

.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 corrective action program. 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, and licensee human performance results. The inspectors' review nominally considered the six month period of January 2008, through June 2008, 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 team vulnerability lists, focus area reports, system health reports, self-assessment reports, maintenance rule reports, and Safety Review Group Monthly 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. Assessment and Observations

No findings of significance were identified. In general, the licensee has identified trends and has appropriately addressed the trends with their CAP.

4OA3 Event Follow-up

.1 Plant Events

a. Inspection Scope

The inspectors evaluated the events listed below to assess the overall impact on the plant and mitigating actions. As appropriate, the inspectors: (1) observed plant parameters and status, including mitigating systems/trains; (2) determined alarms/conditions preceding or indicating the event; (3) evaluated performance of mitigating systems and licensee actions; and (4) confirmed that the licensee properly classified, if applicable, the event in accordance with emergency action level procedures and made timely notifications to NRC and state/county governments as required.

- PIP O-08-1626, Unit 2 Turbine Trip/Reactor Trip due to low condenser vacuum signal on March 31, 2008
- PIP O-08-1940, Unit 1 Reactor Coolant Pump high vibrations and seal failures during shutdown on April 12-13, 2008
- PIP O-08-2056, Unit 1 Loss of inventory while on decay heat removal on April 15, 2008

b. Findings

On April 15, 2008, Unit 1 experienced a generator lockout, which caused a loss of normal power through the back charged main transformer to main feeder bus (i.e., N breakers and generator output breakers PCB 21 and 20 opened). This caused a momentary loss of power to the LPI and low pressure service water (LPSW) pumps, and AP-26 (Loss of Decay Heat Removal) was entered by the operators. The main feeder bus (MFB) power was restored in 1.8 seconds via the slow transfer logic from the E breakers (as expected) and power to the LPI and LPSW pumps was restored (non-load shed). MFB re-energization should have re-energized motor control center (MCC) 1XP, but did not, as the alternate feeder breaker to 1XP tripped on high in-rush current. MCC 1XP supplies power to air operated valves 1HP-8 (Unit 1 Purification Demineralizer Inlet Isolation), 1HP-17 (1A Letdown Filter Inlet Isolation) and 1HP-18 (1B Letdown Filter Inlet Isolation). These valves closed due to the loss of power to each valve's respective control solenoid valve, which isolated the letdown flow path. The valves should have reopened upon the restoration of power, but the loss of power to MCC 1XP prevented this from occurring. The isolation of the letdown flow path coupled with the LPI pump restart caused 1HP-43 (letdown line relief valve) to lift open as the relief valve now saw LPI pump discharge pressure. This resulted in a loss of RCS inventory to the Mixed Waste Holdup Tank (MWHUT).

Operators initiated makeup to the LPI system from the borated water storage tank (BWST) by throttling 1LP-21 (BWST isolation) and 1LP-96 (LP Supply to Purification IX block) was closed to isolate LPI from the purification lineup per AP-26. This allowed 1HP-43 to shut and effectively stop the inventory loss. Specifically, RCS level dropped from 70 to 54 inches on LT-5 (approximately 2000 gallons of inventory was dumped to

MWHUT). Level was restored to 79 inches on LT-5 approximately 30 minutes from initiation of the event.

The generator lockout was a result of ongoing automatic voltage regulator (AVR) preventive maintenance, IP/0/B/2005/001, Main Generator Automatic Voltage Regulator Maintenance and Channel Transfer, where as part of the AVR procedure, the AVR's measuring unit board (part of each AVR channel) was replaced and powered up. Unrecognized by the procedure, this "power up" resulted in the actuation of the K31 relay in the AVR, which sends a lockout signal to the main generator. The root cause was determined to be a failure of procedure preparers and reviewers of IP/0/B/2005/001, to recognize the system interaction between the AVR trip circuitry and the backcharge power path. This issue is unresolved pending further NRC review of the licensee's procedures, operator actions, and risk management associated with this event. This item is identified as URI 05000269/2008003-02, AVR Maintenance Procedure Resulted in a Loss of Inventory While on Decay Heat Removal. This issue is in the licensee's corrective action program as PIP O-08-2056.

.2 (Closed) Licensee Event Report (LER) 05000270/2008-01-00, Unit 2 Reactor Trip Due to Indication of Loss of Vacuum During Calibration of a Condenser Pressure Transmitter. On March 31, 2008, while operating at 100 percent RTP with calibration of the unit's condenser vacuum pressure transmitters in progress, the unit automatically tripped. The inspectors reviewed the licensee's root cause of the event. The event was caused by an indicated loss of condenser vacuum, which resulted in a turbine trip and subsequent reactor trip. The indicated loss of vacuum was most likely caused by a combination of an obstruction in the pressure transmitter's tubing and leakage of the 2B condenser pressure transmitter isolation valves. This resulted in an indicated loss of condenser vacuum, which satisfied the vacuum trip logic and automatically tripped the turbine. The main turbine trip caused the reactor to trip automatically. No performance deficiencies were identified. The licensee entered this issue into their corrective action program as PIP O-08-1626. This LER is considered to be closed.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

The inspectors toured areas and observed security force personnel and security related activities, as listed below, to ensure that the activities were consistent with licensee's 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, activities and areas did not constitute additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status review and inspection activities.

- Multiple tours of the Central and Secondary Security Alarm Stations, as well as observation of the operation of each station
- Tours of selected security officer response posts
- Multiple tours of the Personnel Access Portal (PAP), as well as observation of screening operations conducted at the PAP
- Security Force exercises
- Multiple tours of the Main Checkpoint, as well as observation of screening operations
- Security force shift turnover activities

b. Findings

No findings of significance were identified.

.2 (Closed) URI 05000269,270,287/2006002-03, Survivability of Main Steam Safety Valves (MSSVs) During an Event Requiring SSF Auxiliary Service Water (ASW) System. This URI was opened pending further inspection and assessment to address excessive cycling of MSSVs during an SSF event indicated by the licensee's thermal hydraulic analyses (PIP O-05-3770), as the original operability assessment did not demonstrate that these valves would remain functional. As a result, the licensee contracted the testing of a spare MSSV, subjecting the valve to 1000 lift cycles under representative plant conditions following an SSF event. The results of this test showed that the valve remained in good condition with minimal seat leakage that would not affect SSF operability. The licensee also addressed the possibility of the MSSV sticking open as a result of the excessive lifting. The licensee was able to demonstrate through simulator validations of existing procedures, and through initial RETRAN analyses of bounding worst case main steam line break scenarios, that the SSF would remain functional during the course of a plant cooldown that would result from one stuck open MSSV in each main steam line. Based on the inspectors' review of the licensee's evaluations listed above, no performance deficiency was identified associated with the URI. Consequently, NRR will perform a review of the effects of additional SSF operational scenarios with a compromised main steam pressure boundary as part of the licensee's recent tornado and high energy line break mitigation license amendment requests, this URI is considered closed.

4OA6 Management Meetings (Including Exit Meeting)

.1 Exit Meeting Summary

The inspectors presented the inspection results to Mr. David Baxter, Site Vice President, and other members of licensee management at the conclusion of the inspection on July 8, 2008. 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.

.2 Annual Assessment Meeting Summary

On April 10, 2008, the Acting Chief of Reactor Projects Branch 1, and the Resident

Inspectors assigned to the Oconee Nuclear Station (ONS) met with Duke to discuss the NRC's Reactor Oversight Process (ROP) and the NRC's annual assessment of ONS safety performance for the period of January 1, 2007 - December 31, 2007. The major topics addressed were the NRC's assessment program and the results of the ONS assessment. The meeting was open to the public. A listing of meeting attendees (ML081980652) and information presented during the meeting (ML081980646) are available from the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at *www.nrc.gov/reading-rm/adams.html*.

4OA7 License Identified Findings

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which met the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as a NCV.

- NRC Order EA 03-009 Paragraph C. (5).E requires for each inspection of the reactor vessel head required in the order, the licensee shall submit a report detailing the inspection results within 60 days after returning the plant to operation. Contrary to these requirements, the licensee did not submit a 60 day report for Unit 3 head inspections conducted during the last refueling outage, which ended December 23, 2007. This finding is determined to be of very low safety significance because the deficiency was identified, examinations that met the requirements of NRC Order 03-009 were performed, and the report was subsequently submitted on April 22, 2008. The licensee entered the finding into their corrective action program as PIP 08-01635.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

K. Alter, Mechanical Balance of Plant Engineering Supervisor
E. Anderson, Superintendent of Operations
S. Batson, Engineering Manager
D. Baxter, Site Vice President
D. Brewer, Safety Assessments Manager
R. Brown, Emergency Preparedness Manager
E. Burchfield, Reactor and Electrical Systems Manager
T. Coleman, ISI Coordinator
C. Curry, Mechanical/Civil Engineering Manager
P. Culbertson, Maintenance Manager
G. Davenport, Compliance Manager
P. Downing, SG Manager
B. Edge, I & C Engineering Supervisor
R. Fruedenberger, Safety Assurance Manager
J. Gilreath, SGISI Coordinator
M. Glover, Station Manager
L. Hekking, Boric Acid Coordinator
D. Hubbard, Training Manager
T. King, Security Manager
B. Meixell, Technical Specialist
P. North, Shift Operations Manager
J. Smith, Technical Specialist
J. Smith, Regulatory Compliance
J. Steely, Continuing Training Supervisor
S. Thomas, Safety Analysis Engineering Supervisor
J. Twiggs, Radiation Protection Manager
J. Weast, Regulatory Compliance
D. Williams, Modification Engineering Manager

NRC

S. Rose, Acting Chief, Reactor Projects Branch 1
L. Olshan, Project Manager, NRR

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000269/2008003-02	URI	AVR Maintenance Procedure Resulted in a Loss of Inventory While on Decay Heat Removal (Section 4OA3.1)

Opened and Closed

05000269/2008003-01	NCV	Required Pressure Tests Not Performed (Section 1R08.1)

Closed

05000270/2008-01-00	LER	Unit 2 Reactor Trip Due to Indication of Loss of Vacuum During Calibration of a Condenser Pressure Transmitter (Section 4OA3.2)
05000269,270,287/2006002-03	URI	Survivability of Main Steam Safety Valves (MSSVs) During an Event Requiring SSF Auxiliary Service Water (ASW) System (Section 4OA5.2)

DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Hot Weather
PIP O-08-0657, AHU1-8 needs to be repaired prior to summer
PIP O-08-1258, Seasonal checks of various AHUs needs to be rescheduled from 08W11 to 08W19 due to procedural requirement that requires warmer weather
Selected Licensee Commitments (SLC) 16.6.14, Control of HPI and LPI/RBS pump Room Temperatures
OSC-6667, Auxiliary and Turbine Building Loss of Cooling/ Ventilation Analysis
OSS-0254.00-00-1039, Design Basis Specification for Low Pressure Service Water System
Drawing OFD-124B-1.6 and 3.6, Low Pressure Service Water System (Aux. Bldg. Air Handling Units)

External Flooding
UFSAR Section 2.4, Hydrologic Engineering,
UFSAR Section 9.6, Standby Shutdown Facility (SSF)
SLC 16.9.21, SSF External Flood Protection,
SSF ASW Design Basis Documents Section 2.2.5, Design Events,
SSF ASW Design Basis Documents Section 2.3.13, Flood

Evaluation of Summer Readiness of Offsite and Alternate AC Power Systems
AP/1,2,3 /A/1700/034, Degraded Grid
AP/1,2,3/A/1700/011, Recovery From Loss of Power
OP/1,2,3/A/1106/040, Generator Voltage Schedule
EP/1,2,3/A/1800/001, Emergency Operating Procedure - Blackout
PT/0/A/0610/026, Electrical System Weekly Surveillance
PT/1,2/A/2200/001, KHU-1, -2 Weekly Surveillance
PT/1,2/A/2200/002, KHU-1, -2 Bi-Monthly Surveillance
PT/1,2/A/2200/003, KHU-1, -2 Quarterly Surveillance

OP/0/A/2000/041, KHS - Modes of Operation

Section 1R04: Equipment Alignment

OP/0/A/2000/041, KHS - 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-0254.00-00-1034, Design Basis Specification for the Reactor Building Spray System
Drawing OFD-103A-3.1, Flow Diagram of Reactor Building Spray System (Unit 3)
OSS-0254.00-00-1028, Design Basis Specification for Low Pressure Injection and Core Flood System
Drawing OFD-102A-1.1, Flow Diagram of Low Pressure Injection System (Borated Water Supply & LPI Pump Suction)
Drawing OFD-102A-1.2, Flow Diagram of Low Pressure Injection System (LPI Pump Discharge)

Section 1R05: Fire Protection

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

Section 1R08: Inservice Inspection Activities

Procedures

Areva 03-1275114-011, Eddy Current Data Management Guidelines, Rev. 011
Areva 03-9020586-001, Requirements for the Preparation of Automated Eddy Current Data Analysis Program, Rev. 001
Areva 03-9032829-003, Eddy Current Guidelines for Oconee Nuclear Station Replacement Once-Through Steam Generators (ROTSG), Rev. 003
Areva 54-ISI-400-15, Multi-Frequency Eddy Current Examination of Tubing, July 2006
Duke Power NDE Procedures Manual-Volume 23-NDE25, Magnetic Particle Examination
Duke Power NDE Procedures Manual-Volume 4-NDE-B Training, Qualification and Certification of Nondestructive Examination Personnel
Duke Energy NDE-66-Visual Examination (VT3) of Hangers, Restraints, Supports, and Snubbers
Duke Energy NDE-68-VT-2, Visual Examination for leakage
Duke Energy Nuclear System Directive 307, Quality Standard Manual
Oconee Nuclear Site Directive S.D.2.1.9-ASME Section XI Repair/Replacement
Duke Power NDE Procedures Manual-Volume 4-NDE600, Ultrasonic Examination of Similar Metal Welds in Ferritic and Austenitic Piping
Duke Power NDE Procedures Manual-Volume 4-PDI-UT-6PDI, Generic Procedure for the Manual Ultrasonic Examination of Reactor Pressure Vessel Welds
Duke Power NDE Procedures Manual-Volume 4-NDE830, Ultrasonic Examination of Cast Austenitic Welds Using Refracted Longitudinal Waves

Duke Power NDE Procedures Manual-Volume 4-PDI-UT-2-PDI, Generic Procedure for Ultrasonic Examination of Austinitic Pipe Welds
QAP 8.0, Rev. 11. WSI Procedure: Control and Issue of Weld Filler Material.
QAP 8.1, Rev. 7. WSI Procedure: Material Receiving and Control.
QAP 9.6, Rev. 11. WSI Procedure: Liquid Penetrant Inspection.
QAP 9.16, Rev. 4. WSI Procedure: High-Temperature Liquid Penetrant Inspection (100°F – 350°F).
QAP 9.21, Rev. 2. WSI Procedure: Liquid Penetrant Inspection (Alloy 690 Weld Overlay).
NDEMAN-PDI-UT-6, Rev. F. Generic Procedure for the Manual Ultrasonic Examination of Reactor Pressure Vessel Welds.
NDEMAN-NDE-600, Rev. 017. Ultrasonic Examination of Similar Metal Welds in Ferritic and Austenitic Piping.
MP/0/A/1140/013 A-CRDM - Flanges and Motor Tubes - Visual Inspection
MP/0/A/1150/029 Rev. 3-Reactor Vessel - Head Penetrations – Visual Inspection

Condition Reports

PIP O-08-02311, ONS 1EOC24 Steam Generator Eddy Current (ET) Inspection and Its Associated Reporting Requirements and Control Document Updates
PIP 0-08-02521, NRC identified concern with Filler material and receiving procedure provided by Welding Services
PIP 0-08-02523, NRC identified two requests for relief as untimely during unit 1 ISI inspection
PIP 0-08-01635, Oconee did not submit a report detailing the results of the Unit 3 reactor pressure vessel head inspection within 60 days after returning the unit to operation
PIP 0-99-00737, NRC staff position that ESF system must withstand single active failure
PIP 0-08-02358, ESF branch connection does not meet Code requirements
PIP 0-08-02261, ESF existing weld found to be partial penetration weld when full penetration is required
PIP O-08-01933, Items Noted on U1EOC24 ENG/MNT Mode 3 Shutdown Reactor Building Tour.
PIP O-07-06548, Level 2 Assessment: Boric Acid Corrosion Program Execution Effectiveness Review.
PIP O-07-01092, Items Noted on Unit 1 Reactor Building Tour (Mode 3).
PIP O-07-02186, U2 Engineering/Maintenance RB Tour Results (Mode 3).
PIP O-08-01933, U1EOC 24 ENG/MNT Mode 3 Shutdown RB Tour.
PIP O-08-02407, Items Noted on U1EOC24 RFO NRC Inspection (Boric Acid Walkdown)
PIP O-08-00164, Pinhole leaks identified in the section near 1LPSW-21.

Other Documents

SGMEP 105, ROTSG Specific Assessment of Potential Degradation Mechanisms for Oconee Unit 1 EOC 24, Rev. 7
Inspection scope & schedule
Oconee Nuclear Station Steam Generator Tube Wear Update with NRC, March 27, 2008
Oconee Steam Generator Management Program – Group Self Assessment, September 17 – November 14, 2005
Eddy Current Data Analyses for SGs A & B

Examination Technique Specification Sheets (ETSS)
Data Acquisition and Analysis Personnel Qualification for Level II Data Operators, Level II A and Level III A Analysts
Eddy Current Examination Technique Specification Sheets
Equipment Qualification Sheets
Duke ROTSG Site Technique Validation for Oconee Nuclear Station, Rev. 6
Alloy 600 Program Health Report, 2007Q4
Appendix A, Oconee Nickel Base Alloy Aging Management Program
0009835, dated 12/07/2007. Contract between Duke Energy Carolinas, LLC and Welding Services Inc.
104533-01, dated April 9, 2008. WSI Certificate of Compliance.
WPS-01-08-T-Bottom, Rev. 1 and supporting PQRs:
PQR-01-08-T-032, Rev. 0
PQR-01-01-T-802, Rev. 2
PQR-A843256-52, Rev. 1
WPS-43-43-T-001, Rev. 3 and supporting PQRs:
PQR-1001, Rev. 1
PQR-A43256-52, Rev. 2
WPQ 09340, Rev. 3. Welder Performance Qualification for Ricky Nelson.
WPQ 08092, Rev. 3. Welder Performance Qualification for Victor Stewart.
WPQ 09777, Rev. 3. Welder Performance Qualification for Victor Stewart.
WPQ 09286, Rev. 3. Welder Performance Qualification for Mike Owens.
WPQ 09941, Rev. 3. Welder Performance Qualification for Joseph Harris.
WPQ 07924, Rev. 0. Welder Performance Qualification for Joseph Harris.
104533-01, dated April 9, 2008. WSI Certificate of Compliance.
1004533-PT-001. Liquid Penetrant Inspection Report.
Certificates of Qualification for Dave Folan (PT, VT, Eye Exam).
Certificates of Qualification for Peter Czaplicki (PT, VT, Eye Exam)
OSC-9303, Oconee Specific EDY Calculation for Reactor Pressure Vessel Head Penetrations
068SD157, CRDM Guide Tube Welding to Closure Head
068SE001, RPV Closure Head General Arrangement

Section 1R12: Maintenance Effectiveness

UFSAR Section 6.3.3.2, Low Pressure Injection and Core Flood Systems
PIP O-08-2739, LPI Pump Test stopped due to developed head being outside parameters
PT/1/A/0203/006 B, LPI Pump Test Decay Heat
UFSAR Section 8.3.2.1.7, Emergency Lighting System
UFSAR Section 9.5.1.4.5, Lighting and Communication
PT/0/B/0610/009, Emergency lighting
IP/0/B/3000/020, PM of Self-Contained Battery Packs on Emergency Lights
PIP O-08-0108, Self contained battery emergency lights NCL-67 and NCL-80 failed performance criteria of IP/0/B/3000/020
PIP O-08-1391, Self contained battery emergency lights NCL-61 failed performance criteria of IP/0/B/3000/020
PIP O-08-2640, Self contained battery emergency lights P1 and NCL-89 failed performance criteria of IP/0/B/3000/020

PIP O-08-3887, Self contained battery emergency lights 03, 15, NCL-20, NCL 50, NCL-52, and NCL-63 failed performance criteria of IP/0/B/3000/020
Oconee Emergency Lighting Performance Criteria
Oconee Emergency Lighting Component Failure Records

Section 1R15: Operability Evaluations

OM 214 - 116, Ingersoll-Rand Operating, maintenance and Parts Manual for Compressor HP1600WCU
SLC 16.9.20, Diesel Driven Service Air Compressors
PT/0/B/0710/018, Diesel Service Air compressor Test
PT/1/A/0203/006A, LPI Pump Test - Recirculation
Enclosure 4.10, 1A LPI Pump Vent, of OP/1/A/1104/004, LPI System
OSC-916, Analysis for Use of Spent Fuel Pool Inventory for Standby Shutdown
PIP O-08-3459, Discovered RS piping without insulation during NEO primary rounds
PIP O-08-2656, Discovered LPI and RBS piping without insulation during NEO primary sounds
OSC-6667, Auxiliary and Turbine Building Loss of Cooling/ Ventilation Analysis
HPI/LPI/RBS Insulation Removal Binder
SLC 16.5.4, RCS Boron Sampling
PIP O-03-2433, Elimination of Post Accident Liquid Sampling Requirement
PIP O-07-0141, 1RC-163 failed stroke time test
PIP O-07-0379, SLC 16.5.4 entry for 1RC-163 stroke time test failure per PT/1/A/0152/017
PIP O-07-2772, 1RC-163 failed stroke time test
PIP O-07-5961, 3RC-163 failed to operate
PIP O-08-0904, 2RC-163 failed stroke time test
PIP O-08-2185, FME in 1RC-163
PIP O-08-3297, 1RC-163 failed stroke time test

Section 4OA2: Identification and Resolution of Problems

PIPs: O-08-0721, O-08-1618, O-08-2336, O-08-2917, O-08-2989, O-08-3147, O-08-3275, O-08-3258, O-08-3353, O-08-3386, O-08-3757
Engineering IPA Trend Reports, 1st and 2nd Qtr. 2008
Maintenance IPA Trend Reports, 1st and 2nd Qtr. 2008
Operations IPA Trend Reports, 1st and 2nd Qtr. 2008

Section 4OA3: Event Followup

PT/0/A/0811/002, Trip Transient Review, Unit 2 Trip March 31, 2008
AP/1/A/1700/016, Abnormal Reactor Coolant Pump Operation
AP/1/A/1700/026, Loss of Decay Heat Removal
AP/1/A/1700/022, Loss of Instrument Air
RP/0/B/1000/001, Emergency Classification

Closure of LER 05000270/2008-01-00
Unit 2 Trip Root Cause Report

PIP O-08-1626, Unit 2 Reactor Trip
Unit 2 ORAM Risk Profile for March 31, 2008
WO 01727394, Unit 2 Vacuum System Instrument Calibration
IP/0/B/0275/010A, Vacuum System instrument Calibration
IP/0/A/0100/001, Controlling Procedure for Troubleshooting and Corrective Maintenance

LIST OF ACRONYMS

ADAMS	-	Agency Wide Documents Access and Management System
ASME	-	American Society of Mechanical Engineers
ASW	-	Auxiliary service Water
AVR	-	Automatic Voltage Regulator
BACC	-	Boric Acid Corrosion Control
BWST	-	Borated Water Storage Tank
CAP	-	Corrective Action Program
CFR	-	Code of Federal Regulations
CR	-	Condition Report
DEC	-	Duke Energy Corporation
DG	-	Diesel Generator
DPC	-	Duke Power Company
EFW	-	Emergency Feedwater
EOC	-	End-Of-Cycle
HPI	-	High Pressure Injection
HPSW	-	High Pressure Service Water
IP	-	Inspection Procedure
IR	-	Inspection Report
ISI	-	Inservice Inspection
IST	-	Inservice Testing
KHU	-	Keowee Hydro-electric Unit
LER	-	Licensee Event Report
LPI	-	Low Pressure Injection
LPSW	-	Low Pressure Service Water
MC	-	Manual Chapter
MCC	-	Motor Control Center
MFB	-	Main Feeder Bus
MSSV	-	Main Steam Safety Valves
MWHUT	-	Mixed Waste Holdup Tank
NCV	-	Non-Cited Violation
NDE	-	Non-Destructive Examination
NRC	-	Nuclear Regulatory Commission
OOS	-	Out-of-Service
PAP	-	Personnel Access Portal
PARS	-	Publicly Available Records
PIP	-	Problem Investigation Process Report
PM	-	Preventive Maintenance
PMT	-	Post-Maintenance Testing
RBS	-	Reactor Building Spray
RCP	-	Reactor Coolant Pump
RCS	-	Reactor Coolant System
Rev.	-	Revision
RFO	-	Refueling Outage
RG	-	Regulatory Guide
RN	-	Nuclear Service Water
RTP	-	Rated Thermal Power
SDP	-	Significance Determination Process

SG	-	Steam Generator
SSC	-	Structures, Systems, and Components
SSF	-	Standby Shutdown Facility
TS	-	Technical Specification
UFSAR	-	Updated Final Safety Analysis Report
URI	-	Unresolved Item
UT	-	Ultrasonic Examination
VT	-	Visiual Examination